

Performing Agriculture in Post-Soviet Ukraine

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Abstract

This thesis explores the development of an agricultural market economy in post-Soviet Ukraine, using a theoretical framework based on the social studies of marketisation. Following the dissolution of the Soviet Union, orthodox economists and political commentators have problematised the way in which Ukraine's transition towards an agricultural market economy has entailed the articulation of market rationale with what are perceived to be contradictory rationalities and logics. Such accounts dismiss Ukraine's economic development as inauthentic based on a supposed lack of separation between the market and the state, as well as between the formal market and informal or inauthentic forms of production, ownership and exchange. This thesis seeks to challenge these orthodox accounts, exploring the extent to which the social studies of marketisation can be used as an alternative theoretical framework through which to destabilise the notion of Ukraine as a 'failed transition state'.

Based on empirical research that includes in-depth interviews conducted in Kiev with participants working in the spheres of agricultural production, trade and finance, this thesis focuses on the processes of price *realisation* (Çalışkan, 2007) in two areas of the Ukrainian agricultural economy: (i) the Ukrainian wheat market, and; (ii) Ukraine's agricultural credit market. Through this research, I demonstrate that Ukraine's market-orientated transition is better understood not as a passage from one economic order to another, but as a rearrangement in the patterns of multiple orders interwoven with one another. In doing so, I respond to calls for further research that: (i) recognises markets as "diverse arrangements articulated by particular combinations of these rationalities and logics", and; "regards the determination of their precise articulation and their relative weight as a question that can only be answered empirically" (Berndt's, 2015:1866). This thesis also provides further empirical examples of the political nature of marking-making in frontier regions (Ouma, 2015) and demonstrates the scope for further application of the marketisation lens to the study of nascent markets in post-Soviet Europe.

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Table of Contents

Abstract.....	ii
Acknowledgements.....	iii
List of Figures.....	vii
List of Tables	viii
List of Common Abbreviations.....	ix
Introduction	1
1.1 Ukraine: a failed transition state?.....	1
1.2 The research problem.....	2
1.3 Structure of this thesis	5
Understanding Ukraine’s agricultural transition: from planned to market economy.....	8
2.1 Introduction.....	8
2.2 Ukrainian agriculture and grain production during the post-World War II period	8
2.3 The fall of the Soviet Union (1991-1994).....	12
2.4 Two decades of (in)consistent reform? (1995-2015).....	18
2.5 Explaining slow and inconsistent reform	23
2.6 Conclusion.....	29
Studying Markets as Practical Accomplishments: Actor-Network Theory, Performativity and the Social Studies of Marketisation.....	31
3.1 Introduction.....	31
3.2 Actor-network theory.....	32
3.2.1 Relational agency.....	32
3.2.2 Heterogeneity.....	33
3.2.3 Performativity	34
3.2.4 Mechanisms of power	35
3.2.5 Explanation/description	39
3.3 ANT and the study of markets	39
3.3.1 Markets as socio-technical agencements	39
3.3.2 The performative character of economics	41
3.3.4 Description/explanation, empiricism/theory.....	43
3.3.5 Performativity and politics.....	47
3.4 Social studies of marketisation	52
3.5 Conclusion.....	55
Research design and methods.....	56

4.1 Introduction.....	56
4.2 Narrowing the research focus.....	56
4.2.1 Price realisation.....	57
4.2.2 Focus 1 - Exploring price realisation in the context of the Ukrainian wheat Market	58
4.2.3 Focus 2 - Financing of agricultural small and medium size enterprises	58
4.3 Method and fieldwork description.....	59
4.3.1 Focus 1.....	59
4.3.2 Focus 2.....	64
4.4 Analysis of ‘grey’ literature.....	65
4.5 Tracing, framing and translating participant networks.....	66
4.6 Hierarchy, relational agency and ‘elite’ interviews.....	69
4.7 Conclusion.....	72
Price realisation and differentiated exchange relationships in the context of Ukraine’s Black Sea wheat market.....	73
5.1 Introduction.....	73
5.2 The export-orientated market channel for wheat in Ukraine.....	75
5.3 Discovering the price of wheat	76
5.4 Localising the ‘world market price’	78
5.5 From global market to farm gate.....	81
5.6 Farmer’s willingness to sell	91
5.7 Exchanging goods the ‘wrong’ way.....	94
5.8 Conclusion.....	97
The financial frontier: performing agricultural credit markets in Ukraine through cash flow-based lending	98
6.1 Introduction.....	98
6.2 The issue of SMP financing.....	100
6.3 ‘Looking to the market’ for solutions to SMPs’ lack of access to working capital finance	102
6.4 A paradigm shift in agricultural finance: from funding farms to financing farms	104
6.5 Finance at the ‘frontier’: a mobile model of agricultural credit markets.....	109
6.6 Financial innovations and the three building blocks of finance	112
6.7 Speaking in the language of the farmer: enrolling actors, building networks and performing creditworthiness through cash flow-based lending.....	114
6.8 The sociotechnical construction of the frontier	123
6.9 Conclusion.....	126

What constitutes ‘market-based intervention’? Financial innovations, distortions and the new role of the state in agricultural credit markets	128
7.1 Introduction.....	128
7.2 Market failures, distortions and ‘legitimate’ subsidies.....	130
7.3 OECD Credit Guarantee Scheme: an example of a policy paradigm ‘failing forward’	137
7.4 IFC Crop Receipt Project: the attempted collateralisation of living things	145
7.5 Public-private partnership in agricultural finance.....	152
7.6 Conclusion.....	156
Conclusion.....	159
8.1 Introduction.....	159
8.2 The politics of market-making and marketisation	160
8.3 Reflections on the research process.....	164
References.....	167
Appendix A	182

List of Figures

- Figure 1. Comparison of Ukrainian wheat producer price, border price and world price (price on Chicago Board of Trade, US)
- Figure 2. Wheat value chain from field to port, USD/MT, as printed in a trade guide produced by the consulting firm UkrAgroConsult
- Figure 3. The financial triangle
- Figure 4. Schematic diagram of a basic public credit guarantee scheme
- Figure 5. The composition of the OECD CGS Project Task Force, as presented at the Task Force's first meeting on 11 June 2014

List of Tables

Table 1. Comparison of Soviet and US agriculture (1989)

Table 2. Changes in no. of farm enterprises (1990-2005)

List of Common Abbreviations

ANT	Actor-network theory
CAE	Collective agricultural enterprise
CEE	Central and Eastern Europe
CGS	Credit guarantee scheme
CLARA	Cash Flow Linked Agricultural Risk Assessment
EIB	European Investment Bank
EIF	European Investment Fund
Eur	Euro
FAO	The Food and Agriculture Organisation of the United Nation
GUF	German Ukraine Fund
IFC	International Financial Corporation
IFI	International Financial Institution
IMI	Internationale Micro Investitionen AG
IPC	Internationale Projekt Consult
KfW	Kreditanstalt fuer Wiederaufbau
OECD	Organisation for Economic Cooperation and Development
PPP	Public-private partnership
SECO	Swiss State Secretariat for Economic Affairs SECO
SIDA	Swedish International Development Cooperation Agency
SME	Small to medium sized enterprise
SMP	Small to medium sized producer
UAH	Ukrainian Hryvna
USAID	United States Agency for International Development
USD	United States Dollar
USSR	Union of Soviet Socialist Republics

Chapter 1

Introduction

1.1 Ukraine: a failed transition state?

Ukraine has been undergoing a market-orientated transition since the dissolution of the Soviet Union in 1991. As was best captured in Fukuyama's (1989) 'The end of history?', the dissolution of the Soviet Union and the end of the Cold War was interpreted in the West as a triumph for the ideals of democracy and free-market capitalism, as was thought to be demonstrated by the total exhaustion of viable systematic alternatives to western market liberalism¹. This free-market triumphalism led to a sense of optimism during the early years of transition among pro-market reformists, that as long as restrictions on self-interest and individual action were removed, free-market capitalism would be "a natural outcome" (Marangos, 2005:265). In this sense, 'the market' was assumed to be the single endpoint of historical progression for Ukraine and other the post-Soviet states of Central and Eastern Europe (Bradshaw and Stenning, 2004; Gans-Morse, 2004).

Yet, in the three decades since the collapse of the Soviet Union and the end of central planning, the initial optimism of pro-market reformists has dissipated as efforts to create market economies in Ukraine and elsewhere have often resulted in imperfect implementation of the liberalisation and privatisation programmes prescribed by western technocrats and international lending institutions (see Von Cramon-Taubadel et al., 2004). This has led observers to search for explanations for what they perceive to be slow, stalled or incomplete market-orientated reform, with many mainstream theorists attributing a lack of progress to weak (e.g. D'Anieri et al., 1999; D'Anieri, 1999), corrupt (e.g. Hellman et al., 2000) or overly intrusive state institutions (e.g. Åslund et al., 2001; Åslund, 2015). That is to say, slower-than-desired market-orientated transition has been attributed to either the incapacity of state institutions to implement the necessary reforms or public officials' resistance to reform – for reasons such as personal gain through corrupt activities or economic ideology i.e. a belief in the virtues of state intervention in the market. In this

¹ As Kokushkin (2011:1047) notes, "particularly during the 1990s, one could find very little dissent on the basic principles behind transition", whilst any calls for an alternative policy approach that recognised the diversity of post-Soviet states and took into account historical, cultural and other contextual factors were largely silenced by what came to be known as the 'Washington Consensus' – referring to "the shared consent of developed countries about the nature of the reforms to be introduced in the former socialist bloc". Debate on the nature of post-Soviet transition did not dispute the goal, method or ideology underpinning the transition process; the goal was free-market capitalism, the method was neoclassical economics and the ideological foundation of economic reform had to be self-interest (Marangos, 2002).

way, ‘the state’ is portrayed as external to the principles of the market, whilst at the same time disrupting its operation.

The perceived lack of market-orientated transition within the Ukrainian agricultural sector is emblematic of the way in which Ukraine is portrayed more generally by western orthodox economists and political commentators. As Swain and Mykhnenko (2007:7) explain, Ukraine is widely regarded by several prominent economists as a *failed transition country* – in addition to a ‘non-reform’ country (Boycko et al., 1995:155), ‘partial reform country’ (Hellman et al., 2000), and ‘captured state’ (Havrylyshyn, 2006:3) – in which market and democratic reform has been impeded by a corrupt rent-seeking oligarchic elite which emerged out of the ruins of the “essentially corrupt [Soviet] economic system” (Kaufmann and Siegelbaum 1997:458).

The depiction of Ukraine as a failed transition state has involved enacting a binary mode of thinking, in which Ukraine is compared to an external yard stick, or “reality principle” (Latour, 1996:183) – that is, an essentialised western market economy that is nowhere realised in pure form (Swain et al., 2010). In turn, this binary mode of thinking depends on a series of other essentialist distinctions between, for instance: (i) an internal Ukrainian economy understood in terms of poor governance and inauthentic economic practice and external benign economic actors and institutions representing legitimate/authentic economic knowledge/theory; (ii) the rigid ‘end-state’ economies of the western capitalist world and a Ukrainian economy caught ‘in limbo’, and; (iii) *the political* and *the economic*, a distinction which stems from the concern of orthodox economists and international lending institutions regarding the corruptive influence of public officials’ “discretionary power over the private sector” (e.g. Rose-Ackerman, 1997:3).

1.2 The research problem

As Mykhnenko and Swain (2010:146) explain, the various categories of explanation listed above have served to erode the legitimacy of the variegated market economies and state-market relations that have emerged in Ukraine and elsewhere since the dissolution of the Soviet Union. In particular, commentators have dismissed various forms of economic development in the region as inauthentic on the basis of a lack of separation between the market mechanism and state intervention, as well as between the formal market and informal forms of production and exchange (e.g. Havrylyshyn, 2006). Yet, what if articulation of abstract market thinking with what are portrayed as various non-market logics and conventions cannot be attributed purely to the failure of incompetent or deviant actors, but is more accurately understood as an inevitable aspect of market-making? Moreover, what if the problematisation of these diverse market realities serves to hide (or black-box) the market-making activities of interested actors who’s agendas are often tied to construction of an analytical boundary between ‘the market’ and the wider expanse of material activities and resources which are deemed to exist beyond the limits of the market? (Mitchell, 2007).

In this thesis I explore the extent to which the social studies of marketisation (Çalışkan and Callon, 2010) can be used as an alternative theoretical framework through which to challenge the notion of Ukraine as a ‘failed transition state’. As Ouma (2015:113) observes, “markets are often discussed ‘after birth’ – they simply appear to work, while their formative stages and the practices that produced them often escape our analytical gaze”. By contrast, marketisation research focuses on the processes through which certain actions, behaviours, organisations, institutions and, more generally, objects are constituted as being ‘market-based’ (Çalışkan and Callon, 2010). That is, rather than treating markets as pre-given and readily identifiable through certain inherent properties or a unitary logic, research in this tradition investigates empirically how – in any given context – certain forms of production, exchange and ownership are assembled and qualified as part of the market, and thus bracketed of from those forms deemed to be external and often antithetical to the market (Berndt and Boeckler, 2011; Mitchell, 2007).

Moreover, as Berndt (2015:1866) explains, such an approach to the study of markets starts from the assumption that attempts to demarcate a divide between market and non-market can never fully succeed in practice, putting emphasis instead on “the emergence of institutionally variegated or ‘diverse’ market realities”. In this way, the social studies of marketisation offers a means of overcoming the dualism – prevalent in orthodox accounts of economic development in post-Soviet Europe – of a “pure essentialized economy separate from an impure economy of practice” (Swain et al., 2010:117; Lindner, 2013). As Berndt (2015:1871) explains, real-world markets “emerge at the crossroads of various logics that inscribe often contradictory organizational rules and principles of worth. These may include ideas associated with the perfect neoclassical market, but these ideas are articulated with other rationalities, for instance, redistributive or reciprocal ones”. Markets are therefore best thought of as diverse arrangements, articulated by particular combinations of various rationalities and logics. Drawing on this theoretical insight, I explore in this thesis how the concept of marketisation may be applied to the study of Ukraine’s market-orientated agricultural transition in a way that provides an alternative to the somewhat disciplinary accounts of orthodox economists which frame Ukraine as a ‘failed transition state’, and the idea that Ukraine’s ‘economy of practice’ exists as an inauthentic market economy relative to an idealised notion of pure market economy.

In recent years, a number of theorists have sought to challenge orthodox accounts that delegitimise economic development in Ukraine on the basis of a lack of separation between economy and state, or between the formal market and informal or inauthentic forms of production and exchange. For instance, Mykhenko and Swain (2010:146), in their analysis of Ukraine’s uneven regional development, make the argument that “economic development is always embedded in forms of state power” implying that state-market relations are “inexorably legitimate” (see also Plank and Plank, 2014). In this thesis, I will build on these accounts and attempt to take them a step further. That is to say, rather than accepting *a priori* that ‘the

market' is its own free-standing sphere, I treat markets as "practical accomplishments" (Ouma, 2016:82) and take as a matter of empirical interest the actors, material entities, actions and representations involved in the marketisation of the Ukrainian agricultural sector – that is, the processes through which certain organisational forms and practices of production, ownership and exchange are defined as being 'part of the market', distinct from other spheres such as the state, the household or the sphere of culture (Mitchell, 2002).

The research problem I address through this thesis is predominantly a theoretical one, with a series of political implications. It is principally about challenging the received wisdom of a mainstream economic orthodoxy that has shaped the way both academics and policy makers have come to perceive the post-Soviet Ukrainian economy. Through an empirical study of the Ukrainian agricultural sector, I aim to challenge the prevailing 'failed transition state' thesis, through which the Ukrainian agricultural economy has been predominantly understood and analysed since the dissolution of the Soviet Union. Applying a theoretical framework based on the social studies of marketisation and the associated principles of actor-network theory (ANT) to the study of post-Soviet agriculture in Ukraine, I aim to achieve the following:

1. To challenge the distinction between an internal Ukrainian economy understood in terms of poor governance and inauthentic economic practice, and external benign economic actors and institutions representing legitimate/authentic economic knowledge/theory.
2. To demonstrate that, in practice, the construction of agricultural markets in Ukraine has entailed articulating market rationale with alternative logics and conventions, which inscribe organisational rules and principles of worth which don't necessarily fit with the abstract notion of a formal market economy (Berndt, 2015). In particular, I critically interrogate two analytical binaries deeply entrenched in mainstream theorisations of Ukraine's post-Soviet agricultural economy. I refer here to: the assumed separation between formal market transactions and informal (or shadow) market practices, and: (ii) the treatment of the state and the market as two distinct institutional realms, with state intervention portrayed as antithetical to market mechanisms.
3. To challenge the way in which the interaction between the political and the economic is currently understood and problematised by the 'failed transition state' thesis. By 'the political' I refer not only to political institutions – i.e. governments and publicly funded institutions – but also politics in a more abstract sense, as "an index for space for disagreement" (Barry, 2002:270). In this sense, marketisation – a process in which different actors struggle to impose their distinction between the market and its 'constitutive other' - is inherently political in that: (i) it opens up "the possibility for disagreement" (Barry, 2002:270), for example as to where the boundary between the market and non-market should be drawn; (ii) it renders the practices of certain actors as illegitimate should they be deemed to be outside the narrow confines of the formal market economy, and: (iii) normative

judgments of economic experts and market practitioners regarding how markets should function are often informed by these actors' own interests and agendas.

Furthermore, in setting these research objectives and applying the marketisation lens to a new national economic context, I intend to contribute to the growing interest in market making within economic geography (Berndt and Boeckler, 2009; 2011; Christophers, 2012) and the growing body of research conducted in the so-called 'global south' aimed at developing the interdisciplinary cultural economy literature on marketisation in 'frontier regions' (Çalışkan, 2010; Ouma, 2015).

1.3 Structure of this thesis

In chapter 2 I explore the history Ukraine's transition from a centrally planned to free market agricultural economy. I begin with an overview of Ukrainian agriculture under Soviet rule as well as a discussion of the historical role of Ukraine and the Soviet Union in international wheat markets. This includes discussion of the early transition years and the instability that followed the dissolution of the Soviet Union, as well as the period from 1995 to present, characterised by slow and inconsistent market reform. I then move on to review existing bodies of literature accounting for the slow and inconsistent nature of agricultural reform. Firstly, I explore the orthodox economic literature which presents a somewhat disciplinary rhetoric, attributing Ukraine's 'failed transition' to a combination of poor governance, a weak state and a rent seeking elite spanning the arenas of politics, economics and crime (e.g. Åslund et al., 2001; Kaufmann and Kraay, 2002; Åslund, 2015). I then explore an alternative theorisation of the so-called failed-transition which treats economic reform as a form of collective action, and argues that a primary reason for limited market-reform has been the failure of central state executives and pro-market reformers to enroll subnational political officials by convincing them of the benefits of the proposed reform. This alternative approach emphasises the agency of 'local actors', recognising them as rational agents capable of making decisions and pursuing courses of action based on their own interpretation of political and economic circumstances, as opposed to simply being ideologically resistant, deviant or 'backwards', as they are often portrayed in mainstream literature on economic reform in post-Soviet states.

In chapter 3 I outline the theoretical framework I developed for this thesis and provide a review of the literature which inspired and informed this framework. I begin by tracing the intellectual origins of the 'social studies of marketisation' back to ANT and the early work of Michel Callon, Bruno Latour and John Law. Here I draw out a select number of key principles from ANT which continue to inform the efforts of theorists to study economic and social phenomena through a marketisation lens. Next, I explore how the principles of ANT were initially applied to the study of economics and markets, through an exploration of Callon's performativity thesis. In doing so, I discuss the strengths but also the controversies surrounding

the notion of *economics as performative*. I also consider how, in recent years, Callon and like-minded theorists have progressively moved away from explicit reference to the performativity thesis, whilst continuing their theorisation of markets through the notion of socio-technical *agencement*. In doing so, I explore the research programme, proposed by Çalışkan and Callon (2010), devoted to examining processes of marketisation.

As an ANT-inspired approach to the study of markets, marketisation research is “descriptive rather than foundational in explanatory terms” (Law, 2007:2). Marketisation should therefore not be conceived of as an alternative form of social theory but as a method for describing, or tracing, heterogeneous network associations. In chapter 4 I examine what *network tracing* means as a matter of practice and consider the challenges of operationalising a performative understanding of markets empirically. I also provide an *ex-post* account of the research design. This includes a discussion of how I came to develop a specific empirical focus on the processes of price *realisation* (Çalışkan, 2007) in two areas of the Ukrainian agricultural economy: (i) the Ukrainian wheat market, and; (ii) Ukraine’s agricultural credit market. It also includes discussion of the data collection process, including research methods used and the challenge of identifying and gaining access to research participants.

In chapter 5 - the first of three empirical chapters - I explore the grounded processes of price realisation through which Ukrainian producers and traders negotiate the *actual price* of wheat, developing a specific focus on the role of the world market price in informing this process for various producers along the export-orientated market channel. I illustrate that the realisation of various price forms among the market channel is not the result of the world price defusing from the global to domestic markets - purely the outcome of unmediated private sector forces – but rather that these prices are produced in political sites of encounter through the intersection of multiple modalities of valuation and exchange. I also use this chapter as an opportunity to introduce two themes which are central to the following two empirical chapters – these are, the scale of Ukraine’s shadow economy for grain, and; (ii) the extent to which a producer’s ability to determine the price they receive for their harvest depends on their cash flow and access to external finance.

In chapter 6 I shift focus from Ukraine’s wheat market to its nascent agricultural credit market. I examine the performative role of international financial institutions (IFIs) and loosely affiliated ‘best-practice’ financial experts and practitioners in: (i) mobilising a certain ‘framing’ of agricultural finance; (ii) enrolling adherents – in the form of market practitioners and ‘travelling technocrats’ – capable of implementing this frame, and; (iii) creating a space for the exchange of supra-local knowledge, in which knowledge produced by financial experts in different parts of the world is introduced in a new geographical and historical context. In doing so, I provide a detailed integration of what has come to be recognised as the prevailing policy paradigm on agricultural finance, developed by a relatively narrow group of financial

experts, often working under the auspices of the World Bank group and USAID. According to this policy paradigm, any intervention in agricultural credit markets on the part of state institutions or public donors must be done via private sector financial intermediaries, with the aim of connecting producers to the sphere of formal finance through the creation of value, and in a manner that supports the development of the private financial sector. I also outline both the practical work that is being done and the ‘innovative financial mechanisms’ that have been implemented in Ukraine in order to increase small and medium scale producers’ (SMPs) access to external finance by reconfiguring the SMP sector as workable investment opportunity for the private financial sector. In doing so, I develop an empirical focus on the example of cash flow-based lending, promoted by the International Financial Corporation (IFC) as a means of increasing SMPs’ access to agricultural finance in Ukraine.

In chapter 7 I continue to explore the marketisation of Ukraine’s agricultural credit sector, addressing what exactly financial experts mean when they prescribe ‘market-based’ solutions to the issue of SMP financing, and what forms of interplay have emerged between the public sector and private finance in the process of their delivery. I consider how attempts to reframe the role of agricultural finance have entailed redefining what constitute legitimate objectives of state intervention and legitimate uses of public funds: that is, away from the provision of direct support to farmers, and towards meeting the requirements of the private financial sector, by assisting in the rendering of agriculture as an alternative asset class. In this sense, it is financial sector actors rather than farmers that represent the primary beneficiaries of ‘market friendly’ (Meyer, 2011) interventions in agricultural credit markets. I also explore the possibility that what commentators (e.g. Westercamp et al., 2015) observe to be the limited success of the attempted assetisation of the SMP sector can be explained in part through the contingent, (often) unstable, experimental and highly mutable character of the market arrangements through which the financial systems approach is materialised on the ground. I orientate the analysis towards the practical work through which market models - as well as the network of actors responsible for their design and implementation – have been brought together and explore successful, as well what may be considered incomplete or failed attempts to implement ‘market based’ interventions through IFI-led technical assistance projects. In doing so, I argue that practical accomplishments of collective efforts to reconfigure agriculture as a workable investment are often more modest than either the proponents or critics of *financialisation* may be inclined to suggest.

In Chapter 8 I summarise the theoretical and empirical strands of the thesis. In doing so, I refer back to the overarching research objectives and consider the contribution the thesis makes to the existing literature on the social studies of marketisation and market-making in developing and transition economies. I also reflect on the major strengths and weaknesses of the research, as well as discuss opportunities for further research highlighted by this thesis.

Chapter 2

Understanding Ukraine's agricultural transition: from planned to market economy

2.1 Introduction

In this chapter I explore Ukraine's transition from a centrally planned to a free market agricultural economy. I begin with an overview of Ukrainian agriculture under Soviet rule, including a discussion of both the existence of marketlike systems within Soviet agriculture and the historical role of Ukraine and the Soviet Union in international wheat markets. I then go on to explore the early transition years and the instability that followed the dissolution of the Soviet Union, as well as the period from 1995 to present, characterised by slow and inconsistent market reform.

The second part of the chapter reviews distinctive bodies of literature that have attempted to explain the slow and inconsistent nature of agricultural reform. Firstly, I explore the orthodox economic literature which attributes Ukraine's 'failed transition' to a combination of poor governance, a weak state and a rent-seeking elite that spans the arenas of politics, economics and crime (e.g. Åslund et al., 2001; Kaufmann and Kraay, 2002; Åslund, 2015). I then explore an alternative theorisation of the so-called failed-transition, which treats economic reform as a form of collective action, and argues that a primary reason for limited market-reform has been the failure of central state executives and pro-market reformers to enrol subnational political officials who remain unconvinced of the benefits of the proposed reforms. This alternative approach emphasises the importance of collective action and the agency of local actors, recognising them as rational agents capable of making decisions and pursuing courses of action based on their own interpretation of political and economic circumstances, as opposed to simply being ideologically resistant, deviant or 'backwards', as they are often portrayed in mainstream literature on economic reform in post-Soviet states.

2.2 Ukrainian agriculture and grain production during the post-World War II period

During the Soviet regime, the agricultural sector of the Ukrainian Soviet Socialist Republic was organised into two centrally-controlled sectors of large-scale farming: *kolkhozes* - collective farms in which output

and all assets were jointly owned by the farm members, except that land owned by the state, and; *sovkhoses* - state farms in which output and all assets were owned by the state. The state would provide the majority of investment capital to the *sovkhoses*, and absorb both profits and losses. While *kolkhoz* members received shares of residual income from the harvest, all *sovkhoses* workers were classed as state employees and paid a fixed wage. However, the distinction between these two categories of farm structure become less distinct post-World War II with the adoption of guaranteed wages for *kolkhoz* members and the provision of credit (much of which was later written off) if the farm could not meet its wage bill or other obligations (World Bank, 1994).

The *kolkhoz/sovkhos* system was augmented by what were referred to as 'inter-farm enterprises', jointly owned by several farms. The World Bank (1994) reported that in 1992 the 35.5 million ha of land in the socialised sector was divided among *kolkhozes*, *sovkhoses* and inter-farm enterprises, which produced 69 per cent of gross agricultural product (*kolkhozes* contributed 48 per cent; *sovkhoses*, 21 per cent; and inter-farm enterprises, 0.8 per cent). Both *sovkhoses* and *kolkhozes* were diversified, large scale enterprises, and only a few farms were narrowly specialised. Grain production accompanied by livestock was characteristic of most farms under the Soviet system. In addition to these centrally organised sectors, individual subsidiary farms, such as household plots of individual *kolkhoz/sovkhos* members and garden plots assigned to city workers, played an important part in agricultural production. Although only 2.8 million families used just 2.7 million ha - or 6.2 per cent of the total arable land - individual subsidiary farms provided more than a quarter of total agricultural production -30 per cent of livestock and 20 per cent of crops - in the second half of the 1980s (World Bank, 1994).

By the 1980s, the USSR had become the world's second grain producing country after the US, accounting for approximately 13 per cent of world grain production (Kogan, 1981). Between the 1950s and 1980s, the average level of Soviet grain production almost tripled, from 65 million tons in 1946-1950 to 205 million tons in 1976-1980 (Kogan, 1981). This growth was connected with the process of technological improvement in agriculture, and in particular the utilisation of fertilisers which increased more than tenfold during this period. At the same time, mechanisation of the whole process of grain production was substantially improved, with the number of tractors and grain combines increasing by over 4f00 per cent (Kogan, 1981). However, despite this increase in grain production during the post-World War II period, the level of production obtained by the end of 1980 still did not correspond to Soviet demand for grain. Based on total population size, it was estimated that by 1981 Soviet demand for grain was around 265-270 million tons per annum. With average annual production around 205 million tons, it was estimated that the USSR had an average shortage of grain of about 60 million tons per year over this period (Kogan, 1981). This necessitated that the USSR purchase substantial amounts of grain on the international market. Between 1975 and 1979, the USSR imported approximately 13 per cent of the world grain stock. Wheat imports,

which typically accounted for around half of the Soviet Union's grain imports in the 1970s and 1980s, peaked in 1984 at approximately 25 per cent of global wheat trade (Jones et al., 1996).

While the Soviet Union may have been a consistent net importer of grain, its activities in the world grain market were constrained by both internal factors - namely, a lack of hard currency, as spending on grain fell behind military development, industry and resource development on the list of priorities - and external factors i.e. economic and political limitations placed by grain trading countries on selling grain to the USSR, perhaps the most notable instance being the U.S. Grain Embargo following the 1979 Soviet invasion of Afghanistan (Kogan, 1981). However, notwithstanding these issues, the Soviet Union's repeated annual grain deficits made it a major player in international grain markets. Following the USSR's sudden entry into world grain markets in the early 1970s, it became one of U.S agricultures' leading markets, accounting for, on average, 12 per cent of U.S corn and wheat exports from 1970 to 1990 (Barkema, 1991).

Several decades before its eventual collapse, western academics had begun to widely observe certain forms of private agriculture and instances of reciprocity and marketlike transactions within the Soviet Union (Simes, 1975; Katsenelinboigen, 1977; Grossman, 1979). What came to be known as the 'second economy' was not simply the result of illegal or informal production and trade occurring in the shadows – although this was a significant factor (Simis, 1982). As Sampson (1987:121) noted, "the second economy [in the USSR] is often the equivalent of the market or primary economy in capitalist countries. Some of these activities are simply what we would term capitalist entrepreneurship: the peasant who cultivates her private plot and sells the produce on the free market, speculative trading, middle-man fees, renting property, money lending and operating a private firm". In many instances, the second 'marketlike' economies of the Soviet Union were an integral part of the official planned economy, "sometimes complementing it, sometimes hindering it directly, sometimes competing with it" (Sampson, 1987:122). Private agriculture in the form of collective farmers' personal land plots was a perfectly legitimate means of production and in the 1980s provided from 30 to 42 per cent of total agricultural output in the USSR (Sampson, 1987). Domestic production was an important source of household consumption and personal incomes for many collective farmers, who could sell their produce on contract to the state, on the formal market (subject to price ceilings), or on informal markets where they could potentially negotiate a higher price (Sampson, 1987).

Alternative economic practices and logics different to those of central planning arguably became increasingly prominent in the operation of the agricultural sector in the final years before the dissolution of the Soviet Union. As the collapse of the Soviet Union loomed in early 1991, collective and state farms were struggling with a multitude of challenges: price scissors – the simultaneous decrease in the price of agricultural exports and increase in the price of manufactured goods - made agriculture unprofitable, inter-

enterprise networks had broken down, input shortages plagued the production cycle and infrastructure was deteriorating (Allina-Pisano, 2008). In response to shortages in consumer goods and agricultural inputs, central planners sought a shift from collective agriculture toward private garden plots, introducing new land codes in early 1990, granting village councils and regional government new powers to distribute land (Allina-Pisano, 2008). This shift in land tenure strongly reduced the land resources available to collective farms, negatively affecting their production capacity and making it difficult for them to meet production quotas set by the state. However, as Allina-Pisano (2008) explains, state demands on collective and state farmers did not reflect their change in circumstances and by the beginning of the 1990s, some agricultural enterprises had begun to respond by complying only partially with state demands.

While many farms did experience genuine falls in production as the Soviet Union approached collapse, records of sales to state buyers do not tell the whole story of the health of those enterprises (Allina-Pisano, 2008). At the same time as experiencing a decline in production, many farms began to withhold the sale of produce to the state so as to either utilise it in the operation of the farm (e.g. using grains for feed)², or to sell it 'freely' for a higher price via informal distribution networks that had developed over previous decades³. Where collectives continued to sell to state buyers, they did so not because they were coerced into sales but because they lacked storage space for the harvest and so were unable to hold-out for a higher price on 'free' market (Allina-Pisano, 2008). As Allina-Pisano (2008:47-48) observes:

the refusal of some agricultural collectives to participate in command structures compelled a reaction from the state. Acknowledging that state prices for agricultural goods were low relative to the cost of production, and that enterprises were free to sell surplus production to non-state entities, state buyers tried to induce collectives to sell produce to the state rather than on the open market.

In this way, even prior to the official end of central planning, agricultural enterprises were holding back on the sale of goods in search of a better price, and through this market-based subterfuge of state commands, state institutes were compelled to respond to limited supply by increasing the prices offered to producers.

What post-Soviet theorists have struggled to assimilate within the transition paradigm are the numerous studies documenting parallel and contradictory economic logics interwoven in the Soviet agricultural system as early as two decades before 1991 (Stark, 1998). As Sampson (1987) notes, popular accounts from Western academics typically framed the 'second economy' of the Soviet Union as 'islands of

² Extracting harvested goods from collective enterprises was a perennial problem for the Soviet state. This problem was overcome through state-orchestrated violence during previous decades, not least during peasant resistance in the 1930s (Viola, 1994). However, Allina-Pisano notes that, by the time of perestroika (1985-1991), agricultural collectives' compliance with state demands depended on a quid-pro-quo – the realisation of state orders in exchange for the delivery of material resources such as inputs or equipment. By the start of the 1990s, central planning was no longer able to deliver on this arrangement and so neither did many collectives.

³ Allina-Pisano (2008:45) reports that it was not unknown in some regions for agricultural collectives to sell between 20 and 45 per cent of planned levels, despite producing more than 60 per cent of the state plan.

capitalism' in which the spirit of free-market initiative prospered despite stifling bureaucracy (e.g. Simis, 1982). Alternative theorisations, such as that of Stark (1998:117), have subsequently argued that the existence of marketlike transactions within the Soviet economy “stemmed from the contradiction of attempting to ‘scientifically manage’ an entire national economy”, and that no economic system – command or capitalist – is ever organised around a single system identity.

2.3 The fall of the Soviet Union (1991-1994)

The dissolution of the Soviet Union in 1991 was interpreted in the West as a triumph for the ideals of democracy and free-market capitalism, and was thought to be demonstrated by the total exhaustion of viable systematic alternatives to western market liberalism. This free-market triumphalism, and the apparent absence of political opposition to the spread of western-style liberal economic management, is evident in the literature on the state of Ukrainian agriculture at the fall of the Soviet Union, in terms of the general consensus that Soviet agriculture had been stifled under the command of Soviet bureaucracy, and the corresponding calls for urgent market-orientated reform. In this sense, the Ukrainian agricultural economy was to follow the same prescribed trajectory of development as the rest of the former Soviet economy, summarised by the IMF (2000) as process of:

- Liberalisation: the process of allowing most prices to be determined in free markets and lowering trade barriers that had shut off contact with the price structure of the world's market economies.
- Macroeconomic stabilisation: primarily the process through which inflation is brought under control and lowered over time, after the initial burst of high inflation that follows from liberalisation and the release of pent-up demand. This process requires discipline over the Government budget and the growth of money and credit (that is, discipline in fiscal and monetary policy) and progress toward sustainable balance of payments.
- Restructuring and privatisation: the processes of creating a viable financial sector and reforming the enterprises in these economies to render them capable of producing goods that could be sold in free markets and of transferring their ownership into private hands.
- Legal and institutional reforms: These are needed to redefine the role of the state in these economies, establish the rule of law, and introduce appropriate competition policies.

As the process of post-Soviet transition began, western academic and institutional economists and political scientists wrote in unison of how, under central planning, the agricultural sector had become “backward”, overly labour intensive and notoriously inefficient (Wilson and Belozertsev, 1995; Schroeder, 1994; Barkema, 1991:8). Indeed, performance-based statistics from the period would appear to give credence to such an opinion. As Barkema (1991) documented, Soviet farmers operated 230 million hectares of cropland in 1989 - the largest cropland base in the world at that time and around a fourth larger than the U.S. Yet, with a cropland of around 190 million hectares, the U.S. produced a total of 284 million metric tons of grain, significantly higher than the Soviet Union’s 201 million tons (see table 1).

Table 1. Comparison of Soviet and U.S Agriculture (1989)

	Soviet Union	United States
Farm resources		
Cropland (1000 hectares)	232,426	189,915
Agricultural labour force (% of population)	14.2	2.5
Labour per 1000 hectares	92	17
Tractors per 1000 hectares	12	25
Crop production (million metric tons)		
Wheat	91	55
Corn	17	181
Soybean	1	52
Crop yields		
Wheat	1990	2203
Corn	3552	7291
Soybean	1129	2182

Source: Barkema (1991)

Commentators attributed the Soviet Union’s subpar yields from its plentiful soil resources (see table 1) to fundamental deficiencies in the pricing mechanism under a centrally planned agricultural economy (Barkema et al., 1992; Barkema, 1991). Despite the Government putting nearly a third of its total annual investment in the entire Soviet economy into agriculture during the 1980s, this investment was said to have had little impact due to the fact that government-set procurement prices provided no information for channelling investment into the most efficient or profitable uses. Moreover, it was identified that procurement prices would often penalise the most efficient producers and reward the least efficient, as financially weak farms with high production costs would receive large procurement bonuses to boost their

financial position, while farms with lower production costs received smaller bonuses, creating a situation where upside-down incentives discouraged efficiency (Barkema, 1991).

Aside from inefficient production, Barkema also identified a wasteful distribution and processing system and artificially low food retail prices as major problems of the centrally planned agricultural economy, which he again attributed to government price setting. He identified that the dilapidated Soviet distribution and processing system wasted an enormous amount of farm output each year, reporting that estimated losses after harvest ranged from 20 to 30 per cent for grains and up to 40 to 60 per cent for more perishable crops like potatoes and vegetables. Barkema related wasteful distribution to government-set prices in part by arguing that buying raw farm products at subsidised prices, the managers of food processing plants were inclined to pay little attention to quantity of farm products wasted during production. Furthermore, with food processors selling food products at government-set prices too low to finance capital investment, it fell on the state to invest in distribution and processing infrastructure. However, the system received only around 15 per cent of the Governments total investment in agriculture (Barkema, 1991).

Clearly then, in the view of market reformists, government intervention in price determination was the root cause of multiple ills within the Soviet agricultural economy. At the fall of the Soviet Union, the task of constructing a new reformed Ukrainian agricultural system centred largely around efforts to establish a system of market-determined prices to replace the old command economy. As Brümmer et al. (2009:204) explain, at the onset of post-Soviet transition, the hopes of market reformists were “pinned on market liberalisation and the harnessing of the price mechanism as a means of increasing economic efficiency and welfare”, in a way that had been prohibited within the centrally planned economies of Central and Eastern Europe. In short, it was argued that “by freeing prices from government control and establishing a free market, Soviet agriculture could boost production, curb waste and eliminate food shortages” (Barkema et al., 1992:15).

The implementation of a market system required the farm and food system to be taken out of government control and put into the hands of private ownership. In particular, private ownership of farmland and the establishment of a functioning land market were identified as an immediate reform priority (see Melnychuk et al., 2005). Furthermore, market reformists also highlighted the need for a whole new set of market intermediaries to link producers with consumers. Under the command system it was the government monopoly which bought and processed raw commodities and sold them to their consumers. But successful transition to a market economy would require the Soviet command structure to be replaced with a new set of institutions, including commodity buyers, processors, wholesale distributors and food retailers (Barkema et al., 1992).

Despite an anticipated sea change in the Ukrainian agricultural economy following the dissolution of the Soviet Union, records show a slow and cautious rate of reform for the first few years after 1991 and

by 1995 the agriculture and food processing industry remained one of the most regulated sectors of Ukrainian economy (World Bank, 1994). The World Bank wrote in 1994 that:

Ukrainian agriculture still exhibits the major hallmarks of the Soviet system. A large bureaucratic administrative structure still functions above the farm levels to provide central guidance for planning decisions, allocate inputs and distribute of output. However, the disintegration of the former Soviet Union, and with it of traditional mechanisms for inter-republic exchange of agricultural inputs and products, and high rates of domestic inflation, have undermined the command system of pricing and marketing, so that it is no longer working effectively. At the same time, a market-oriented system of pricing and distribution has not yet emerged. What exists is neither an effective planned system nor a market system (World Bank, 1994:32).

In terms of the evolution of land relations, the reorganisation of the *kolkhoz/sovkhov* system and privatisation of their land began in 1992. The first stage of this process was land denationalisation and the free transfer of ownership to collective farms and citizens of Ukraine, achieved through a series of government decrees (Zinchuk et al., 2017)⁴. As Zinchuk et al. (2017) explain, the main task for the transformation of land relations was to improve the effectiveness of land resources through a change of ownership, while the main principle behind reforming land relations became the transfer of land ownership to those who cultivate it. Sarna (2014:3) notes “one of the main objectives of the reform was to privatise Ukrainian land free of charge, under the ‘socially-correct’ slogan: ‘Land for those who work it’”.

Collective and state farms were transformed into collective agricultural enterprises (CAEs). In the 1990s, Ukraine closed down nearly all 12,000 of its *kolkhozes*, the assets of which were then placed under collective ownership of CAEs (Sarna, 2014). This was achieved by dividing land into shares and issuing certificates (or *pai*) to employees of enterprises, which guaranteed their right to have a share in the collective ownership of land (Zinchuk et al., 2017). On average, a certificate gave its owner 4.1 hectares (10.13 acres) of land (Krasnozhan, 2004). The transfer of land to collective ownership of agricultural enterprises was intended as an intermediate stage of land reform, ensuring “a gradual, conflict-free transition from the state to private ownership of land intended for agricultural use” (Zinchuk et al., 2017:60). In addition, over 7 million rural residents were granted ownership of small plots of land (up to 0.4 hectares) from the so called ‘Land Reserve Fund’ and/or from the so-called ‘reserve land’ (both previously owned by central or local Government), which was used for small-scale domestic farming (in total, approximately 2.6 million hectares)(Sarna, 2014). As Sarna (2014) explains, unlike the smaller household plots, the allocation of land

⁴ Including the law ‘On types of land ownership’ (1992); the law “On collective agricultural enterprise” (1992), and a decree “On privatization of land parcels” (1992). An edition of the old Land Code of Ukraine (1991)⁵ introduced state, collective, and private land ownership in Ukraine (Krasnozhan, 2004).

shares was not initially followed by an automatic right to physically claim the land, as farmers were not issued with title of deeds to individual plots and *pais* were not demarcated at specific locations.

As a result of the land reform laws, independent private farming - based on farmers who own their land and produce outside the collective framework - began to emerge after 1991. This process was supported by subsidised credit for private farmers, who were severely undercapitalised and rarely had access to more than 4 hectares (World Bank, 1994). By 1994, the number of private farms had reached nearly 30,000, from around 2,000 in 1991 (The World Bank, 1994). However, despite the emergence of private farming, little to no progress was made during this period towards the establishment of a functioning market for agricultural land. Notwithstanding the enormity of the task, several observers of Ukraine's agricultural transition, including international lending institutions such as the World Bank (1994), expressed concern with the slow rate of land reform and questioned the Government's desire for truly private agriculture. Despite the earlier allocation of land shares, transfer of certification to the rural population was a slow process and only with the adoption of the presidential decree in December 1999 was the land officially given to the approximately seven million rural habitants and the leasing of land started (Plank, 2013).

Initially, it was envisaged that land privatisation process would lead to the unrestricted purchase and sale of farmland in the country. However, as Sarna (2014:3) notes, "political disputes have led to the introduction of a series of temporary moratoriums on land sales, which are to remain in place until appropriate market conditions have been created in Ukraine". 'Appropriate conditions' here refers to the establishment of the necessary legal and institutional infrastructure, especially land market legislation being passed and a cadastre⁵ being created (Sarna, 2014). The Ukrainian Government's progress in this area, however, has been extremely slow. Unable to sell their land under the moratorium, and still accustomed to a system of collective work, most rural residents chose to invest their land and asset share in CAEs (Krasnozhan, 2004). In this way, early land reform created a trend of increased collectivisation rather than outright private farm ownership.

Reform of the nation's agricultural market regime was also slow during the early years of the post-Soviet epoch (Keyzer et al., 2012; Zinchuk et al., 2017). Notable changes during this period included a reduction in explicit producer and consumer subsidies, the introduction of a degree of liberalisation of domestic agricultural producer prices through a slight reduction of state purchases, and the legalisation of private trading (World Bank, 1994). However, market and price liberalisation were limited. Government influence over trade and price formation remained strong by 1994, as the state was still a large buyer of agricultural products and could repress prices below border price levels. Marketing through a network of

⁵ A comprehensive land recording and fundamental source of data in disputes and lawsuits between landowners

state-owned enterprises was put on a contractual basis between firms and the buyers, but state trading agencies continued to exert substantial pressure on farms to sell at prices indicated by the Government by linking access to inputs (made scarce by the collapse of established marketing channels) to the delivery of agricultural outputs at the state-set price. This was made possible by the close control of the input supply network by ministry-level government agencies and their dependent enterprises. While marketing through private channels was not legally limited, it was restricted by the threat of inputs being withheld. In addition, produce sold through private channels did not qualify for output subsidies (World Bank, 1994). Furthermore, access of farmers to foreign trade channels was restricted since sales to the state were a necessary precondition for granting permission to export even small quantities (World Bank, 1994). Estimates suggest that by 1994 approximately 25 per cent of farms no longer worked with the state system (World Bank, 1994).

Another area of agricultural policy pro-market commentators frequently cited as a major issue was agricultural finance⁶. Sedik (2003:ii) notes that:

three institutional pillars form the foundations of sustainable financial markets: the existence of a pool of profitable and diverse rural clients with the ability to service loans, well-run financial institutions which are financially self-supporting and an enabling policy environment. Ukraine has not been successful in developing robust rural financial markets because it has consistently undermined these three institutional pillars through soft [i.e. frequently rescheduled or forgiven] government-provided or government-subsidized directed credits that have had an overwhelming role in rural policies in the post-Soviet period.

Throughout the early transition years, the Government was the primary source of finance for Ukrainian farms. Credit was extended without consideration of repayment capacity and only 41 per cent of state loans to large farms in 1998-99 were repaid (Sedik, 2003). While the development of agricultural credit markets centres on the need to establish a commercially viable client base, Ukrainian agriculture during the first decade of transition was dominated by unprofitable farm enterprises – in 1998, 93 per cent of farms were unprofitable (Sedik, 2003).

It can be seen that in the first few years following the collapse of the Soviet Union, there was limited progress in terms of a transition towards a liberalised agricultural industry whereby prices were determined by the free market, and in terms of the establishment of a functioning land market. During this period of reform, Ukrainian agricultural performance mirrored trends across the former Soviet Union as a whole. At the beginning of the 1990s, output declined significantly, with total production in 1993 falling over 20 per cent below the level of the 1986-1990 average (World Bank, 1994).

⁶ In this thesis I use the terms agricultural finance and rural credit interchangeably.

2.4 Two decades of (in)consistent reform? (1995-2015)

Reports suggest that, in many respects, agricultural reform in the latter half of the 1990s mirrored that of early years of reform. Lerman et al. (2007) have noted that throughout the 1990s, agricultural policy emphasised *ad hoc* government intervention in agricultural production, marketing and finance: agricultural exports were subject to quotas and licencing throughout 1996; state grain procurement continued through 1997, usually in the form of interest-free state loans at regulated prices; large collective farm enterprises continued to receive rationed or state guaranteed credit; indicative and recommended prices (minimum export prices) were still set by the Government for many commodities; when farms fell into debt, debt repayment was used as a justification for expropriation of agricultural commodity stocks; and local regional authorities restricted commodity trade by banning sales of commodities to other regions until local commodity quotes had been filled (see also Von Cramon-Taubadel and Zorya, 2001; Sedik et al., 2000).

However, 1999 is widely cited as a watershed moment for Ukrainian agriculture (Lerman et al., 2007; OECD 2004), marking the end to a decade of ‘transition crisis’ which followed the dissolution of the Soviet Union, the collapse of central planning, the ensuing macroeconomic instability and the disruption associated with mass economic liberalisation (Von Cramon-Taubadel et al, 2004). As Lerman et al. (2007) note, 1999 was the year the Government announced it would no longer intervene in farm finance, and significantly reduced its role in agricultural input supply and grain marketing, thus reducing the inherent inefficiencies of government-controlled input supply and marketing systems. By 2002, the predominant form of government finance for the purchase of farm inputs was subsidised interest rates. Furthermore, the agribusiness privatisation programme that had been largely completed between 1994 and 1999 began to yield results in terms of increased efficiencies in marketing and input supply chains. Large transnational companies began to establish themselves as key players (Kobuta et al., 2012). Lerman et al. (2007) note that for the first time in many years the terms of trade in agriculture, i.e., the index of real agricultural output prices relative to agricultural input prices, increased by 18 per cent in 2000.

Yet, the optimism of pro-market observers was halted to a degree in 2003 when a poor grain harvest - the outcome of poor weather conditions – prompted renewed state intervention in commodity markets (von Cramon-Taubadel, 2003 Lerman et al., 2004). The grain crop dropped to an estimated 20-21 million tons, down 50 per cent year-on-year (World Bank, 2004). The situation was particularly critical for wheat, with production falling from roughly 20 million tons in both 2001 and 2002 to just 5 million tons in 2003 (Von Cramon-Taubadel, 2003). After exporting roughly 5.5 and 6.5 million tons of wheat in 2001/02 and 2002/03 respectively, Ukraine once more returned to being a net importer of wheat in 2003 (Von Cramon-Taubadel, 2003). In response, the cabinet ministry of Ukraine issued a decree empowering regional authorities to “thoroughly monitor food grain movements and prices on regional markets” and “to pay closer

attention to monitoring of stable food process, mark-ups [and] profitability rates, and undertake measures to keep them from rising if there are no reasons for price increase” (see Von Cramon-Taubadel, 2003:4). This response to the 2003 ‘grain crisis’ was perceived by advocates of greater market liberalisation as an indication of the Government’s propensity to revert to state interventionism. Von Cramon-Taubadel et al. (2004:1), for instance, have claimed that “as the policy responses to a poor harvest in 2003 demonstrate, many reflexes and urges of central planning continue to lurk below a thin surface of market rhetoric in policy-making circles”.

This propensity of the Ukrainian state to intervene in the functioning of the agricultural economy has continued up until the present day. The Food and Agriculture Organisation of the United Nations (FAO) reports that in the period from 1997 to 2010, the OECD’s Producer Support Estimate (PSE)⁷ fluctuated between 0.3 and 11.3 per cent as a share in total gross farm receipts, with large variability in support from year to year (FAO, 2013). In 2002 and 2003 the total support level was close to zero, increasing to 5.5 per cent as a percentage PSE in 2010. The economic turmoil associated with the 2008 financial crisis has been identified as a causal factor behind a period of increased state intervention. An uncertain political and budgetary environment, created by the crisis, was largely responsible for what the FAO terms “the highly volatile level of support to agriculture” (FAO, 2013:5). It is reported that although the overall level of producer support in Ukraine was/is relatively low compared to Russia and the EU, the type of support provided is done so in a way that OECD classifies as ‘production and trade distorting’ (FAO, 2013). In particular, international advisory institutions have expressed concern about the level of ‘Market Price Support’ (MPS) - an indicator of the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers arising from policy measures creating a gap between domestic producer prices and reference prices of a specific agricultural commodity measured at the farm-gate level (see OECD, 2003). On aggregate from 1996 to 2010, the total value of MPS was USD 6.4 billion, while the total PSE amounted to USD 10.0 billion (FAO, 2013). The FAO has also identified input-based subsidies as having a distortionary effect on agricultural markets. They reached USD 1.2 billion in 2010, increasing their share in total PSE from 40.9 per cent in 2009 to 61.2 per cent in 2010 (FAO, 2013). Price support is implemented through a variety of market intervention measures carried out by the state agency *Agrarian Fund*, including state purchases and sales of a range of agricultural and food products at intervention minimum and maximum prices, forward-contracting, tariff protection, non-tariff trade regulation, sales of fuel and mineral

⁷ Producer Support Estimate (PSE), designed by the OECD, is the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm-gate level, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on farm production or income. Per centage PSE (%PSE) is the PSE as a share of gross farm receipts (including support).

fertilisers to agricultural producers, administrative price fixing and the maintenance of grain stocks for price stabilisation purposes (OECD, 2011; 2013; 2015b).

The main driver of Ukraine's foreign trade policy since May 2008 has been accession to the WTO (FAO, 2013). Ukraine's WTO commitments have overseen, amongst other things, a reduction in the level of import protection for agricultural products and the gradual reduction of export duties (OECD, 2015a). The WTO also committed the Ukrainian Government to removing the quota system it imposed on agricultural exports, as a way of dealing with sharp falls in domestic supply (OECD, 2011). However, despite this commitment, the Government has made recourse to grain export quotas on several occasions following severe weather events which negatively impacted agricultural output (OECD, 2011).

With regards to agricultural finance, concessional credit in the form of interest rate subsidies have been a feature of Ukrainian agriculture for much of the last two decades. In 2000, a partial interest rate compensation mechanism was implemented stipulating that the interest rates farms pay for credit from commercial banks be compensated by 50 per cent of the National Bank of Ukraine's discount rate on the day of signing a credit agreement, but no less than 17.5 per cent of the annual rate (von Cramon-taubadel et al., 2001). However, subsidised credit has come to account for an ever-smaller proportion of total input subsidies for agriculture (just 5 per cent by 2010-2012), and the interest rate compensation scheme was cancelled completely in 2015 (Schroeder and Meyers, 2017).

With regard to the establishment of private property rights for agricultural land, a second phase of land reforms began with the Presidential Decree of December 1999 'On immediate measures to accelerate the reform of the agrarian sector of the economy'. This decree effectuated the actual privatisation of agricultural land, stipulating that land shares had to be transformed into private land plots with well-defined physical boundaries (Keyzer et al., 2012). As Lerman et al. (2007) explain, the CAEs established in the early transition period were essentially declared incompatible with the vision of private ownership, and as such were liquidated and their assets distributed with CAE members having the right to leave the enterprise with their land and asset shares. New production entities based on private ownership were created from CAEs, including limited liability companies, private farms, open and closed joint stock companies, and household plots. This process led to the emergence of a new wave of private corporate farms, organised by a single entrepreneur, based primarily on leased land and commonly known as "private lease enterprises", to distinguish them from private peasant farms that use mainly owned land. Following the 1999 presidential decree, Ukraine evolved from exclusive state ownership of land in 1990 to a mix of state and collective ownership in 1993-95, and finally to a mix in 2000-05 with roughly one-half in state ownership, one-half in private ownership, and virtually no collective land ownership (Lerman et al., 2007)(see table 2).

Alongside the 1999 presidential decree, the moratorium on the sale of agricultural land was extended by parliament to 2005, then again to 2008, and then to 2015, and once again until January 2016

(OECD, 2015b). Despite being permanently on the agenda of parliament for well over a decade, the moratorium was extended yet again on 1 January 2017. As Sarna (2014:3) observes, “the privatisation of farmland without the concomitant right to freely sell it, has contributed to the emergence of agriculture based on land lease, which has been facilitated by the statutory authorisation to use *pais* as the subject of lease contracts”. Among international agribusinesses, Ukraine is regarded as a low-cost country, in part because – functioning as a leasehold market – the capital requirements for entry are lower than if prospective farmers were required to purchase land (Plank, 2013; UCAB, 2012). The average lease period is four to ten years, up to a maximum of 49 years (UCAB, 2012). People often do not know who is actually leasing their land since larger tenants lease from smaller tenants (Prank, 2013). As Sarna (2014:4) notes, “the low cost of land leasing (a fraction of the rates charged in the EU), coupled with the possibility to use goods and services (often at inflated prices) in lease settlements, have facilitated the emergence of private and, most importantly, very large agricultural companies”.

This ‘interim’ outcome of land reform paved the way for a dual agricultural system, characterised by large corporate enterprises (or *agroholdings*) and individual farms (peasant farms and households)(Keyzer et al., 2012). Officially, there are approximately 4.5 million rural household plots on 7.5 million hectares and 49,000 agricultural enterprises on 23 million hectares (Plank, 2013). While household plots are not included in the official agricultural records, they typically account for more than 50 per cent of agricultural production (Plank, 2013). From 2005 onwards, through the merger and acquisition of smaller players (together with their land banks), land ownership became increasingly concentrated amongst a relatively small number of export-orientated corporations. As Keyzer et al. (2012:22) observe, “this process largely [took] place in the shadow, and [was] made possible by non-transparent control over the distribution of the former collective enterprises’ property and agricultural lands, and the emergence of an informal land market, whereby lease, lease-to-purchase and purchase agreements led to consolidation of large stretches of farmland in the hands of vertically integrated legal entities”. Agroholdings - increasingly integrated horizontally as well as vertically in order to control the whole value chain – have been hailed by some commentators as the solution to Ukraine’s agricultural development, as they have modern equipment, knowledge and access to international finance markets (Demyanenko, 2008). Their numbers have increased in recent years and currently the 10 largest agroholdings control about 2.8 million hectares. To date, the share of domestic agroholdings predominates over foreign ownership, with 82 per cent of the top 100 in Ukrainian hands (Plank, 2013). Domestic agroholdings are often associated with Ukraine’s oligarchic business elite (see Plank, 2013) – an association that potentially undermines their status as a legitimate production structure⁸.

⁸ I discuss the concept of oligarchy and its negative connotations further in chapter 4.

Due partly to the lack of an agricultural land market, foreign investors have focused mainly on agricultural processing and on trade in Ukrainian grain, with the majority of the domestic agrohholdings controlled by Ukrainian investors (Sarna, 2014). However, the profit potential of Ukraine’s agricultural sector has also attracted passive foreign investors, who have been investing in Ukrainian agricultural companies listed on foreign stock exchanges (Sarna, 2014). Due to their need for further capital, many Ukrainian agrohholdings have become interwoven with transnational capital through the stock exchanges in London, Frankfurt or Warsaw (Prank, 2013). Moreover, as Prank (2013) notes, “a further international dimension is the support for agri-business provided by the international financial institutions (IFIs), specifically the International Finance Corporation (IFC) and the European Bank for Reconstruction and Development [...] The share of the latter is significant and rising” (see EBRD, 2011). IFIs also provide credit to non-Ukrainian companies, such as Agrogenation, a French agrohholding, in the sum of USD 10 million – enough to be able double its area of arable land from 50,000 ha to 100,000 ha (Prank, 2013). At the same time, it is important to highlight that small and medium sized farmers in Ukraine find it hard to obtain credit and do not qualify for financing from IFIs due to their size (UCAB, 2012).

Table 2. Changes in no. of farm enterprises/changes in no. of farm enterprises (1990-2005)

	1990	1992	1993	1995	1999	2000	2001	2002	2003	2004	2005
<i>Sovkhozes</i> (state farms)	2438	2160	2000	1520	590	590	580	570	516	395	386
<i>Kolkhozes</i> (collective farms)	8354	5750	2680	450	0	0	0	0	0	0	0
CAEs	0	0	7385	7385	8102	0	0	0	0	0	0
Other corporate farms	0	435	697	1600	4598	13487	15307	16003	16741	17293	17285
Agricultural cooperatives	0	320	345	486	284	3325	2408	2294	2130	1962	1749
‘Business’ companies	0	125	362	1454	1803	6761	7892	7892	8124	8123	7819
"Private" enterprise	-	-	-	-	470	2901	3638	3972	4220	4471	4774
Other organizational Forms	-	-	-	-	2041	500	1374	1885	2267	2737	2943
Total	10792	8345	12762	10914	13290	13487	15887	16573	17257	17688	17671

Source: Lerman et al (2007)

Agriculture has been and remains a key driver of the Ukrainian economy, accounting for 18.2 per cent of total exports in 2014 (OECD, 2015a). During a period of ongoing civil conflict concentrated in the East of the country and a relatively unstable macroeconomic environment, the agricultural sector was the only sector to experience growth in 2014 (USAID, 2015). Since 2000 exports of grain, oilseeds and vegetable oil from Ukraine have grown at a fast pace, converting Ukraine into one of the world's leading agro-food exporters (FAO, 2013). Wheat is the single most important crop in terms of arable land, occupying 20.8 per cent of the land and accounting for 46.0 per cent of the total output of cereals by volume in 2009 (FAO, 2013). For over a decade, Ukraine has been an almost constant presence amongst the top ten wheat exporting countries.

2.5 Explaining slow and inconsistent reform

What this economic history of Ukrainian's post-Soviet agricultural transition shows is that since 1991, the much discussed and sought-after shift towards a market-driven agricultural economy has been one of mixed success, characterised by slow and inconsistent policy reforms for most of the 1990s and a substantial period of the last decade and a half. A perceived lack of progress towards market-orientated reform prompted criticism from academic commentators, think tanks and international lending and development institutions alike (see Lerman et al., 2007). As Lerman et al. (2007:i) explains, “derogatory phrases like ‘one step forward, two steps back’, ‘changing the sign on the door’, ‘disappointing performance’, ‘lack of vigorous progress’ were universally (and justifiably) used to describe the Ukrainian reforms during the presidency of Leonid Kravchuk (1991-1994) and then (perhaps with less justification) under Leonid Kuchma (1994-2004)”.

Slow and imperfect policy implementation has led commentators to search for possible explanations as to why the more than 20 years of reform following the dissolution of the Soviet Union have not yielded the desired results. Some commentators have highlighted factors such as several instances of macroeconomic instability over the last two decades, as well as an underestimation of the sheer size of the challenge of trying to shift a national economy from one of central command to one driven by market fundamentals (Lerman et al., 2007). However, while these may be contributing factors, they do not satisfy many observers' desire for a more foundational explanation. Many orthodox theorists of post-Soviet transition, frustrated by the perceived lack of market reform and motivated by an ideology of market fundamentalism (Mykhnenko and Swain, 2010), have sort to ground their explanations of slow and inconsistent reform in the notion of weak, incompetent or corrupt state institutions. As Allina-Pisano (2004) observes, two of the primary categories of anti-statist explanation are: (i) rent seeking behaviour on the part of state and other actors, and; (ii) weak state institutional capacity to enact reform.

Hellman and Kaufmann devised the concept of 'state capture' to account for the efforts of oligarchic business elites to manipulate and shape the laws, policies and regulations of the state to their own advantage by providing illicit private gains to public officials (Hellman, 1998; Hellman et al., 2000; Kaufmann et al., 2000; Hellman and Kaufmann; 2001). Often working in conjunction with international lending institutions such as the World Bank and International Monetary Fund, these commentators have focussed their attention on the complex interactions between private firms and the state, emphasising the mechanisms through which firms seek to shape decisions taken by the state to gain specific advantages, often through the imposition of anticompetition barriers that generate highly concentrated gains to selected powerful firms at a significant social cost (Hellman and Kaufmann, 2001). It is argued that, because such firms use their influence to block any policy reforms that might eliminate these advantages, state capture has become not merely a symptom but also a fundamental cause of poor governance. As such, the 'captured economy' is thought of as being trapped in a vicious circle in which the policy and institutional reforms necessary to improve governance are undermined by collusion between powerful firms and state officials who reap substantial private gains from the continuation of weak and corrupt governance (Hellman and Kaufmann, 2001). In this way, Hellman (1998:210) views the most common obstacle to the progress of economic reform in post-communist transitions to be:

enterprise insiders who have become new owners only to strip their firms' assets; from commercial bankers who have opposed macroeconomic stabilization to preserve their enormously profitable arbitrage opportunities in distorted financial markets; from local officials who have prevented market entry into their regions to protect their share of local monopoly rents; and from so-called mafiosi who have undermined the creation of a stable legal foundation for the market economy.

This oligarchic business elite are said to have profited immensely from the politics of partial reform, which entails "the selected introduction of market mechanisms into an economy in which substantial spheres of economic activity still operate according to alternative mechanisms of coordination" (Hellman, 1998:219). Partial reforms are said to have generated rent-seeking opportunities arising from price differentials between liberalised sectors of the economy and those still coordinated by non-market mechanisms. Examples include: rapid foreign trade liberalisation with incomplete price liberalisation, which has allowed state enterprise managers to sell their highly subsidised natural resource inputs (for example, oil and gas) to foreign buyers at world market prices; price liberalisation without concomitant progress in opening market entry or breaking up monopolies, creating opportunities for some producers to earn monopoly rents; and privatisation without reform of the credit mechanism, enabling managers to divert subsidised state credits earmarked to uphold production into short-term money markets at high interest rates (Hellman, 1998). In each case of these cases, arbitrage opportunities have generated rents to those in a position to take advantage of these market distortions. And it is these lucrative opportunities for private gain through state

channels that Hellman and his colleagues view as the main causal mechanism to explain slow and imperfect implementation of economic reform: a handful of powerful private interests have too much to gain from the absence of a fully functioning market economy.

Alternatively, commentators such as D'Anieri et al. (1999) attribute a lack of reform to the 'weakness' of the Ukrainian state, where 'weak' "describes not the power of the state relative to other states but the ability of the government to adopt policy and implement it in society" (D'Anieri, 1999:172). Amongst other things, these theorists have pointed to the relative weakness of the Ukrainian Presidencies in relation to Ukrainian's atomised Parliament - characterised by a divide between Russophone and Ukrainian fractions (reflecting a wider societal divide), as well as between pro-reformists and those members of Parliament with Soviet-era ideological commitments (D'Anieri, 1999a; D'Anieri, 1999b). Moreover, as Allina-Pisano (2004) notes, the notion of a weak state stems in part from the fact that slow and incomplete reform has occurred despite what on the surface appears as compliance with (or at least a lack of visible protest against) reform policy on the part of regional state actors. What's more, the concept of the weak state feeds back to the notion of state capture, as weak formal institutions are said to leave space for informal networks and create fertile ground for easy translation of private wealth into political power (Lough and Solonkenko, 2016). As Darden (2001:67) notes, "high levels of corruption were assumed to be a sign that the state was incapable of enforcing the law and had been captured by an oligarchy of private interests".

Another theorisation of post-Soviet economic development is that of Gaddy and Ickes (2002), who highlight a discrepancy between what they perceive to be a fully-functioning market economy and the reality of what they term the post-Soviet 'virtual economy'. The general contention of these theorists is that the virtual economy represents a "mutant system" (Gaddy and Ickes, 2002:10) – something between a command and market economy - characterised by a dependence on informal practices such as fictitious pricing, barter, virtual accounting and what they refer to as relational capital. Their analysis highlights the dire state of many enterprises in the post-Soviet period, incapable of conversion to market requirements, yet able to keep functioning due to an "insidious network" of personal and bureaucratic connections "both horizontally among enterprises and vertically through hierarchies of political authority" (Oppenheimer, 2003:786). It is argued that while this relational capital enabled the industrial planning mechanism to function during Soviet times, "today it allows ossified remains of industry to exist as a kind of parasitic super-giant depressed area, disguised by the accounting and settlement procedures of the virtual, i.e. non-cash, economy" (Oppenheimer, 2003:786). The virtual economy, it is argued, "is essentially a mechanism that conserves old structures and relationships, yet is ultimately quite destructive to the society. [It] is a system that operates to prevent changes that need to take place for economic performance to improve. It postpones the day of reckoning for enterprises and institutions that were supposed to leave the scene at the

onset of transition" (Gaddy and Ickes, 1999:19). In this way, such analysis assumes a stark distinction between legitimate market practices and informal, precapitalistic ones, treating the articulation of the two as reason to label as inauthentic the *hybrid* or *mutant* economic systems of post-Soviet Europe.

While the literature on post-Soviet economic reform may be dominated by notions of a weak and/or corrupt state, these accounts have not gone unchallenged. For instance, Allina-Pisano, through her studies of Ukrainian land redistribution policy – in particular the above mentioned 1999 presidential decree stipulating that land shares (CAEs) must be transformed into private land plots - has repudiated explanatory mechanisms which focus solely on the deficiencies of the state, and has sort to demonstrate their limitations as means of understanding post-Soviet transition in the context of Ukraine's agricultural reform (see Allina-Pisano, 2004; 2007).

With regards to theories of reform predicated upon the ideas of state capture and rent-seeking elites, Allina-Pisano contends that, in the instance of Ukraine's land redistribution, local state actors had nothing to gain (in an immediate financial sense) from hindering reform implementation. It is her contention that "in the case of land reforms, state officials acting in a private capacity - that is, engaging in rent-seeking - are more likely initially to advance reform than resist it [as] accumulation of privatised land (or collecting fees for overseeing transfers) in the hands of state officials is possible only where enterprises were reorganised and their land freed for partial distribution to shareholders" (2004:556). While commentators such as Hellman argue that corrupt local officials will typically seek to obstruct market entry in order to maintain access to monopoly rents (see Hellman, 1998:205), Allina-Pisano contends that state officials in Ukraine have acted to prevent the individuation of ownership to land on enterprises that were already non-state entities participating in markets, and that local state officials had far more to gain as private actors by allowing reform to proceed than they did by blocking its implementation (2004:556).

With regards to theories of transition which have attributed slow or partial reform to the insufficient institutional capacity of the state, Allina-Pisano (2004) argues that the Ukrainian state has demonstrated relative strength⁹ in policy areas where regional political elites have actually been willing to cooperate with the demands of central government and international lending institutions. This suggests that it is not the incapacity of state institutions which accounts for lack of reform or poor reform implementation, but rather a lack of willing on the part of regional political elites. And if, as Allina-Pisano argues, this lack of willing does not simply stem from the pursuit of private-interests on the part of corrupt officials, then alternative explanations must be sort as to why state actors charged with carrying out reforms may pursue a strategy of 'sub rosa' resistance to those reforms.

⁹ Contrary to accounts of a weak state incapable of imposing its will, some commentators have pointed what may be described as certain autocratic tendencies of the state (Darden, 2001).

Not only does Allina-Pisano illustrate notions of a ‘weak’ or ‘corrupt’ state to be of limited explanatory value in the context of Ukraine’s post-Soviet land reforms, but she also argues that such notions obscure a more obvious explanation for reform failures and shortcomings. She proposes an alternative hypothesis, centred on the behaviour of state actors who, due to their professional concerns about the consequences of policy implementation, affect a façade of compliance with reform, generating what James C. Scott (1990) has referred to as a ‘respectable performance’, whilst they intentionally subvert the goals of reform (Allina-Pisano, 2004). During 13 months of fieldwork (based on participant observation, structural interviews and analysis of local press reports) in the Kharkiv region of eastern Ukraine in 1999-2000, Allina-Pisano (2004:555-56) observed that, “when confronted with policies they view as disadvantageous for their local economies and communities, some state officials at the subnational level adopt Janus-faced postures ... they accede to some demands of the central state in order to generate the impression of policy implementation, but they act in their immediate jurisdiction to preserve the status quo”.

In explaining this logic of resistance, Allina-Pisano found that political ideology as such did not play a major role: “resistance stretched across ideological lines, including supporters of Kuchma [the then president] and officials who identified themselves as communists and apolitical” (2004:573). Soviet normative traditions were observed to influence state actors’ attitudes to reform, with some making references to ideals of collectivism and social responsibility. Interview data revealed that rural populations regarded agriculture not as a profit-generating mechanism, but as a means of feeding the population (Allina-Pisano, 2004:573). However, ideological conservatism and the legacy of Soviet traditions only explain part of local political actors’ resistance to reform. Allina-Pisano reports that many of her research participants deployed ‘market-based’ logic in the causal stories they told about their decision making. For example, it was discovered that the opposition of regional state actors to reform may have been rooted not in objection to private property but rather to proposed radical shifts in the scale of production. Allina-Pisano (2004:575) writes:

local state officials had access to information about agricultural practices abroad ... there awareness that changes in agriculture in the United States had in recent decades resulted in the consolidation of large holdings and the gradual disposition of family run farms made them doubly suspicious of the notion that efficiency would be best achieved through the partition of collectives.

In this way, regional and local elites can be seen to have made rational decisions based on what they perceived to be best for the regional economy. Allina-Pisano (2004) notes that their apparent belief that the preservation of collectives would prevent further economic crisis was based not only on an awareness and understanding of the broader international mechanisms driving reform, but also certain central features of rural life in the post-Soviet period. For instance, agricultural collectives were understood not only as

production units but also as social institutions providing a set of goods and services - such as health care and education - to rural populations, helping to maintain social order and stability. Local state elites recognised that these social institutions would require replacement if dissolved, and the logistical and material costs of doing so would provide a strong incentive to maintain collectives in their current form.

Furthermore, land reform had the potential to disrupt the symbiotic relationship that existed between collective and household production, with potentially disastrous consequences for both rural and urban populations already living on the edge of poverty (Allina-Pisano, 2004). At the same time of Kuchma's 1999 decree, rural people and a substantial proportion of urban residents relied on private household production, which itself would not have been sustainable without collectives providing resources such as agricultural inputs and services. It was the concern of rural political elites that dispassion of collective farms had the potential to prompt a temporary collapse of household production. Moreover, if household production was to have collapsed, economic disincentives such as price scissors, the unavailability of credit on reasonable terms, and the lack of appropriate machinery for small plots meant that rural peoples could not be persuaded to establish their own commercial farms, and in fact, under the conditions at the time, it would have been economically irrational for them to do so (Allina-Pisano, 2004).

Thus, Allina-Pisano concludes, regional and local state officials had reason to be concerned about the potentially detrimental effects of land reform that led to the complete dissolution of agricultural collectives. As officials in Ukraine's regional state administrations are appointed rather than elected, they are formally insulated from popular pressure, and their resistance to reform did not emanate directly from the threat of electoral action if they failed to represent local interests. Ultimately, however, local state officials must live in the localities where they govern and their social status as professionals depends on the condition of local economies. As Allina-Pisano (2004:578) puts it:

the embeddedness of local economies in social relations and the continuing active participation in agricultural decisions by district state officials made preserving collectives a matter of compelling professional interest for those state actors implementing reform at the local level. The competing demands of an executive who demanded compliance with reform policy and the obvious short- and medium- term drawbacks of carrying out that policy locally combined to generate sub rosa resistance on the part of regional and district elites.

In summary, it can be seen that Allina-Pisano's study of Ukrainian land reform provides a novel alternative - and perhaps something of a corrective - to prevailing accounts of post-Soviet transition which have developed something of a disciplinary tone while imputing a lack of reform to the deficiencies of weak and corrupt state officials (c.f. Åslund 2015).

2.6 Conclusion

Allina-Pisano's work shares a number of analytical sensibilities with the theoretical approach I have selected for my study into the assemblage of an agricultural market economy in Ukraine; that is, broadly speaking, the social studies of marketisation, informed by principles from ANT and the associated concepts of relational materialism and distributed agency (see Latour, 2005; Law, 2007).

Firstly, Allina-Pisano's analysis acknowledges and foregrounds the agency of what may typically be viewed as 'local' or 'micro-scale' actors. In doing so, she demonstrates an appreciation for the idea that action is an *outcome* or *effect* of relationships between various actors (or entities), dependent on the enrolment of multiple actors into 'networks of action', illustrated by the failure of central state executives to enrol subnational political officials by convincing them of the benefits of the proposed reform. This is particularly relevant in the context of the 1999 decree on land reform, which provided an example of a reform policy that required the active participation of large numbers of actors: "such reforms must be implemented, not merely adopted" (Allina-Pisano, 2004:555). In acknowledging the agency of local actors as *obligatory passage points* (Callon, 1986) - that is, important points of access into collective action - Allina-Pisano attributes to regional officials and rural peoples more than the ability to simply struggle against and try to undermine the forces of modernity in the form of marketisation. She illustrates that 'local' actors constitute both rational agents capable of making decisions and pursuing causes of action based on their interpretation of political and economic circumstances, as opposed to simply being ideologically resistant, deviant or 'backwards', as they are often portrayed in mainstream literature on reform in post-communist states and the developing world.

In addition, similarities between Allina-Pisano's analysis and a potential study based on the principles of ANT can be seen in the way that, by foregrounding the agency of local actors, Allina-Pisano provides an alternative to what may be referred to as 'diffusional models of power', epitomised in the notion of 'reform by decree'. Latour (1984) explains that under a diffusional model of collective action, those who 'have' power are thought to be able to endow their ideas and demands with an inertial force, and these will then diffuse through time and space lest they meet friction in the form of opposing interests. Stark and Bruszt (1998) note that, following the dissolution of the USSR and the rise of democratic movements across formerly communist regimes, observers felt compelled to write of volcanic eruptions of democracy and popular revolutions sweeping aside powerful tyrants. Rooted in these accounts was an overestimation of the strength of organised democratic forces which, as was thought to have been the case with the totalitarian policies of communist governments just a few years earlier, emanate outwards from a central diktat. By highlighting the role of regional political elites, understood as rational economic actors, in not just resisting but shaping the outcome of economic reform, Allina-Pisano demonstrates that collective action could ever

be achieved based purely on the whim of a powerful central authority, but rather requires the cooperation of a diversity of actors operating 'on the ground'. She also highlights that it is insufficient to ground explanations of post-Soviet transition in notions of powerful forces such as marketisation or democratisation.

To conclude, Allina-Pisano illustrates the potential of approaching post-Soviet transition from an analytical perspective which places emphasis on individual agency and the need to enrol actors in 'networks of action', whilst challenging diffusional models of power which overlook the work that is done on the ground in order to implement change. As I move on to discuss in the next chapter, ANT and the social studies of marketisation provide the necessary tools for such an analysis.

Chapter 3

Studying Markets as Practical Accomplishments: Actor-Network Theory, Performativity and the Social Studies of Marketisation

3.1 Introduction

In the previous chapter we saw that categories of explanation grounded in notions of weak, corrupt or ideologically resistant state actors and institutions are not always best placed to account for what is perceived to be the slow and inconsistent reform of Ukraine's agricultural sector. Amongst other things, such explanations fail to take into consideration the collective nature of reform - action is an outcome or effect of relationships between various actors - as well as the potential for 'local' actors to pursue alternative courses of action for reasons other than immediate personal financial interest or a desire to resist or distort the spread of market rationale. In searching for an alternative means of understanding Ukraine's agricultural transition and economic development, it is therefore desirable to select a theoretical perspective that allows us to properly address the relational nature of agency and collective action (Law, 1999).

The previous chapter revealed that post-Soviet theorists have struggled to assimilate within the transition paradigm the numerous studies documenting parallel or contradictory economic logics interwoven in the Soviet agricultural system as early as two decades before 1991 (Stark, 1998). Similarly, throughout the post-Soviet epoch, commentators have taken issue with the way market rationale has been articulated with what are perceived to be contradictory rationalities and logics. This is clear, for instance, in Hellman's (1998) notion of a partially reformed state and Gaddy and Icke's (2002) notion of the post-Soviet *virtual economy*. Yet, as Stark (1998:117) argues, "if, by the 1980s, the societies of Eastern Europe were decidedly not systems organised around a single logic, they are not likely in the post-socialist epoch to become, any more than our own, societies with a single system identity [...] Change, even fundamental change, of the social world is not the passage from one order to another but rearrangements in the patterns of how multiple orders are interwoven". Understanding post-Soviet market-orientated transition in this manner - as an alteration in how different principles of production, exchange and ownership are articulated - "calls for an open approach that regards the determination of their precise articulation and their relative weight as a question that can only be answered empirically" (Berndt, 2015:1866).

For a combination of these reasons, I have identified the social studies of marketisation as a useful theoretical lens through which to add to our understanding of Ukraine's agricultural transition, and the operation of markets in 'frontier regions' (Ouma, 2015) more generally. In this chapter, I outline what it means to study markets and market-making through a marketisation lens. I begin by tracing the intellectual origins of the 'social studies of marketisation' back to ANT and the early work of Michel Callon, Bruno Latour and John Law, drawing out a select number of key principles which continue to inform the efforts of theorists to study economic and social phenomena using marketisation as a research programme. I then explore how the principles of ANT were initially applied to the study of economics and markets, through an exploration of Callon's *performativity thesis*. In doing so, I discuss the strengths but also the controversies surrounding the notion of *economic performativity*, as well as how Callon and others have responded to criticisms of the approach. Finally, I consider how, in recent years, Callon and like-minded theorists have progressively moved away from explicit reference to the performativity thesis, whilst continuing their theorisation of markets through the notion of socio-technical agencement. In doing so, I explore the research programme, proposed by Çalişkan and Callon (2010), devoted to examining processes of 'marketization'.

3.2 Actor-network theory

The intellectual origins of the social studies of marketisation are rooted largely in the concept ANT, developed by sociologists Michel Callon, Bruno Latour and John Law (Callon and Latour 1981; Callon 1984; Latour 1987). Owing to the number of topics I wish to touch upon in this literature review, space does not permit an extensive discussion of ANT, in terms of its intellectual lineage, its application across a multitude of academic disciplines, its strength and controversies, and so on. Moreover, it is perhaps better to avoid such an overview, as to not mistakenly imply a theoretical unity which the architects of ANT never intended the concept to have (Law, 2007). As Nimmo (2011:109) notes, "ANT was never supposed to be a programmatic theory, but a loose intellectual 'tool kit' or 'sensitivity', something that could help to sensitise researchers to complex and multiple realities which might otherwise have remained obscure". Below I present a number of features associated with ANT which I believe to have most strongly informed the work of Callon and his collaborators on the performative nature of markets, as well as his later work on marketisation.

3.2.1 Relational agency

One of the features that has united the corpus of work produced by actor-network theorists over the last three decades has been their continued interrogation of the nature of *actors* and *agency*, which has been achieved partly through what Law (1999:3) refers to as "a ruthless application of *semiotics*". Semiotics tells

us that “entities take their form and acquire their attributes as a result of their relations with other entities”, and as such, should not be understood as possessing any inherent qualities of their own (Law, 1999:3). As a material-semiotic method, focusing on the relations between objects (materials) and concepts (semiotics), ANT treats “everything in the social and natural world as a continuously generated effect of webs of relations within which they are located” (Law, 1994:4) and assumes that “nothing has reality or form outside the enactment of those relations” (Law, 2007:2). Actors and agents gain their identity and agency through their networked relationships with other actors and material entities. In this way, ANT serves as one possible corrective to essentialist understandings of agency, with actors being considered as foundationally indeterminate, with no *a priori* substance or essence, deriving their nature solely from the networks in which they are situated.

3.2.2 *Heterogeneity*

Another important element of the ANT relates to the distinction drawn between the *human* and *non-human*. Whilst not completely doing away with this dichotomy, the binary of human/non-human is thought to be of little analytical significance. Instead, the focus is on the *heterogeneity of actor-networks*, with the suggestion being that “society, organizations, agents and machines are all effects generated in patterned networks”, “composed not only of people, but also of machines, animals, texts, money, architectures – any material that you care to mention” (Law, 1992:380-381). Furthermore, actor-network theorists highlight that “almost all of our interactions with other people are mediated through objects of one kind or another” (Law, 1992:380-381). It is the task of the researcher, Law (1992:381) argues, “to characterise these networks in their heterogeneity, and explore how it is that they come to be patterned to generate effects like organizations, inequality and power”.

In breaking the ontological divide between human and non-human, and embracing a form of material-semiotic relationality, ANT offers an alternative understanding of ‘actor’ and ‘agency’ to those often used in the social sciences, that has at least two distinctive features. First, actor-network theorists have been leading proponents of the concept of non-human agency, ascribing the label of ‘actor’ equally to both human/animate beings and non-human/inanimate entities. One implication of this is that it removes the distinction between science (knowledge) and technology (artifact). As Niebuhr (2016:25) explains, “it ascribes the capacity to act to any purposefully and effectively aligned entity: all kinds of documents, technologies, artifacts, symbols, and places become active players in the ordering process”. Second, through their sensibility to the principles of material-semiotic relationality – that is, the belief that entities are shaped by and acquire their attributes as a consequence of the relations in which they are located - actor-network theorists have challenged the essentialist notion of agency as an *inscribed capacity*. Rather than viewing agency (defined as the capacity to act and give meaning to action) as an inherent attribute held by certain

actors, ANT treats agency as a relational product or *collective property* (Callon, 2005), stemming from the shared endeavour of a diverse network of various human and non-human entities. In Callon's words, agency "can neither be contained in human beings nor localized in the institutions, norms, values, and discursive and symbolic systems assumed to produce effects on individuals [...] Action, including its reflexive dimension that produces meaning, takes place in hybrid collectives comprising human beings as well as material and technical devices, texts, etc." (Callon, 2005:4).

3.2.3 Performativity

Callon uses the notion of *socio-technical agencement* as a methodological term designed to respect and render the diversity/heterogeneity of actors comprised in any single actor-network (Callon, 2007; Çalışkan and Callon, 2010; Hardie and Mackenzie, 2007). *Agencement*, a word of French origin, is close in meaning to 'assemblage' or 'arrangement' in English. However, assemblage or arrangement, Callon explains, could imply "a sort of divide between human agents (those who arrange or assemble) and the things that have been arranged" (2007:320). Thus, he adopts the notion of *agencement*, first used by Deleuze and Guattari (1998), to refer to arrangements endowed with the capacity of acting in different ways depending on their configuration. The notion of *agencement* implies that actors "do not have inherent properties or a fixed ontology" but rather "their characteristics are constituted by the *agencements* of with they are made" (Hardie and Mackenzie, 2007).

As Hardie and Mackenzie (2007) note, the existing body of research that is closest to Callon's conception of actors as made up of *agencements* is the literature on *distributed action and cognition*, especially the work of Hutchins (1995). Hutchins argues that "functional systems composed of a person in interaction with a tool have cognitive properties that are radically different from the cognitive properties of the person alone", and a "group performing [a] cognitive task may have cognitive properties that differ from the cognitive properties of any individual" (Hutchins, 1995:176, cited in Hardie and Mackenzie, 2007:58). Moreover, human beings "create their cognitive powers by creating the environments in which they exercise those powers" (Hutchins, 1995:289 cited in Hardie and Mackenzie, 2007:58).

As Hardie and MacKenzie (2007) note, Hutchin's emphasis on the constitutive role of artefacts is now widely accepted, and few would contest that group cognitive processes differ from those of individuals. By contrast, they note that ANT's closely-related theorisation of distributed agency has been the recipient of considerable controversy. They attribute this controversy to one particular notion central to ANT - that of *performativity*. To say that "actors are network effects" that "take on the attributes of the entities they include" (Law, 1999) implies what Callon (1998) refers to as *variable ontology*. If it is the case that entities do not poses inherent properties but rather take their form and acquire their attributes as a result of their relations with other entities, then it follows that if those relations were to be reconfigured, the ontology of

the entity in question would also be altered. By extension, ANT's notion of relational materialism/material semiotics denotes that the ontology of any entity may be adjusted or reconfigured to fit with the nature of that entity postulated in a given statement. In other words, a statement about the nature of reality (be it a theoretical proposition, an economic equation, a model, a method, a tool) can be made to work if the corresponding *agencement* can be constructed (Hardie and Mackenzie, 2007).

3.2.4 Mechanisms of power

Another primary area of interest for actor-network theorists are what may be referred to as *mechanisms of power*. For Latour (1984:269), varying conceptualisations of power depend on the way one interprets “the *timing* of the origins of society”. He contends that various theoretical traditions within the social sciences have typically considered political philosophy to be the prehistory of their science, thus enabling the theorist to start with the notion of an all-embracing society that could then provide a source of explanation for various phenomenon of interest. “The question of its origin”, he explains, thus becomes “one of those obsolete problems best left to philosophers” (Latour, 1984:269). Viewing the origins of society in this manner makes the notion of power a convenient explanatory mechanism; “there is always enough already accumulated energy to explain, say, the spread of the multinationals, Pinochet's dictatorship, male domination in black ghettos, the division of labour in factories, and so on” (Latour, 1984:269). That is to say, “you start with so many inequalities that their origins seem irrelevant [...] It thus seems unproblematic to say that Reagan, Napoleon, the City of London, or capitalism ‘have got power’ - unproblematic, that is, so long as you are able to draw on the big reservoir of energy provided by an ever present and overarching society” (Latour, 1984:269).

Treating societal structures as *prehistoric* can be seen to have two significant analytical consequences. Firstly, societal frameworks come to be treated as relatively stable and fixed, as are the roles of individual actors and social groupings, together with the respective endowments of power they are each thought to possess. Secondly, power and *the powerful*, are seen as having a causal role: social scientists can explain any given event or phenomena as being the result of powerful actors making use of their power over others. As such, we can both assume the existence of, and ground our explanations in, notions and entities such as the state, capitalism, class structures and geopolitical forces. Social scientists need not account for the ways in which the ideas, orders, claims or artefacts of ‘powerful actors’ spread through time and space, or the actual material processes of how the ‘powerful’ impose their social or economic order. It is simply assumed that ideas and artefacts of the powerful are endowed with an inner force - similar to that of inertia in physics - meaning they will travel in a uniform direction unless they encounter an opposing force. This is what Latour (1984) refers to as the *diffusion model* of collective action.

This model of power is problematic for actor-network theorists who contend that power is a purely relational product: it does not lie in the properties or abilities of certain actors or abstract forces, but within the relationships they manage to establish between actors and entities of various kinds. That is to say, power is association, contained within heterogeneous networks. Thus, power is understood to emerge within networks, rather than being imposed upon the network from outside (Murdoch, 2006; Latour, 1984; Law, 1992). In this way, actor-network theorists dismiss the diffusion model of collective action, replacing it instead with the model of *translation* (Latour, 1984). Coined by Callon (1986), the term translation “describes the processes of enrolling heterogeneous actants into an actor-network, in the course of which their interests become aligned” (Müller, 2015:70), therefore “creating convergences and homologies by relating things that were previously different” (Callon, 1980:221). As Tabak (2015:39) explains, “the concept of translation suggests that there is no social force in interactions that would be simply transported to actors and would determine their actions, but rather that different interests of heterogeneous actors are translated into a new composite goal”. In the words of Callon and Latour (1981:296): “in order to grow we must enrol other wills by translating what they want and by reifying this translation in such a way that none of them can desire anything else any longer”. In this way, “the process of translation is akin to creating agency: it makes action possible through aligning interests and leads to the emergence of an actor” (Müller, 2015:70).

In this way, actor-network theorists provide a perspective through which the social sciences may come to understand power as a network effect: a consequence and not a cause of collective action. Applying the translation model of collective action forces us to reconsider the chronology of society, moving our analysis from its past to present-day origins. Latour (1984) argues that the origins of society are not in the remote past but are ever-present and made before our eyes, constantly (re)shaped by our collective action. This in turn leads actor-network theorists to question grand theoretical treaties which treat societal structures or social orders as a source of power and influence. For if society is made before our eyes, then power cannot be seen as something provided by the prior existence of society, and thus cannot provide an explanation for a given act or phenomenon (Latour, 1984). Society, like the concept of power, is shaped by collective action; it is no more a cause of collective action than power itself (Latour, 1984:272).

A significant intellectual forefather of ANT was 19th Century French sociologist Gabriel Tarde who, through the notion of *monadology*, rejected the distinction between social order and the agents which are subject to and act out that order, arguing that the ‘bigger picture’ is never bigger than the *small*, and that *the small* always holds the key to understanding *the big*: “instead of explaining everything by the so called imposition of a law of evolution which would constrain larger phenomena to reproduce, to repeat themselves in some certain identical order, instead of explain the small by the large, the detail by the big, I explain the overall similarities by the accumulation of elementary actions, the large by the small, the big by

the detail” (Tarde, 1999:63 *cited in* Latour, 2002). Tarde viewed the world as nothing more (or nothing less) than “a proliferation of incommensurable entities - what he calls ‘monads’ - which are simply lending one of their aspects, a ‘facade of themselves’, to make up a provisional whole” (Latour, 2005:243). What this means is that the organisation and action of individual monads should not be thought of as determined by or contained within macrostructures. Rather, the macro should be understood as an aggregate of individual and independent monad-like agencies which can aggregate in an infinite number of different ways. As Latour (2005:243) puts it, “the small holds the big. Or rather the big could at any moment drown again in the small from which it emerged and to which it will return”. Latour (2002:4-7) explains that “Tarde refuses to take society as a higher, more complex, order than the individual monad [...] The big, the whole, the great, is not superior to the monads, it is only a simpler, more standardised, version of one of the monad’s goal which has succeeded in making part of its view shared by the others”. One consequence of Tarde’s monadology is that “no matter how much effort is expended, no social order could ever be totally regnant [...] It is simply a set of standardised connections that occupy some of the monads for some of the time [...] It is possible to enrol some aspects of monads but never to dominate them entirely” (Thrift, 2006:229). From this perspective, Latour (2002:9) explains, social order is “constantly threatened by immediate decomposition because no component is fully part of it. Every monad overflows the artificial being of any ‘superior’ order, having lent for allowing its existence only a tiny part, a facade of itself! You can enrol some sides of the monads, but you can never dominate them. Revolt, resistance, break down, conspiracy, alternative is everywhere”.

The arrangement of myriad independent monad-like agencies into something resembling a social order or macrostructure is itself something that requires explanation. In this sense, social orders are better thought of as *explanandum* than *explanans* - that is, something to be explained, rather than a pre-existing explanation for any given phenomenon. It has been the contention of Latour, along with the other actor-network theorists (see Law, 1994:1-8), that much of the social sciences still cling to the modernist ambition of unearthing a unitary coherent order, and ANT can be understood in part as a response to this ambition. As Law (1994:2) states, “this is the dream, or the nightmare of modernity. But there never was a root order, so we have to replace this aspiration by a concern with the plural and incomplete processes of social ordering”. To say that social structures do not have any explanatory foundation is not to deny the existence of an overarching society (Law, 2007; Latour, 1984). What it means, however, is that social structures are not fixed or predetermined, and studying ‘society’ will not explain relationships between humans, or between humans and various other entities. In other words, society is not ‘what holds us together’ (Latour, 1984). This way of thinking represents a shift from an *ostensive* to a *performative* definition of society. In an ostensive definition, society exists and is constituted by a set of fundamental properties that exist prior to any interaction that actors initiate but which can be uncovered through careful study (Latour, 1984).

Social actors are assumed to be part of society, yet they do not contribute to the construction of society. Furthermore, according to this definition of society, “with the proper methodology, social scientists can sort out the actors’ beliefs, illusions and behaviour to the properties typical of social life in society and piece together the whole picture” (Latour, 1984:272). Therefore, “all controversies including those about the origins of society are only practical difficulties that will be eliminated with more data, a better methodology and better insulation of the social scientists endeavour from ideology and amateurism” (Latour, 1984:272).

By contrast, a performative definition of society asserts that it is social actors that “define in practice what society is, what it is made of, what is the whole and what are the parts - both for themselves and others” (Latour, 1984:273). In this sense, society is not what holds social actors together, but rather it is what is held together by social actors. Latour (1984:273) contends that “society is not the referent of an ostensible definition discovered by social scientists”. Rather, it is definable precisely through everyone’s efforts to define it. And these efforts are characterised by controversies between the various competing definitions of what society is about. “Those who are powerful”, Latour contends, “are not those who ‘hold’ power in principle, but those who practically define or redefine what ‘holds’ everyone together” (1984:273). In this way, a performative definition of society enables us to treat power as “the consequence of an intense activity of enrolling, convincing and enlisting” (Latour, 1984:273). This moves our analysis beyond ‘social structures’, leading us to explore *methods of association*, ‘studying up’ or across rather than down, and describing how it is that certain actors assemble the networks of human and nonhuman entities which together enact their definition of society (Law, 2007). Latour (1984:274) defines society as “what you perform for as long as you perform it”. This quote implies that society is a provisional and somewhat precarious outcome of the interactions that produce it. So, Latour asks, “does this mean that we are led into utter chaos, society being made and unmade constantly?” (1984:274). Answering this question, he argues that this depends “on the practical resources one may mobilise in order to make their definition hold over time [...] the whole burden of making society firm has shifted from the society itself (which has become a consequence) to the many material tasks that may enforce or reinforce the provisional bonds made by the actors” (Latour, 1984:274).

To summarise, power lies within the relationships actors manage to establish between other actors and entities of various kinds. While actors cannot hold or hoard power, such an illusion is possible when actors are successful in consolidating and making durable the network of actors and entities that hold together and enact their definition of society. At this point, the concept of heterogeneity is once again significant, as actor-network theorists believe “it is the meeting of human actions with non-human materials which allows networks to endure beyond the present and to remain stable across space” (Murdoch, 2006:78). Material artefacts play a central role in the consolidation of the networks, “for they, in effect, become ‘delegates’, able to carry ‘rationalities of rule’ generated by the centre out to all the localities

enrolled in the network” (Murdoch, 2006:65). As Law (2007:9) argues, “social arrangements delegated into non-bodily physical form tend to hold their shape better than those that simply depend on face-to-face interaction”. And in this sense, power is in part transferred in the many material resources which strengthen their bond.

3.2.5 *Explanation/description*

Whilst commonly referred to as actor-network *theory*, ANT is not actual a theory *per se*. Law argues that theories “try to explain why something happens” (2007:2), whereas ANT “is descriptive rather than foundational in explanatory terms”. As a form of material-semiotics, ANT is better understood as “a toolkit for telling interesting stories about ‘how’ relations assemble or don’t” (Law, 2007:2). “More profoundly”, Law (2007:2) explains, “it is a sensibility to the messy practices of relationality and materiality of the world”. Moreover, along with this sensibility comes “a wariness of the large-scale claims common in social theory” (Law, 2007:2).

One immediate objection to ANT may be that, by focusing on the material minutiae, actor-network theorists become fixated on the *how* (*description*), and ignore the *why* (*theory*). In response to such objections, Law (2007:9) argues that by focussing on the *whys* of the social, many social scientists illustrate “little understanding of how *the social* is done and how things are held together”. In the non-foundational world proposed by ANT, nothing is necessarily sacred or fixed, and intellectual inquiry cannot skip past the *how* to the *why* via reference to an underlying social framework in which we may ground an explanation. From an ANT perspective, social structures such as the class system, patriarchy, capitalism or globalisation are “effects rather than explanatory foundations” (Law, 2007:8). Thus, “it simply isn’t possible to explore the social without at the same time studying the *hows* of relational materiality” (Law, 2007:8).

3.3 ANT and the study of markets

3.3.1 *Markets as socio-technical agencements*

The extension of ANT to the field of economics can be traced back to Callon’s foundational text *The Laws of the Markets* (1998). The theorisation of markets that Callon laid out in this seminal text, and to which he and several other scholars have since contributed (Callon and Muniesa, 2005; Muniesa et al., 2007; Çalışkan and Callon, 2010; Mackenzie et al., 2007; Holm, 2007; Mirowski, 2002; Hardie and MacKenzie, 2007; Yonay, 1994), offers a distinct alternative to the way in which the market has typically been theorised by both neoclassical economics and various heterodox schools of thought.

As Bernt and Boeckler (2012:203) explain, for neoclassical economists, “the market doesn’t constitute inquiry, [for] the market is no problem, it solves problems”. From the perspective of political economy, the reverse is true, albeit with the same consequence: “the market is the problem, creating as it

does inequality through uneven accumulation processes”, making it “an object of critique and resistance rather than only a simple object of study” (Bernt and Boeckler, 2012:203). From a socioeconomic perspective (see Beckert, 2007; White, 2005) markets simply do not exist outside social relations and social networks and, consequently, the focus of socioeconomic research is on social networks not the market. By contrast, Callon proposes that we do not treat the market as either a problem or the solution to any particular problem, nor try to embed it in any underlying social context. Rather, Callon proposes that markets be treated simply as things that exist, on the condition that the appropriate network of humans and material entities can be assembled to constitute their existence.

Drawing on theories of distributed agency, relational ontology and non-human agency, Callon proposes thinking of human agency as “a relational effect of the practice of socio-technical networks” (Bernt and Boeckler, 2012:10). Treating agency and action as collective properties - the products of ‘hybrid collectives’ - Callon builds on the notion of socio-technical *agencements*, conceptualising markets as ‘calculative collective devices’ (Callon and Muniesa, 2003). His performativity thesis seeks to expose the combination of material and technical devices, algorithms, texts, equations, economic actors, extra-economic actors etc. that allow markets to function as calculative collective devices, and in doing so, illustrate the distributed nature of calculative agencies (Callon, 1998; Callon and Muniesa, 2003; Callon and Muniesa, 2005; Muniesa et al., 2007).

The Laws of the Markets opens with a discussion of Guesnerie’s (1996) conception of a market as a coordinated device in which: (a) agents pursue their own interests and to this end perform economic calculations as part of an operation of optimisation and maximisation; (b) agents generally have divergent interests, which may lead them to engage in; (c) transactions which resolve the conflict by defining a price (see Callon, 1998). Guesnerie concludes that, “a market opposes buyers and sellers, and the prices which resolve this conflict are the input but also, in a sense, the outcome of the agents’ economic calculation” (Guesnerie, 1996, taken from Callon, 1998:3). That notion that markets are shaped by individual calculative agents raises a number of questions, including: (i) what enables an individual to make calculations, and; (ii) how does one become calculative? Callon argues that the suggestion that economic agents can calculate “presupposes the existence, in organised form, of all the relevant information on the different states of the world and the consequences of all conceivable courses of action and the access of all this information to the agent”. Thus, he argues, the agent “will not only be able to get an idea of possible goals and rank them, but also mobilize the resources required to attain them” (1998:4). This raises the question of how an atomised agent can plausibly manage to become calculative in those situations where the information they need is inexistent or contradictory? The answer, Callon argues, coincides with the morphology of that agent’s relationships: “if agents can calculate their decisions, irrespective of the degree of uncertainty concerning the future, it is because they are entangled in a web of relations and connections; they do not

have to open up to the world because they contain their worlds” (Callon, 1998:8). In this way, Callon purports that markets are real and that *homo oeconomicus* is more than simply a pure fantasy of neoclassical modelling exercises (Berdts and Boeckler, 2008). Individual calculative agents exist as relational effects of distributed collective calculative devices (Callon and Musiesa, 2003). As such, their existence is contingent upon the assemblage of the socio-technical *agencement* across which their agency is distributed.

The suggestion that ‘market agents don’t have to open up to the world because they contain their worlds’, implies a specific network ontology. Building on the ideas of Granovetter (1985), Callon (1986; 1998) argues that calculation stems from networks: not networks connecting entities which are already there, but a network which configures ontologies. That is to say, the network “does not link agents with an established identity (that is to say endowed with a set of fixed interests and stable preferences) to form what would be a rigid social structure constituting the framework in which individual actions are situated” (Callon, 1998:8). This a key difference between Granovetter’s conception of the social network and embeddedness, and the notion of embeddedness according to Polanyi (1957). While Polanyi assumes the existence of an institutional framework constituting the context in which economic activities take place, Granovetter, and subsequently Callon, see the social network “agents’ identities, interests and objectives, in short, everything which might stabilize their description and their being”, as variable outcomes which “fluctuate with the form and dynamics of relations between these agents” (Callon, 1998:8). This means that the agent is “neither immersed in the network nor framed by it” (1998:8). That is to say, the network does not serve as the context. Callon describes this as the ‘swing-wing’ ontology of the ‘agency-network’, whereby agency changes with the shape of the network and the essential characteristics of any element are seen as outcomes of relations with other entities (Callon, 1998).

How is it then that markets - as socio-technical *agencements* - come to exist? As Berdt and Boeckler (2008:11) observe, “rather than reducing economic practices to social relationships and cultural scripts (the socioeconomic position), to false consciousness leading to a confusion between abstraction and reality (the political economic position) or to some sort of universal human nature (the orthodox economic position), Callon rejects the conceptual separation between market model and market practice”. Callon contends that markets and economies realise themselves as practical enactments of economic theories and models. In other words, economic models are performative.

3.3.2 *The performative character of economics*

Callon’s ‘*performativity thesis*’ postulates that “economics, in the broad sense of the term, performs, shapes and formats the economy, rather than observing how it functions” (Callon, 1998:2). Callon’s underlying position is that “both the natural and the life sciences, along with the social sciences, contribute toward enacting the realities that they describe” (Callon, 2007:315). To claim that economics is performative is to

claim that economics “does things, rather than simply describing (with a greater or lesser degree of accuracy) an external reality that is not affected by economics”. (MacKenzie, 2006a:29). In this way, economics should not simply be understood as “a form of knowledge that depicts an already existing state of affairs, but as a set of instruments and practices that contribute to the construction of economic settings, actors, and institutions” (Mackenzie et al., 2007:4).

In this way, central to the performativity thesis is the suggestion that a given statement, formula or equation can gradually actualise the world it describes, and that world only functions or operates within the context of the formula or utterance. In this way, “the model of the world becomes the world of the model” (Thrift, 2000:694). As Callon explains, “we could say that the formula has become true, but it is preferable to say that the world it supposes has become actual” (2007:321). This leads on to another fundamental assumption of the performativity thesis: “we are no longer in the register of truth as a reference, but in that of truth as success or failure” (Callon, 2007:321). When an economic formula is said to be true, we can assume that the world it supposes has successfully been actualised. This puts the emphasis on what economics does, not what it says (Mitchell, 2007). Yet the actualisation of that world does not occur from the simple utterance of a statement or the existence of a formula. Rather, “the actualization process is a long sequence of trial and error, reconfigurations and reformulations” (Callon, 2007:321). And what is said to make this process possible is the performative dimension of the statements and the trials that they allow. For, as Callon (2007:321) explains, “if the statement could be dissociated from the world in which it functions, if it could be denied as an utterance pointing or shifting to supposed worlds, no trial, learning, or adjustment would be conceivable”.

To say that economics helps to shape the economy or actualise the world it describes does not simply mean that market models serve as blue prints for real markets, for this implies “the existence of a map way over there, which is used as a model to construct a real market all the way over here” (Holm, 2007:234). Rather, as Holm (2007:234) explains, market models are also implicated in the practical management of the market, in the definition of standards, in the management of the identity of its agents, in the definition of property rights, in the surveillance of exchange processes”. This implies a particularly tight traffic between theory and practice, in which the distinction between representation and reality, between model and practice, dissolves.

When Callon talks of ‘economics’, he refers to the full range of disciplines, specialties, technologies, and forms of knowledge – academic or otherwise – with which economic actors and their markets are equipped (Callon, 2005; Mackenzie et al., 2007). He highlights that “transporting a theoretical statement from one point to another and implementing it requires the intervention of new actors who will contribute to (or oppose) the actualization of the sociotechnical *agencements* implied in the statement”. (2007:332). The actualisation process, he argues, requires that the implied sociotechnical *agencements* be

explored, created, tested and tinkered with. And this is said to be possible only if economic engineers and practitioners are mobilised. This again refers to the process of translation and enrolment. “The world conveyed by the statement”, Callon (2007:333) states, “is realized only after a long collective effort involving 90 per cent engineering and 10 percent theory” (Callon, 2007:333).

That is not to say that the academic discipline of economics does not play an important role in performing rather than describing the economy and markets. Mackenzie (2006b) highlights the example of the ‘Chicago Boys’ - economists at the Universidad Católica de Chile, trained by Milton Friedman and his University of Chicago colleagues between 1955 and 1964 as part of a Cold War U.S. programme “to combat a perceived leftist bias in Chilean economics” (Fourcade-Gourinchas and Babb 2002:547 *cited in Mackenzie 2006b:16*). As MacKenzie explains, “especially under the government of General Pinochet, the ‘Chicago Boys’ did not simply analyse the Chilean economy; they sought to reconstruct it along the free-market, monetarist lines whose advantages they had been taught to appreciate” (2006b:16). As this example demonstrates, “the academic discipline of economics does not always stand outside the economy, analysing it as an external thing; sometimes it is an intrinsic part of the economic process” (MacKenzie, 2006b:16). However, the ‘Chicago boys’ is an unusual case in that it “involves particularly direct access by economists to the levers of political power”, while the link between theoretical/academic economists and economic practice is rarely so direct. Rather, a multitude of activities, arrangements and actants bridge the gulf between the economy and the theoretical statements of what Callon (2007:336) terms ‘confined economists’. The diffusion of an economic theory, model or equation, Callon (2007:331) argues, is only possible “if the environment that the statement requires is available throughout its circulation and in all the places to which it leads. In other words, “to move a statement from one spatiotemporal frame to another and for it to remain operational, the sociotechnical agencement that ‘goes with it’ has to be transported as well” (Callon, 2007:331). The circulation of a theoretical statement entails a number of tests and trails that will determine its realisation. Whether or not the statement is realised is dependent on a range of economic practitioners beyond the ‘confined economist’, including accountants, marketers and various other market engineers. In this sense, it can be seen that “academic economists do not have a monopoly on performance [...] it is only one possible source of transformation of the economy” (Callon, 2007:332).

3.3.4 Description/explanation, empiricism/theory

On one level, the underlying assumptions of the performativity thesis are fairly unambiguous; instead of describing a pre-existing reality, economics contributes to the realisation of the reality it describes. However, within this definition of performativity, the idea that economics *contributes* to the realisation of the economy does create a degree of ambiguity. This has led commentators such as Santos and Rodrigues (2009) to tease out both a ‘strong’ and ‘weak’ notion of performativity. The strong notion asserts that

“economics is performative because the engineering efforts succeed in producing the reality described in economic theory” (Santos and Rodrigues, 2009:990). By contrast, according to the weaker, more lenient notion of performativity, economics is performative when ‘it is used’ in the process of market building; “it suffices that economics is in some way engaged in the construction of markets and in assisting economic calculations” (Santos and Rodrigues, 2009:990). This is a weaker form of performativity in that “the practical use of an aspect of economics has an effect on economic processes”, without necessarily altering reality to match that postulated by the theory (Mackenzie, 2006b:17).

Santos and Rodrigues contend that “while the strong notion is too demanding, rendering the performativity of economics a rather exotic endeavour, the weaker notion, which is equally pervasive in Callon’s account, is trivially true” (2009:992). This point has also been acknowledged by Mackenzie (2005:10) who suggests that it is self-evident that various aspects of economics (models, theories, data sets, and so on) are used in economic practice, and that markets and economies are amongst those phenomena that ‘only exist in the doing of them’. “The fact that matters could hardly be imagined to be otherwise”, Mackenzie (2005:10) notes, “suggests that we have to narrow the terms of the discussion to escape truism”. For this reason, he has developed a typology of performativity with three levels of meaning (see Mackenzie, 2006b).

The most basic level of its meaning is what MacKenzie (2006b:18) labels *generic* performativity: when an aspect of economics is used in economic practice. For an aspect of economics to be performative in the ‘generic’ sense, it must be “used, not just by academic economists, but in the ‘real world’: by market practitioners, policy makers, regulators, and so on” (2006b:18). However, MacKenzie argues that for a claim of performativity to be interesting, “an aspect of economics must be used in a way that has *effects* on the economic process in question (2007:60 *emphases added*). That is to say, “the incorporation of the aspect of economics into the collective calculative devices that constitute markets must *make a difference*: economic processes incorporating the aspect of economics must differ from their analogues in which economics is not incorporated” (2007:60). This is what MacKenzie (2006) terms *effective* performativity. Effective performativity is that which, for instance, “makes possible an economic process which would otherwise be impossible, or perhaps involving use of the aspect of economics in question differs in some way from what would take place if economics was not used” (2006b:18). However, establishing what effect, if any, the use of economics has on the economic process in question is “less straightforward conceptually, and more complicated empirically” (MacKenzie, 2006b:18).

The strongest and more intriguing variety of performativity identified by MacKenzie is what he describes as *Barnesian* performativity – after Barry Barnes, see below – referring to instances where an aspect of economics brings about a state of affairs of which it is a good empirical description (MacKenzie, 2006). That is to say, the use of economics is not merely ‘having an effect’ on economic processes. Rather,

“those processes are being altered in ways that bear on their conformity to the aspect of economics in question (MacKenzie, 2006b:19). For instance, the practical outcomes of an economic model are altered so that they better correspond to said model. Barnesian performativity derives its name from Barnes’ (1998) conception of society as a distribution of self-referring knowledge substantially confirmed by the practice it sustains. Accordingly, Barnesian performativity refers to a subset of the performativity of economics in which “an aspect of economics is used in economic practice, its use has effects, and among these effects is to alter economic processes to make them more like their depiction by economics” (MacKenzie, 2007:67). MacKenzie’s (2006b) study of Black-Scholes-Merton model is held up as a key example of this.

Barnesian performativity can perhaps be said to represent the strongest form of performativity according to the aforementioned three-point typology. However, MacKenzie notes that while instances of generic and effective performativity are widespread, instances of Barnesian performativity are notably less frequent and more difficult to identify unequivocally. Unlike Mackenzie’s case study of option theory in which he identifies existence of a single, stable, canonical form of the theory - the Black-Scholes-Merton model – in the majority of instances it is not likely that a researcher will be able to identify, isolate and explore the performative nature of an aspect of economics that plays such a canonical role in an economic practice. In this sense, Mackenzie’s three-point typology does little to address concerns that the strongest form may be seen as a little “too demanding”, rendering empirically observable examples of performativity a rare and somewhat circumscribed phenomenon (Santos and Rodriguess, 2009:990).

Mackenzie (2007:6) suggests that “to speak at a high level of generality about the ‘effects’ of economics on economies is a dangerous shortcut”, and we must not assume performative efficacy based purely on our observations of an aspect of economics being employed in an economic process (2006). For one thing, the potential ‘effects’ of economics (both in the narrow sense of the academic discipline, and in the broader sense of the wide variety of specialities and technical forms of knowledge deployed in markets and the technical and conceptual equipment deployed by market participants) are multiple and varied. Even in a purely academic sense, economics can have many forms. For example, in some instances, as Mackenzie (2007:6) explains, the intervention of economics may translate into the intervention of economists themselves, as in the case of academic economists who are employed as consultants to a particular firm, marketplace, government, or regulatory body”. In other cases, it is not the economists themselves which circulate, but the tools and instruments (such as pricing formulas or macroeconomic models) that they produce, which market actors and policy makers can embrace and put into use. In some instances, “the influence of a particular economic doctrine or procedure can be understood as a matter of persuasion, beliefs, and states of mind” (Mackenzie, 2007:6). Yet in other cases, the effect of a particular economic doctrine or procedure may “correspond to a matter of institutional and technological setting in which economics has no direct psychological impact” (Mackenzie, 2007:6).

As such, when dealing with the performative nature of markets it is important “to bear in mind the multiple ways in which economics may ‘perform’” (Mackenzie, 2007:6), and try to observe which of multiple performativities is at play. Yet, even then, demonstrating what effect (i.e. strong or weak), if any, the use of economics and the actions of certain actors have on any given economic process is far from an easy challenge: “except in the simplest cases, one cannot expect observation alone to reveal the effect of the use of an aspect of economics. One cannot assume, just because one can observe economics being used in an economic process, that the process is thereby altered significantly. It might be that the use of economics is epiphenomenal, an empty gloss on a process that would have had essentially the same outcomes without it” (Mackenzie, 2006b:18). In an ideal world, it would be possible to compare market conditions before and after the widespread adoption of the aspect of economics under question. Yet, this is, of course, seldom ever a possibility, and alone would neither prove nor disprove performativity, because any changes to market conditions could have occurred for reasons other than the effects of a given theory, formula or model. Therefore, MacKenzie (2006b:21) concedes that “certainty in this respect tends to be elusive”, and that there is often “an element of conjecture and an element of judgment in attributing differences in outcome to the use of economics rather than to some other factors”.

For commentators such as Fine (2003), the difficulty of proving with any certainty the performative effects that economics and various economic agents may have on the formation and operation of economies and markets is reason enough to dismiss empirical projects based on a desire to avoid *ex-ante* explicative principles and essentialist understandings of social and economic phenomena. As noted above, the concept of economic performativity is descriptive rather than foundational in explanatory terms. Fine (2003:481) argues that the relationship between material, ideological or theoretical processes cannot be determined simply through observation: “to go beyond description requires both method and theory. Otherwise, the idea that economists constitute markets is simply a tautology or an assertion of causation without a supporting argument” (Fine, 2003:481). The issue, therefore, with the performative approach to the study of markets is said to be that,

it lacks a theoretical framework that discerns the mechanisms at play, both at the micro level of individuals’ behaviour and at the macro level of the ‘logic’ of the market economy and its main institutions. Such a framework would be critical to account for the relation between the material and the ideological processes and the participation of economics in shaping each one of them and their mutual relation (Santos and Rodrigues, 2009:992).

Thus, while the researcher’s observations might reveal some degree of mutual relation between economics, economic agents and the economy, they are left without an explanatory mechanism (e.g. capitalism, neoliberalism, financialisation, *homo economicus*) to account for the effects they observe. In other words, the researcher is left with the empirical skeleton without the theoretical and explanatory muscle to make it

move. Thus, while for proponents of an ANT-inspired study of markets wish to explain the operation of markets without recourse to overarching macro-structures and universal logics as explanatory foundations, they are at risk of developing “a new empiricism that lacks explanatory power” (Ouma, 2015:85). There is a worry, Latour (2005:137) explains, “that by sticking to description, there may be something missing, since we have not ‘added to it’ something else that is often called an ‘explanation’”.

In response, proponents of ANT and its associated schools of thought have argued that the distinction between description and explanation – between ‘how’ and ‘why’ - represents a “false dichotomy” (Latour, 2005:137) and that “a good descriptive account that shows how something becomes socially durable (or better, how controversies about the social are stabilized) is explanatory at the same time” (Ouma, 2015:93). As such, it is not necessary in our desire as social scientists to identify the causal impact of economics in the economy, to fall back on some overarching structure or logic to provide the source of explanation and impetus, pulling the strings and animating the skeleton of our empirical observations. As Latour (2005:137) states, “if description remains in need of an explanation, it means that it is a bad description”. On the other hand, if “we display a socio-technical network – defining trajectories by actants’ association and substitution, defining actants by their trajectories in which they enter, by following translations and, finally, by varying the observer’s point of view – we have no need to look for any additional causes. The explanation emerges as the description is saturated” (Latour, 1991:129).

In doing away with the distinction between observation and explanation, ANT-inspired studies of economies and markets remain faithful to the principles of *ethnomethodology* – that is, namely, that “actors know what they do and we have to learn from them not only what they do, but how and why they do it. It is us, the social scientists, who lack knowledge of what they do, and not they who are missing the explanation of why they are unwittingly manipulated by forces exterior to themselves” (Latour, 1999:19). In this regard, rather than searching for a theory or explanatory foundation to explain the effects of a market device or economic doctrine on the functioning of a given market, we can let market actors “deploy their own worlds” (Latour, 2005:23) and discern the mechanisms at play in their own realities. This is exactly what the methodological principles of ‘follow the actor’ and ‘trace the network’ – discussed further in chapter 4 - ask us to do: “to allow informants to unfold their own frames of reference, vocabularies, and theories by temporarily suspending (or at least trying to) one’s own frames of reference as the researcher” (Ouma, 2015:85).

3.3.5 *Performativity and politics*

A reoccurring criticism of the performativity thesis and material semiotic approaches to the study of markets and economics more generally is a supposed lack of *politics*, and a failure to provide the same social critique as is provided by other theoretical perspectives. Callon has been accused of adopting a wholly uncritical

stance towards mainstream neoclassical economics, and giving too much credit to institutional economists by assuming their ability to realise their models of a market economy (see Vosselman, 2014). In some respects, Callon has drawn such accusations through some of his own controversial and perhaps intentionally debate-provoking statements. For instance, he suggests that “what is very important is to abandon the critical position, and to stop denouncing economists and capitalists and so on” (Callon *in* Barry and Slater, 2002:301). He urges us to abandon the critique of hard economics which is intended to show economists that they are wrong, or that markets are more complicated than economists and political decision makers believe. “Let us”, he suggests “stop criticising economists ... we recognise the right of economists to contribute to performing markets, but at the same time we claim our own right to do the same but from a different perspective” (*in* Barry and Slater, 2002:301). In the same vein, Latour (2004:152-153) has suggested that “there has surely been enough complaining about economizers’ hardness of heart ... dangerous as infrastructure, economics becomes indispensable as documentation and calculation, as secretion of a paper trail, as modelization”.

Quotes of this nature have led commentators such as Mirowski and Nik-Khan (2007:191) to contend that the ANT inspired performativity thesis symbolises “an overture to a prospective alliance to be struck with neoclassical economists”. They accuse the performativity thesis and its advocates of seeking rapprochement with institutional economics in the hope of, amongst other things, learning humility and passivity as social scientists; capturing a slice of the consulting pie; or securing “a niche in the newly commercialised university in the immanent era of globalised private science” (Mirowski and Nik-Khan, 2007:192). As a result, they argue, “ANT [and its theoretical off-shoots] has tended to walk and talk more and more like the stick figure *homo economicus* from neoclassical economics for quite some time now” (Mirowski and Nik-Khan, 2007:196). That is to say, performativity does not challenge economic theories or market models; rather it uncritically assumes that the theories and models of institutional models become a constitutive, performative part of a real and functioning economy. Moreover, this can be seen to have the effect of providing a rather technocratic reading of some of the social processes associated with the functioning of the market, as, by seeing economic processes in relation to the science of economics, it sometimes appears that potentially highly politicised disputes can be solved through economic calculation. Thus, it perhaps “pushes the discussion in to a sense of the possibility of a rather calmly negotiated settlement between competing forces”. Furthermore, by describing the link between institutional economic theory and economic practice without making a moral judgment as to whether the consequences of that practice are either ‘good’ or ‘bad’, the performativity thesis has been further criticised for a lack of a critical stance (see Whittle and Spicer, 2008).

Miller (2007) has also criticised Callon and his allies for treating economists’ representations of economic life as reality. He contends that Callon’s lack of a critical lens prevents him from seeing that

institutional economic theory does not in fact correspond with reality. Rather, “the market remains to be an ideological model and does not become an empirical phenomenon, a real object”. Consequently, and as discussed above, Miller argues that as the models of economists’ do not exist in empirical form, Callon is wrong to infer that agency and power exist within material realities, within the boundaries of real things and real people. In doing so, Callon is accused of directing focus away from the significant scientific questions regarding the actual sources from which dominant economic discourses derive their power. Miller (2007) is concerned with how institutional economics imposes itself, reconstructing the world in its image, creating a virtual world linked to reality only through beliefs, values and norms. As we have earlier identified, Miller grounds the power of discourse in overarching macro-social structures, thus identifying a tangible source of domination and an object of critique. It is this which makes Miller’s theory political: he identifies the sources of power at which theorists can direct their critique.

By the same token, Roberts (2012:1) also dismisses performativity as a means of social critique, arguing that “ANT will tend to over-identify with how concrete-contingent actor-networks are performed in empirical economic markets at the expense of analysing how such empirical contexts are also internally mediated through abstract processes such as that of surplus extraction”. He argues that by focussing on concrete-contingent relations, “ANT researches lose a critical analytical edge in their theoretical armoury in how they might account for the way in which ‘actor-networks’ are refractions of and fold into, abstract and imminent capitalist processes” (Roberts, 2012:2). As such, by not paying attention to *underlying virtual powers* such as those of capitalism, Callon fails to identify the underlying cause of empirical economic practices, and thus “lacks a basis to make critical evaluations” (Vosselman, 2014:191).

Further scrutiny of the performativity thesis’s political efficacy stems from the fact that, having been derived from ANT, it is preoccupied with empirical case studies, treating power as local or *in situ*, whilst showing no attempt to put any particular order into the world or provide a macro-scale explanatory framework. A theoretical approach with any worthwhile critical credentials, it is often assumed, must be able to bring some structural order to the world, enabling social scientists to identify the powerful, in order to denounce them. By focusing on the complexity of market devices or studying the technicity of market configurations - in other words, by entering into the black box - Callon’s approach to the study of economics stands accused of creating a distraction and making the causes of economic phenomena invisible (see Miller, 2002; Roberts, 2012).

For theorists such as Roberts and Miller, performativity represents a retreat from a more political form of theory. As Callon (2005) remarks, such analysts can be merited for placing big politics at the centre of their analysis. They dare to position themselves in opposition to great leviathans such as capitalism and patriarchy, and are willing to reveal the truths of dialectics, the law of value and the meaning of history. In this manner, the politics of theory boils down to a David and Goliath struggle between the powerful and

the exploited, to be played out within the academic world (Callon, 2005). On the one hand we have the neoclassical economists who play the game of the big corporations and participate in the reproduction of capitalism, whilst on the other we have critical theories that denounce domination by showing its effects and thus give arms to the weak. By accepting that neoclassical theory constitutes reality, and thus absolving it of its crimes, critics contend that Callon has, wittingly or otherwise, chosen the side of the strong. Furthermore, while Callon is said to be made weak by his modest theoretical ambitions, approaches such as Roberts and Miller are often assumed to be made strong by their ambition to identify underlying power structures and provide some order to the world. This is often assumed to be the key to an emancipatory politics: by identifying ‘the beast’ and removing its mask, we can combat the illusions masking the strengths of the powerful and “make the strong weak to replace their world with a fair one based on a real vision of what human relations ought to be” (Callon, 2005:18).

In response to such criticism, proponents of the performativity thesis and material semiotics more generally argue that while trying to name the beast “may sometimes be politically convenient” (Thrift, 2006:230), it does not easily allow us to take seriously the profoundly prodigious and complex nature of our world, nor does it necessarily result in the kind of emancipatory effects desired by critical theorists. This is because, by using social structures such as *capitalism* to explain social and economic phenomena, social scientist can be seen to bring about the unintended political consequence of endowing the objects/subjects of their critique with an inherent force to enact change. Miller (2002), for instance, elevates economists above all other social scientists, whilst at the same time announcing the spuriousness nature of their work. Callon queries the need for social scientists “to comfort and to support the idea that mainstream economists are in a dominant position” (Callon *in* Barry and Slater, 2002:301). He contends that to do so is to create a self-fulfilling prophecy, elevating mainstream economists and political decision makers to a higher plain. By contrast, the notion of performativity places economists on the same plain as all other actors: to achieve anything, they, like anyone else, must successfully forge and stabilise alliances and enrol a multitude of human and non-human entities into heterogeneous actor-networks through a complex process of experimentation, trial and error. Thus, the subjects/objects of our critique are removed of their inherent power to shape the social. While advocates of a strong explanatory theory may see this as losing sight of the causes of social issues, the performativity thesis can alternatively - by making use of a relational ontology - be seen to open up a new possibility for political inquiry where by the social scientist seeks to explain how asymmetric power relations come to be, as opposed to just assuming they are as such (Latour, 2005).

What of the suggestion that the performativity thesis unquestioningly accepts the doctrine of mainstream macro-economics, thus absolving it of its sins? Although such criticism is pervasive, commentators who adopt this stance arguably misjudge the political potential of the relational (and variable)

ontology proposed by Callon and his colleagues. For instance, while Callon believes the theories of neoclassical economists to be empirically observable in the material workings of the *real* economy, he views this state of affairs as a precarious achievement (Law, 2007). This implies the possibility that “things could be ‘otherwise’ and reality is not destiny” (Vosselman, 2014:190). By focussing on the relational-materiality of specific practices and refusing to be overawed by seemingly large systems and the apparent ontological unity of those systems, ANT and material semiotics draw attention to the controversies surrounding things which are *in the making* (Vosselman, 2014).

Commentators such as Mol (1999) and Law (2004; 2008) have developed the notion of *ontological politics* to suggest that since realities vary between practises, the conditions of possibility are not fixed. As Mol (1999) explains, ontology, in standard philosophical parlance, defines what belongs to reality and thus the conditions of possibility we live in. If we combine ontology with ‘politics’ then “this suggests that the conditions of possibility are not given [...] reality does not precede the mundane practices in which we interact with it, but is rather shaped within these practices” (Mol, 1999:75). In this sense, *politics* “works to underline this active mode, this process of shaping, and the fact that its character is both open and contested” (Mol, 1999:75). Politics becomes not about the stabilisation of social relations, but about controversies surrounding relations in the making. It becomes about the spaces where agencies interact, alliances are formed and networks forged. Political ontology implies that reality is not immutable, and thus can be modified and changed. In the same vein, Callon argues that “saying that economics, with the multiplicity of frames of analysis and theoretical models that develop it, contributes to the construction of the object that it studies, means implicitly claiming that there is no single way of organizing the economy and, moreover, of organising it satisfactorily or even effectively [...] markets are complex realities that can be configured differently, as each configuration can be designed to respond to particular orientations and requirements” (Callon, 2010:163). Callon contends that the fact that there is room for choice and reconfiguration “obviously implies the possibility and, in a democratic system, the necessity of political debate in which economics is a stakeholder” (Callon, 2010:164).

Central to the politics of the performativity programme is the idea that, rather than simply assuming an oppositional stance, theorists have a role to play in enrolling adherents and translating their ideas in a manner that allows them to “succeed in creating alliances with technocrats” (Callon *in* Barry and Slater, 2002:301). While many scholars of the social sciences’ broad heterodox alliance may be dismayed by the suggestion, Callon proposes that if we embrace an understanding of economies and markets as “the emergence of hybrid fora in which various actors are participating”, we can imagine a reality in which social scientists cooperate “with other actors who are interested in thinking about ways of organizing markets in order to counter the role of mainstream economists” (Callon *in* Barry and Slater, 2002:301). In this way, we become involved in the inherently political processes of configuring market systems. This

would entail putting to one side for a moment the aspiration of unmasking the world's great leviathans, and perhaps abandoning altogether notions of ontological unity and underlying macro-social frameworks, instead focussing on specific cases and contingent examples, progressively accumulating experience on "how to organize markets, how to organize debates on the organization of markets and so on" (Callon in Barry and Slater, 2002:301). Related to this is the idea that it is the social scientist's role to 'open the lid on the black box' in order to expose the internal workings of market systems. This entails acknowledging the complex material and technical components of markets, and seeking to make them visible by mapping the ways in which they are functionally configured (Latour, 2000). By lifting the lid on the black box, we also see the fragile and mutable nature of market configurations (Callon, 2005). At this point, social scientists can start to intervene in the (re)configuration of economic forms.

3.4 Social studies of marketisation

Much of the criticism that Callon's theorisation of market formation has received has revolved around his use of the notion of performativity. Callon himself did not coin the term performativity¹⁰ - nor is he the only theorist to make use of the notion in contemporary literature¹¹ - and in addition to the criticisms discussed above (in particular, that his usage of *performativity* represents something of a truism (Santos and Rodrigues, 2009) and is also politically impotent (Miller, 2002)), Callon has also been accused of appropriating and misapprehending the concept, distorting its original meaning (Mäki, 2013).

The fact that the concept of performativity has acted as something of a lightning rod for criticism perhaps explains why Callon and his associates appear to have gradually moved away from direct reference to the 'performativity programme' in the last decade or so (see for instance, Muniesa et al., 2007; Çalişkan and Callon, 2010). Whilst moving beyond the 'performativity thesis', Muniesa et al. have continued their theorisation of markets through the notion of socio-technical agencement (Muniesa et al., 2007; Mackenzie, 2009; Çalişkan, 2010). This body of work - which may loosely be referred to as the 'material sociology of markets' (Mackenzie, 2009) and marketisation (Çalişkan and Callon, 2010) - can be seen to have formed part of the 'pragmatic turn' in the study of markets and economic activities more generally (Muniesa et al., 2007). This pragmatic turn has entailed a proliferation of empirical studies united by a desire to take seriously the materiality of markets, to avoid ex-ante explicative principles, to adopt an anti-essentialist position suited to the study of situations of uncertainty, to attend to empirical intricacies of agency, and to acknowledge the material and distributed nature of calculation and cognition (Muniesa et al., 2007).

¹⁰ The origins of the term can be traced back to the work of John Austin and his distinction between constative and performative utterances (see Austin, 1962).

¹¹ See for instance the work of Judith Butler (2003).

Most recently, Callon, working together with Koray Çalışkan, has proposed a research programme devoted to examining processes of ‘marketisation’ (Çalışkan and Callon, 2010). They define the study of marketisation as “the entirety of efforts aimed at describing, analysing and making intelligible the shape, constitution and dynamics of a market socio-technical arrangement” (Çalışkan and Callon, 2010:2). Broadly defined, marketisation refers to processes through which: (i) economic and social realities are brought into line with normative, value and/or interest based judgments regarding how any given market should operate, and; (ii) out of a multitude of organisational forms and practices of production, ownership and exchange, and a heterogeneous network of human agents and material artefacts, some entities and practices are defined as being ‘part of the market’, while others are seen as being somehow ‘nonmarket’.

While marketisation is a broad and not-easily-definable theoretical framework, it can be seen to encompass the following key principles:

1. Studies of marketisation do not assume a distinction between the market on the one hand – constituted only from its own internal logic – and nonmarket forces on the other, be they traditional/peasant practices, or ‘political’ forces emanating from the state (Ouma, 2015). Rather, ‘market’ and ‘nonmarket’ are separated through the effect of what Callon calls ‘framing’ – that is, a process of demarcation and detachment in which certain network relations are bracketed off from the larger expanse of material activities and resources which are deemed to exist beyond the limits of the market (Mitchell, 2007). In this sense, markets, or capitalism more generally, are not treated as “a self-contained space, distinct from other social spheres such as the household, the state, or the sphere of culture” (Mitchell, 2002:246), but as diverse, “institutionally variegated” articulations of various practices, logics and materials (Berndt, 2015:1866). Moreover, studies of marketisation have tended to reveal that those elements and practices which are typically perceived to constitute the market are often inexorably connected to and dependent upon practices that are typically perceived as nonmarket, meaning that any attempt to frame the two as distinct is prone to failure (Berndt, 2015; Mitchell, 2002).
2. Building on the first point, studies of marketisation do not treat markets, or the economy more generally, “as something pre-given”, but focus on “the processes that see to it that actions, devices and representations are assembled and qualified” as ‘market-based’ (Berndt and Boeckler, 2017:285). When Callon and Çalışkan (2009:370) add the construct action (through the addition of the suffix-ization) into the words economic or market, they do so to imply “that the economy [or markets] [are] an achievement rather than a starting point or a pre-existing reality that can simply be revealed and acted upon”. Central to the research programme of marketisation is the belief that “when taken for granted [markets]

conceal more than they reveal”, and that a study of market formation which assumes the economy to be a universal and unproblematic object “would overlook the political process of its creation, as well as the local history of this process” (Mitchell, 2002:246). This implies a performative notion of markets as practical accomplishments. Studies of marketisation do not assume a distinction between *the market* on the one hand - constituted only from its own internal logic – and nonmarket practices or entities on the other. Instead, the focus of research is on the processes through which certain actions, devices and representations are assembled and qualified as legitimately ‘market-based’, while others are qualified as ‘nonmarket-based’ and therefore discordant with efforts to transition towards or reinforce a *market-style* economy.

3. The concept of marketisation implies that “humans are not born as qualified market agents” (Ouma, 2015:35), but rather must be “configured and formatted as subjects who are technically and mentally equipped” to enact specific valuations of what constitutes appropriate or legitimate systems of production, exchange, ownership etc (Çalışkan and Callon, 2009:389). Marketisation implies an understanding of individual agency and collective action which is much closer to those of Tarde’s (1999) notion of *monadology* and Hutchin’s (1995) theory of ‘distributed action and cognition’. Actors within the economy can be viewed as what Tarde (1999) refers to as *incommensurable* entities - not guided by any underlying laws of the market or overarching capitalist social or economic order, but rather perceiving and operating within what we may loosely understand as the ‘economy’, by utilising the material resources and cognitive faculties available to them in order to pursue their own mercantile interests or sustain their existence¹².

While the concept of marketisation appears to be less preoccupied with the performativity of economics in a Barnesian sense – i.e. identifying rather circumscribed instances where in the model of the world becomes the world of the model - the notion of performativity is still important to the analysis. As Ouma (2015) explains, viewing the practical construction of markets through a marketisation lens requires us to overcome an ostensive understanding of markets in favour of a performative one (Latour, 1984). From this vantage point, "markets are not quasi-natural and per se absolute and stable forms of exchange but highly presuppositional sociotechnical arrangements" (Ouma, 2015:23), requiring "a set of investments and

¹² There is a similarity here to the work of Karl Polanyi on the formalist–substantivist debate (Polanyi, 1980 [1944]; Peck, 2013), as well as J.K. Gibson-Graham’s diverse economies perspective which highlights the wide range of motivations on the part of economic actors for engaging in economic activity.

operations to shape calculative agencies, to qualify and singularize goods, and to organize and stabilize encounters between goods and agencies" (Callon, 2005:8).

3.5 Conclusion

In this chapter I have explored what an ANT-inspired understanding of economies and markets entails, as well as what it means to analyse markets through a marketisation lens. Amongst other things, it entails a shift from an ostensive sociology to a performative one, recognising markets as practical accomplishments (Ouma, 2016). This focus on the "practical means" (Latour, 2005:66) through which markets are produced has both theoretical implications for the way we understand markets and empirical implications for the way we study them.

Theoretically, understanding markets as practical accomplishments means that instead of explaining the formation and operation of markets through recourse to ex-ante explicative principles and universal logics, social scientists recognise the relational ontology of markets and focus on revealing the shape, constitution and dynamics of socio-technical arrangements through which markets are constituted, as well the practical means through which these heterogeneous arrangements are brought into line with economic models and normative judgments regarding how markets should function. In this sense, the social studies of marketisation is descriptive rather than foundational in an explanatory sense.

In adopting a non-foundational approach, this thesis does not utilise central categories of the market – such as value, capital, commodities, property, collateral, economic work – as a preconfigured *explanans*, but focuses on describing and making interlegible the series of calculative, discursive, legal and technological labours and investments through which these constructs are archived. In conceptualising markets as socio-technical *agencements*, and abandoning the false dichotomy of description vs explanation, marketisation – as with ANT – is perhaps better understood not as an alternative form of social theory but as a method for describing, or tracing, heterogeneous network associations. The basic assumption of *network tracing* as an empirical exercise is that "performative, reality-accomplishing ways of knowing" are embedded in relationally, temporally and materially entangled sociotechnical networks (Ouma, 2015:85). The task of the researcher is to describe the composition of these networks in as much detail as possible: if markets are not *ready made*, then the challenge is to identify the actors, materials and practices that constitute their making. In the next chapter I turn to explore what tracing networked relations means as a matter of practice.

Chapter 4

Research design and methods

4.1 Introduction

In this chapter I outline the process through which I collected the material that informs the empirical chapters of this thesis. In doing so, I combine a “reflexive reconstruction” (Ouma, 2015:78) of the fieldwork with a broader discussion of the methodological, ontological and political challenges of mobilising a methodological framework which adheres to the key principles of ANT and the social studies of marketisation.

Firstly, I provide an *ex-post* account of the research design. This includes a discussion of how I came to develop a specific empirical focus on the processes of price *realisation* (Çalışkan, 2007) in two areas of the Ukrainian agricultural economy: (i) the Ukrainian wheat market, and; (ii) Ukraine’s agricultural credit market. It also includes a discussion of the data collection process, the research methods used and the challenges of identifying and gaining access to research participants.

I then explore some of the issues arising from operationalising a performative understanding of markets through empirics. As outlined in the previous chapter, according to the social studies of marketisation, markets are constituted by heterogeneous networks of human actors and various material and technical devices. The task for the researcher is to trace these heterogeneous network associations. In the latter half of this chapter, I explore what tracing networked relations means as a matter of practice, including discussion of: (i) how to go about framing the research field; (ii) the role of the researcher and the researched in *translating* research findings, and; (iii) the benefits of utilising a relational notion of the ‘elite’ interview as a method of studying market assemblages.

4.2 Narrowing the research focus

As has been illustrated by the numerous scholars (Callon, 1998; Muniesa et al., 2007; Hardie and MacKenzie 2007; MacKenzie, 2006a; Callon, 2007; Callon and Muniesa, 2005) to have explored the performative nature of economics, markets can be fruitfully understood as *socio-technical agencements*; that is, collectives made up of human beings, technical devices, algorithms, and so on. Defining markets in these terms places an emphasis on the materiality and technicalities of markets, and acknowledges the vast array of actors involved in their functioning. As Hardie and MacKenzie (2006) note, so vast is the range of actors in any given network, that the task of tracing an *agencement* in an interconnected world becomes a formally endless task. Therefore, it is necessary for the purposes of empirical practicality to be selective: to

focus specifically on aspects of the *agencement* which the researcher deems to be central to the theoretical and political argument they wish to make. I therefore draw on the work of Çalışkan and Callon (2010) in which they propose five possible ‘vantage points’ from which we may identify the range of entities that struggle to exert control over market design and market functioning. Of these five vantage points, I develop a specific focus on the processes of *price-realisation*.

4.2.1 Price realisation

A handful of voices have contributed to the nascent body of scholarship exploring the socio-technical nature of markets from the vantage point of price realisation. These theorists contend that “prices are never set by a mere coming together of supply and demand”, as is assumed by the neoclassical theory of price, but are “made, produced, and challenged by a multiplicity of actors in a market process” (Çalışkan, 2007:242). “Fixing a price”, Çalışkan explains, “is always the outcome of a struggle between agencies trying to impose their modes of measuring a good’s value and qualities” (Çalışkan and Callon, 2010:16). In this way, locating and agreeing a price “is a political process in which prices are the outcome of struggles between actors, each attempting to impose their mechanism for determining the value and quality of a good” (Bargawi and Newman, 2017:167). This echoes Max Weber’s (1922) claim that:

Prices are the product of conflicts of interest and of compromises; they thus result from power constellations... [the] price system [is] a struggle of man against man [sic]; and prices are expressions of this struggle; they are instruments of calculation only as estimated quantification of relative chances in this struggle of interests (Weber, 1978 [1922], taken from Çalışkan and Callon, 2010).

What the concept of price realisation adds to Weber’s understanding of price as an outcome of political struggle is that the mechanisms used determine the value and quality of a good are “differentially mobilized” by agents to realise prices (Bargawi and Newman, 2017:167). Prices are therefore “at the heart of agents’ struggles to produce asymmetries in the distribution of value” (Çalışkan and Callon 2010:17), as “more powerful actors are able to impose their method of valuation on others and thus affect the distribution of value” (Bargawi and Newman, 2017:168).

In developing a research plan for the purposes of this thesis, I have borrowed and developed existing examples of research where price realisation has been used as an ‘entry point’ into the study of agricultural markets. In so doing, I have taken as the foci of the research the material and relational processes through which actual prices come into existence on the ground. This has entailed identifying the multiplicity of actors participating in the process of price realisation, tracing their network relations with other actors and their deployment of material devices according to differentiated positions of power in the negotiation of prices (Çalışkan, 2010; Bargawi and Newman, 2017). It also entailed exploring efforts by

various actors to frame market prices; that is, to determine which practices and material resources are included within the calculation of worth and value, and those that are not.

4.2.2 Focus 1 - Exploring price realisation in the context of the Ukrainian wheat Market

As an entry point into the study of Ukrainian agriculture, I developed a research plan focusing on the materially grounded and often contested processes through which export-orientated Ukrainian wheat producers and traders negotiate the *actual price* of the commodity they buy and sell. Çalışkan (2010) demonstrates that there exists a multiplicity of prices for any single commodity at any one single time, and has come to draw the distinction between the ‘actual price’ of a commodity, and what he terms ‘prosthetic prices’. The actual price refers to the amount of money a seller accepts from a buyer in exchange for ownership rights to the commodity, and is said to be the end result of the process of price realisation. Prosthetic prices, on the other hand, are identified as those prices “produced in the market, but not directly deployed by either buyer or seller in the actual exchange of commodities” (Çalışkan, 2010:24). Prosthetic prices are used during the process of price realisation to inform the making of an actual price for a commodity. They do not represent the final price of a commodity, but rather serve as prosthetic tools - or market devices - to be used by buyers and sellers as an input into a calculation aimed at imposing an actual price to conclude a given transaction. In this way, the price of any transaction is always calculated on the basis of other prices, and “the process of using prices to calculate prices is a powerful mechanism for unifying markets, by the singular interdependencies that it creates between a multitude of local transactions carried out or envisaged at different times” (Çalışkan and Callon, 2010:17).

4.2.3 Focus 2 - Financing of agricultural small and medium size enterprises

Whilst conducting the initial round of interviews with agricultural producers and traders on the subject of price formation, one theme that kept emerging was the extent to which a producer’s ability to determine the price they received for their crop largely depended on their cash flow and access to external finance (for if they have no access to working capital finance, they must sell their crop for whatever the market price is at that time, in order to finance the next round of production through cash flow). The frequency with which this theme was raised by interviewees led me to explore it in more detail, addressing questions such as: (i) how does access to external finance vary in Ukraine for different types of production structures (i.e. between large commercial enterprises and medium/small scale farmers)?; (ii) how has the role of rural finance changed in Ukraine during the transition period?, and; (iii) who have been the central actors in shaping the current system of agricultural lending in Ukraine?

This led me to develop the second empirical focus of the research around the performative role of various actors in shaping the Ukrainian agricultural finance sector and, in particular, the provision of loans to small and medium size producers (SMPs). This entailed exploring rival attempts to frame what

constitutes market-based finance, focusing specifically on efforts to determine: (i) how interest rates are set, and: (ii) how best to render SMPs amenable to the requirements of interest-bearing capital. While, to my knowledge, the issues of agricultural finance and the *financialisation of agriculture* (Martin and Clapp, 2015) have not been explored from the vantage point of *price realisation*, the proliferation of agricultural finance markets is closely linked to struggles between agents attempting to impose their mechanisms for determining the price of credit (i.e. interest rates). As Gonzalez-Vega, (1983:366) explains, interest rates represent perhaps "the most important relative price in a market economy [...] Like other prices in a market system, interest rates are signals which influence decisions: interest rates affect more numerous, diverse, and important decisions than any other price".

4.3 Method and fieldwork description

The primary method of data collection was qualitative semi-structured interviews with key actors involved in the cultivation, regulation, financing and trading of agricultural commodities. I conducted five months of fieldwork in Ukraine between 1st November and 23rd December 2016, and 1st April and 1st July 2017. During this period, I conducted 33 interviews from an initial target of 50. These interviews were supported by direct observation at round table events, industry conferences and professional ‘get-togethers’. Treating these events as an ‘*agencement* in a room’, I subsequently wrote up short ethnographic reports based on my observations which then helped inform the empirical analysis.

Time spent *in the field* was supplemented by desk-based research, including careful analysis of Ukrainian official statistics, other market data, and ‘grey’ literature - such as legislative documents, official documents and reports produced by international financial institutions (IFIs), agricultural commodity market trading and price reports and literature on corporate entities and the agricultural sector more broadly.

4.3.1 Focus 1

The first stage of fieldwork entailed exploring the sociotechnical process of price formation for wheat along the export-orientated market channel, taking as the fulcrum of analysis the grounded practices of those actors involved in the production and trade of agricultural commodities. This entailed conducting interviews with representatives from organisations involved in the production, trade and export of wheat – including domestic producers (known locally as agrohholdings), international trading houses (such as Cargill, Glencore etc) and ‘middle-men’ traders operating along the market channel. It also entailed conducting interviews with *auxiliary market-makers* (Ouma, 2015) such as individuals working for agricultural consultancy firms, lobbying groups, development practitioners etc. While these groups are not directly engaged in agricultural production and exchange, they can “provide important contextual information on the industry and policy

context” (Ouma, 2015:87). In addition, I attended several industry conferences and weekly ‘hedge club’ meetings – that is, meetings organised by the Ukrainian agroholding ‘AgroGeneration’ and held at the company’s offices, bringing together a select number of staff from the major domestic agroholdings, domestic traders and international trading houses to discuss ‘what is happening on the market’.

In conducting interviews with these groups of actors, this portion of research entailed asking similar questions and exploring similar processes to those that have typically formed the focus of the numerous empirically rich studies to have come out of the global commodity chain tradition. However, notwithstanding the contribution that the chain literature has made to our collective understanding of the inner-workings of the global agrifood economy, the global commodity chain approach and similar approaches can be seen to display a kind of ostensive sociology in which entities such as ‘global markets’, ‘global commodity chains’ or ‘global value chains’ are privileged over “the multiple relations, materially entangled practices, and diverse bodies of knowledge that make them up” (Ouma, 2015:7). Therefore, I have tried to be more attentive to not only the social and institutional but also material processes that forge connections amongst different actors, and the practical work that goes into sustaining these often-precarious ties. I have sought to explore how structures are formed and power relations forged through interviewees’ network relations with other actors, as well as through various material intermediaries including, for example, payment contracts, storage facilities, financial capital, embodied skills and knowledge, the technical equipment (or ‘valuerometers’)(Çalışkan, 2010) required to grade wheat and realise a monetary value, production equipment, and agricultural inputs such as seeds and fertilisers.

When designing the original research plan, I initially identified agricultural holding companies – or *agroholdings* – as the vantage point from which to begin my analysis into the process of price realisation along the market channel for wheat. An agroholding is defined as a type of land bank – a consolidated set of parent and controlled subsidiary agricultural companies – containing 10,000 ha or more of agricultural land (Lapa et al., 2015). They have become the centralised form of agribusiness organisation in Ukraine and while they are not unique to Ukraine, their presence is a distinctive feature of Ukrainian agriculture (Lapa et al., 2015). The emergence of agroholdings as Ukraine’s dominant production structure following the dissolution of the Soviet Union is in part an interim outcome of Ukraine’s land reform process as, in the absence of a functioning land market, large corporations have consolidated agricultural companies through the acquisition and merger of smaller players (Plank, 2013). Agroholdings are increasingly integrated horizontally as well as vertically in order to control the whole value chain. They are hailed as the solution for the country’s agricultural development since they have the necessary modern equipment, know-how and financial background (Plank, 2013). Agroholdings’ share in total cereal production in 2010 was 20 per cent, including 18.2 per cent in wheat production (Kobuta et al., 2012). Their activities are predominately orientated towards export markets, and through better access to market resources, marketing channels,

external capital and financing, favourable prices, state support, and influence on national agricultural policy, they have successfully monopolised benefits from international trade in agricultural products and food (Borodina, 2013).

The reason for targeting agroholdings specifically was that, given their centrality in agricultural commodity chains, this category of producers would provide a convenient starting place from which to explore the assemblage of the Ukrainian wheat market. It was never the primary objective of this research to map out in full a concise typology of the different forms of agricultural producers and traders operating in Ukraine. Therefore, I felt that narrowing the scope of the fieldwork and focusing – at least in the initial stages – on one category of producer would make the research more empirically feasible, without reducing my ability to address the overarching research problem.

Given that they are increasingly vertically and horizontally integrated, the operations of many agroholdings cover production, storage, transportation networks, processing and marketing. It was my intention – as specified in the initial research plan – to conduct interviews with actors working within the different spheres of production, processing and exchange. I planned to pursue two different avenues of investigation, one orientated towards *strategic* issues (i.e. issues pertaining to corporate strategy, organisational structure, types of contracting, sourcing of financing, identification of export markets etc.) and another towards more operational/structural issues (relating to the more day-to-day challenges involved in the production and exchange of agricultural commodities, such as what happens if a supplier reneges on an agreement, how are relationships formed with traders, are there ever disagreements over the quality of wheat, etc.).

By conducting in-depth interviews with representatives of agroholdings, I intended to explore, *inter alia*: agroholdings ties to international financial markets; their links with international trading houses; their relationships with other categories of producers further down the value chain, and how these are formatted according to procurement contracts; asymmetries in market power; their relationship with different levels of government and their ability to influence policy and law making through lobbying. I began fieldwork with an initial intention to conduct 20-25 interviews with representatives from domestic agroholdings. However, in practice, I was able to conduct only five such interviews, despite making consistent efforts to arrange interviews, either by email, telephone, or attending conferences and traders' meetings, and speaking to potential participants directly. The difficulty I experienced in arranging interviews with this group of actors may be due to mistakes on my part, given my status as a novice researcher: this is a possibility to which I remain open. However, I also believe that there are certain empirically significant explanations as to why Ukrainian agroholdings represent a challenging group with which to conduct in-depth qualitative research. Firstly, as was alluded to by several research participants operating in other sectors of the agricultural sector, there exists a certain ambiguity as to the legality of agroholdings' business practices

relating to, amongst other things, issues of offshoring, tax evasion and embezzlement. This has most recently and most publicly been illustrated by the high profile case of Mriya Agro Holding, which issued USD 400mn worth of Eurobonds in 2013, only to default on the bonds a year later in August 2014, announcing (to the shock of investors) that it had built up debts of USD 1.3bn (Aris, 2017).

In addition, during email correspondence and informal conversations with representatives of Ukrainian agroholdings (at conferences or traders' meetings), the point was made to me on several occasions that "such is the level of approval that we would need to seek before we could participate in an interview, we would have to wait around 6 months before we could proceed. Otherwise, the things we are at liberty to discuss will be so general that there is no point in discussing them" (*paraphrased*). Prospective participants seemed particularly concerned about the possibility that they may reveal commercially sensitive information. For this reason, upon reflection, a more effective approach may have been to conduct more immersive ethnographic case studies of a select number of companies to which I gained access prior to beginning the fieldwork. However, the issue with this approach is that I was only able to begin networking effectively and gain initial access to potential participants once in the field.

In addition, statistics and other data on agroholdings are difficult to access. As Kobuta et al. (2012:24) explain, "large corporations and mega agroholdings rarely register their business as such in Ukraine, as they prefer off-shore registration to benefit from tax exemptions. This makes it difficult to track and to measure statistically their emergence and dynamics". Furthermore, as Visser and Spoor (2011) explain, data on the number of investors in land and the agricultural sector – let alone the identity of the investors – are incomplete or non-existent. Due to the contentious nature of a proportion of these land deals, both authorities and investors have little incentive to increase the transparency of these transactions, and the lack of an up-to-date and accurate land cadastre reinforces this issue (Visser and Spoor, 2011). There is no formal record in Ukraine of tagroholdings in terms of their assets, capital or the acreage they control.

Having struggled to conduct the planned number of interviews with agroholding representatives, I sought to expand the focus of the research to include producers and traders more generally, conducting interviews with international trading houses (including Cargil, Bunge, Delta Vimar, Glencore, CHS Ukraine, Baywa Marketing and Trading International), domestic commodity traders, as well as agricultural consultancy and information sharing firms, involved in, for example, the production of price estimates. This strategy represented a logical process of 'network tracing', such is the level of interconnectivity between the different production and export structures that comprise the Ukrainian wheat market, from small-scale producers, to agroholdings, to domestic commodity traders and international trading houses. In total, I conducted 17 interviews with this group of actors. Expanding the focus of the research to include producers and traders more generally meant that I was unable to collect the rich empirical accounts of the relationally, materially and temporally embedded practices that constitute Ukrainian agroholdings and their place in the

Ukrainian wheat market. However, in conducting interviews with a broader group of actors, I was nevertheless able to explore many of the many of the materially and relationally embedded practices that I intended to explore initially. These include: asymmetries that exist between different producers and traders in the realisation of prosthetic prices; the struggles of different market actors to control, pacify and render calculable the organic material that is wheat (i.e. to control the biogeophysical dimensions of production, processing and exchange); the relative capacity of different producers and traders to qualify the quality and determine the ‘commodity status’ of wheat; the market devices that mediate the struggles between different market actors as they pursue their mercantile interests; the challenges of enrolling adherents to conform with a specific framing of how the production and exchange of wheat should operate (themes that are explored further in chapter 5).

In addition, through my efforts to gain access to, and conduct research with, representatives from Ukrainian agroholdings, I have gained certain insights that may facilitate research on this group of agricultural enterprises in future studies. This relates in part to the need for greater clarity as to the distinction between agroholdings and oligarchs. There is a clear ambiguity within the literature as to the extent to which agroholdings are synonymous with the oligarchic business elite that emerged during the post-Soviet epoch, and the implicit assumption of many commentators is that agroholdings are by definition oligarchic in nature (see Plank, 2013). Kuns and Visser (2016) provide some clarity here by drawing a distinction between ‘oligarch-led’ and ‘investor-led’ agricultural enterprises. They explain that the primary differences separating investor-led companies from ‘oligarch led’ companies “concern how many shares of the company are in free-float trading and the role of the founder of the company” (Kuns and Visser, 2016:5-6). Oligarch-led companies have only a minority of shares traded on a stock exchange, while the bulk of the ownership remains in the hands of the founder of the company or an entity controlled by the founder. By contrast, the majority of shares in investor-led companies are tradable in equity markets. Furthermore, an important feature of oligarch-led companies are political connections, with either the main owner or highly placed officials holding or having had political positions in their respective countries. In distinguishing between investor and oligarch-led companies, Kuns and Visser highlight the fact that agroholdings can be funded by both domestic and international capital, and thus not all are oligarchic in their nature. However, this distinction does not directly address the ambiguity of whether domestic capital equates to oligarchy, and potentially does more to reinforce this implicit assumption.

Kuns and Visser (2016:5) explain that “the term ‘oligarch led’ is not automatically meant pejoratively”, but simply refers to “the tight interlinkages between business and politics in Russia and Ukraine, and the powerful figures that have arisen in such a milieu are widely recognized”. However, it is difficult to reconcile this *not automatically pejorative* usage of the term oligarch, with its common usage

as a descriptor for illegitimate forms of business activity in the former socialist states of Eastern and Central Europe (Mykhenko and Swain, 2010).

The uncertainty as to whether the label of domestically owned agroholding equates to an oligarchic business structure, and the politically sensitive nature of the term ‘oligarch’, are two issues that need to be considered when conducting research on the phenomena of Ukrainian agroholdings. In my research, I chose to avoid any *a priori* assumption of a link between agroholdings and Ukrainian oligarchy, focusing instead on how this ostensibly ‘powerful’ category of producers are organised, highlighting the sociotechnical linkages with other agents, and the mundane and technical manifestations of power in the Ukrainian wheat market. In doing so, I drew insight from the work of scholars such as Ouma (2015:18), who highlight that “power relations are not only articulated in specific relations of definition [...] but also in specific relation of calculation and accounting”. Here in lies one of the advantages of my chosen theoretical and methodological framework, over that of political economy whereby the researcher is more confined to traditional categories such as ‘domestic’ and ‘international capital’.

Where certain commentators purposefully or incidentally group all domestic agroholdings as oligarchic structures (c.f. Plank and Plank, 2014; Plank, 2013), I argue that there is a need to provide greater justification as to why they have done so. I make this suggestion based on my own experience of trying to gain access to and conduct interviews with representatives of various vertically and horizontally integrated agricultural enterprises of 10,000 ha or larger, where it was often not immediately, if at all, clear as to the ties that owners or investors had to any level of Ukrainian Government, that would justify them being categorised as oligarchic.

The politically sensitive and (often) pejorative nature of the label oligarch also creates a challenge for researchers in terms of transparency and honesty with research participants. During my fieldwork, agricultural enterprises would regularly ask why I had identified them as a focus of my research, and if my explanation had centred around the oligarchic nature of their ownership structure, it is unlikely that I would have had any greater luck in gaining access to this group of actors.

4.3.2 Focus 2

The second stage of my research entailed conducting interviews with IFIs and private sector financial intermediaries (e.g. commercial banks, input suppliers) working in the area of agricultural SMP financing, exploring their role in the circulation of market rationales, the formatting of agricultural credit markets and the enrolment of adherents into the *frontier* of formal finance (Von Pischke, 1991). In conducting these interviews, I aimed to discover the practical work that is being done and the innovative financial mechanisms that have been implemented in Ukraine in order to bring agricultural producers into the sphere of formal finance. I also explored the performative role of IFIs in formatting the Ukrainian agricultural

credit market through mobilising models of the market, enrolling adherents and creating a space for the exchange of supra-local knowledge, in which expert knowledge gathered by practitioners in different parts of the world is introduced in new geographical and historical contexts. During time spent in the field, I also attended a round-table event organised by the Kiev-based National University of Life and Environmental Science, on the topic of ‘The role of financial-credit institutions in financing agricultural business in Ukraine’.

4.4 Analysis of ‘grey’ literature

As noted above, interviews and direct observation were supplemented by desk-based research, including a careful analysis of so-called ‘grey’ literature; that is, reports and research – e.g. technical reports, working papers, price data, etc. – produced outside of academic publication and distribution channels. This literature provided an important source of secondary data, providing context to interview data and supporting arguments developed in the analysis.

However, in tracing sociotechnical market arrangements, documents and reports represent more than a source of secondary data or contextual information on, for example, an organisation’s history. An ANT-inspired approach to tracing networks entails not just tracing social ties between human actors, but also the material components of networks “that circulate from hand to hand” (Çalışkan and Callon 2009:384). This includes studying documents as “effects of practice”, as well as the effects they have “in practice” (Weisser, 2014:47). To say that documents are ‘effects of practice’ means that reports, manuals, etc. “are deeply entangled in corporate cultures and institutional frameworks and hence provide manifold insights about how these are assembled” (Niebuhr, 2016:87). As Weisser (2014:48) notes, “documents are worded effects of particular arrangements of human beings and other entities”, analysis of which reveals the negotiated practices and material arrangements that brought them into existence. For instance, when exploring the role of technical assistant projects in the assemblage of agricultural credit markets (see chapter 7), documents such as progress reports and the minutes from task force meetings provided a useful source of information regarding the decision making processes and differences of opinion that existed between actors, which did not emerge during interviews and are typically edited out of published technical reports. Furthermore, and as explored further in Chapter 7, the assemblage of actors involved in the construction and regulation of markets are often only short-lived. Therefore, I found that rather than tracing *live* networks, I was often tracing residual elements of former market assemblages that had been left behind or perhaps reconfigured as part of new actor-networks. In this way, documents were particularly useful given their immutable characteristics.

To say that documents have ‘effects in practice’ refers to the fact that “almost all of our interactions with other people are mediated through objects of one kind or another” (Law, 1992:381), and that

documents are not passive artefacts but play a performative role in that they “set hierarchies, assign roles, designate areas of responsibility and structure work-flows” (Weisser, 2014:49). Documents contain inscriptions of ideas, principles and normative judgements regarding, for instance, the correct value of a commodity, or how to frame relationships between actors within a sociotechnical network. Tracing the circulation of documents between actors is a useful empirical exercise in this regard, in order to observe the ability of economics and economic actors to ‘act at a distance’, influencing the operation of markets both across time and space. For instance, observing a price report produced by one market agent being utilised by another agent in the realisation of an actual price for wheat reveals a lot about the performative influence of the first agent. Similarly, seeing the recommendations from one technical assistance project being used as a manual for future projects signals the enduring effect of the knowledge generated from the first project.

4.5 Tracing, framing and translating participant networks

Studying Ukraine’s wheat export and agricultural credit markets as *sociotechnical agencements* has entailed a process of tracing network associations. Methodologically, ANT encourages us to recognise the relational agency of actants (be they research participants, key informants, texts, discourse, or other material artefacts), trace their associations, and map their effects. Network methodologies require we “identify actors in networks, their ongoing relations and the structural outcomes of these relations” (Dicken et al., 2001:91).

One practical challenge in operationalising this approach has been reconciling an antagonism between the formally endless exercise of tracing network associations and the necessary time and resource-limited nature of research. There is no mainstream methodological answer to the perennial question of ‘how many interviews are enough’ (Baker and Edwards, 2012). Text books often refer to the fact that, unlike quantitative research, qualitative research is not preoccupied with issues of reliability and replicability. Thus, concerns regarding sample size are considered the preserve of quantitative research, while qualitative research focuses on context, contingency, specificity, interpretation and meaning. Without any guide as to when to conclude research, is it the case that we simply continue until the point where we feel that we have enough data to do something interesting with or until research participants cease to provide new or thought-provoking information? Alternatively, does the researcher continue until they have exhausted their network of potential research participants and assume this to be a logical point at which to cease inquiry? Similarly, is it sufficient to rely on a judgment-based purposive sampling, whereby we conduct research with those people we perceive to be key actors, and study those events we think to be key to the story we’re telling, and having done so, decide that anyone or anything that has been overlooked are not of great enough significance to have a crucial bearing on the outcome of our research?

In raising such questions, ANT’s relational ontology focuses attention on the partial nature of network tracing as an empirical exercise and problematises seemingly arbitrary decision making regarding

the point at which we decide to stop *following the actors*. In other words, in a topological mode of reasoning, ANT raises questions about the way in which we define the scope of the research field (Ruming, 2009). The process of determining the parameters of the research field – which actors should be enrolled and incorporated into the study (are which are not) – is akin to Callon’s (1998) notion of *framing*. While the researcher’s ambition is to trace networks, there must (lest the study continue indefinitely) come a point when they must bracket off those network relations that they have explored from those which fall outside the scope of the study. Consequently, research findings will represent only a portion of a larger network of relations which constitute and define the phenomenon under investigation.

Whilst framing the research field is an attempt to bracket off the outside world, agents and entities within the parameters of any given frame will inevitably have ties to networks outside that frame. Thus, “bracketing, which assumes that boundaries are drawn between the actors interacting with one another on the one hand and the rest of the world on the other, does not imply a total absence of relationships” (Callon, 1998:249). On the contrary, actors and material entities within the frame are not created ‘on the spot’; rather, their ontologies are configured by the networks they comprise, and the multiple constitutive parts of these networks have a social history of their own in the wider world (Goffman, 1971). Therefore, owing to the requisite links with the surrounding environment, framing is a complex process, never brought fully to conclusion, as network relations extend far beyond the spatial confines of the research field (Ruming, 2009).

This suggestion sits at odds with the reality of academic research in that, after a designated period, the researcher must tie up any loose ends and bring their study to completion in order to have a coherent and presentable set of results. It is therefore necessary to identify the point in a network at which we decide to draw the line, determining which relations to disclose and which to overlook, or *make absent* (Law, 2004). This is not simply a logistical matter of what is feasible or relevant. Nor can it be treated as a purely arbitrary decision (i.e. when one runs out of time, resources or research contacts). Rather, it should also be viewed as a political or value-based process of deciding what should be included and which relations we can afford to disregard, as well as how individual ontologies are to be assembled and identities (re)configured. One methodological consequence of this is that it encourages us as researchers to be transparent in reporting our decision making on such matters, and to reflect on the potential consequences of decisions regarding the way we frame our research, the actors we enrol, as well as those network relations we exclude (see Law, 2003).

The number of interviews conducted, and the individuals with whom I conducted interviews, was informed largely by practical concerns regarding the number of interviews I could feasibly conduct in the time I was in the field, and the number of willing participants I could find (as noted above, gaining access to interviewees was challenging). At the same time, however, it is important for the purposes of reflexivity to recognise that the interviews I sought out and the networks I chose to trace were informed in part by

value-based judgments regarding what were the most interesting or important ‘stories to tell’. Consequently, the themes that emerged from the research process and which inform the empirical chapters of this thesis reflect these value-based judgments and may exclude the accounts of certain actors that were bracketed off from the participant network. This speaks to Law’s (2004) observation that the researcher and their methods – rather than just serving as representational conduits from reality to description – are always-already implicated in a process of (selective) assemblage or network building as they frame the parameters of the research field.

In addition to framing the research field and selectively enrolling research participants, an ANT-inspired methodology also requires the researcher to recognise the relatively powerful position they occupy as ‘the translator’. For instance, Ruming (2009:454) argues that from an ANT perspective, all research “is the translation of a situated and selective network created by the researcher”. Indeed, Callon’s (1986) notion of translation appears to be an appropriate means of representing the way in which the researcher seeks to: (i) define and interrelate the various roles they allocate to others; (ii) mobilise and hold together desperate actors for their own purpose, and; (iii) tell stories about, and speak on behalf of, those they enrol. As Ruming (2009:455) notes, “while the researcher and the researched come together under the general agreement that something is worthy of discussion and analysis, there is (generally) no agreement on what or how a particular research story is presented, therefore giving the researcher a powerful position in the translation of the research environment in question” (see also Pile, 1991).

We must, however, also be careful not to mistakenly endow the researcher with a greater degree of inherent control than any other actor in the network, for the non-hierarchical conception of power implied by ANT means that the researcher’s agency – like that of any actor – is relational. After all, research proceeds only if actors are willing to become incorporated as research participants into the actor-network we wish to study. Furthermore, as various commentators have argued, whether we are ‘studying up’ (Sabot, 1999; Bradshaw, 2001; Smith, 2006) or ‘studying down’ (England, 1994), the researcher must acknowledge the control and influence that research participants have in terms of, for instance, their greater knowledge on or experience of the subject matter, as well as their ability to distribute and disclose their knowledge in a manner of their choosing. Furthermore, while it is the researcher who (typically) initiates the study and, ultimately, controls the presentation of the findings, research participants can be seen to occupy an important role as mediators between the researcher and the multitude of heterogeneous entities that comprise the network under investigation. In this sense, they too are translators. To borrow from the terminology of Callon (1991), it could be suggested that the research participant represents an *actor* but also an *intermediary*, serving as the link between the researcher and a range of texts, statistics, techniques, intellectual resources, policy information, institutional relationships, personal contacts, and so on. Crucially, the participant has control over which elements of the network they wish to grant the researcher

access to, as well as deciding how this network will be translated. Furthermore, as Berry (2002) notes, researchers must always keep in mind that it is not the obligation of research participants to be objective and to ‘tell us the truth’. While we as researchers have a purpose in requesting an interview, we should not “ignore the reality that subjects have a purpose in the interview too: they have something they want to say” (Berry, 2002:680). As such, we must recognise that research participants also play a critical role in giving shape, existence and consistency to the assemblage of facts, materials and ideas that form our research findings. What’s more, if we extend the network further still to consider the institutional resources which the researcher will utilise to disseminate their research findings (university seminars, lectures, annual conferences, academic journals etc), it becomes possible to conceive of the researcher themselves as an intermediary through which the research participant speaks, in as much as the participant may use the research study as an opportunity to forge new alliances of their own and to put different artefacts into circulation (i.e. they may push a certain narrative, ‘leak’ information, manipulate statistics, or simply ‘guide the researcher’s eye’ in a certain direction). In this way, research should be understood as a negotiated process (Bradshaw, 2001), over which with multiple actors exert influence.

4.6 Hierarchy, relational agency and ‘elite’ interviews

In conducting interviews with representatives from various key companies and institutions, the primary method of data collection I’ve used here is akin to that of the ‘elite’ or ‘corporate’ interview (Cragg, 2002). The basic premise of the elite interview has typically been that, given their privileged hierarchical position, authority, influence and power, ‘elite’ research participants are well placed to reveal things about how the world works. As Smith (2006) explains, elite interviewing generally relies on a structural notion of power as an inscribed capacity, configured across society in such a way that it can be possessed and harnessed by particular individuals and organisations in order to achieve specific outcomes (Smith, 2006). This way of thinking is evident in the concept of the elite interview in as much as, for instance, ‘elites’ are accepted as an identifiable category of people (we just look for those people who hold power), and people in ‘professional positions of power’ are thought to be able to transfer that power directly onto the interview space (as power is inscribed in particular individuals and therefore transferable across contexts). This appears to suggest that, by virtue of their position within their professional hierarchy, ‘elites’ possess an inscribed or inherent power which can be transferred across contexts or between different ‘modalities’. The idea that ‘elites’ can be neatly defined and treated as consistently powerful is clearly inconsistent with the principle of relational agency and the non-hierarchical notion of power implied by ANT.

However, drawing from the principles of post-structuralism and non-foundationalism, I have sought to utilise ‘elite’ interviews as a research method without reaffirming the notion that power can be held or contained, or understood as an expression of an actor’s position within a hierarchical structure. In

doing so, I have tried to dispense with notions of the ‘elite’ which represent society in a metaphorically vertical model, which not only have the unfortunate consequence of perpetuating the notion of the ‘elite’ as more significant than the non-elite, but also can be seen to overemphasise “the extent of order within society, suggesting that the elite and the non-elite exist as discrete entities with a delineated boundary between the two” (Woods, 1998:2105).

Echoing the relational ontology discussed above, Woods (1998:2105) suggests that a more productive approach might be to imagine society not as a stratified pyramid, but as a ‘web of social relations’, emphasising the fact that “any society is composed of individuals, and as such is intrinsically dynamic, and that there is no ‘natural order’ to a society, but that it is constructed through social interaction”. By treating society as a ‘web of relations’, “elites may be viewed not as the top echelon in society, but as a cluster of individual actors bound by strong social, professional, or political ties” (Woods, 1998:2105). What’s more, the use of a relational as opposed to vertical model of society leads us to recognise the shape and form of elites as fluid. Woods (1998:2105) explains that “just as the social network as a whole is constantly changing as people die and are born, move house, change jobs, join or leave societies, and meet new friends, so the elite network is also dynamic”. Those who we identify as being powerful or influential change as power and influence is redistributed by, amongst other factors, new appointments and resignations, the changing importance of certain policy issues, shifts in the fortunes of a particular company or industry, or by electoral processes. From this perspective, elites are not seen as a homogeneous category of individuals with an inscribed capacity to enact change or influence people. Rather, they are understood as a part of dynamic network of relations, making their status as elites transitory. As such, attention shifts to the (re)distribution of power within networks, and the way in which the composition of relations within different networks creates the momentary impression that some individuals are any more powerful than others.

From this relational perspective, elite status can be understood as an *effect*: “it is the relations and associations that are important, indeed that are ‘powerful’, [as] no one person or organisation can axiomatically be accredited with possessing power” (Woods, 1998:2105). It is the position of an ‘elite’ within the broader actor-network that is of equal if not greater interest than the knowledge that they can depart to the researcher from their privileged position. If we view the ‘elite’ as a relational effect, then elite interviewing can be understood as part of, and a convenient entry point into, the broader process of tracing actor-networks. In this sense, the elite interview may be treated almost as a biographical study into research participants’ career histories, academic backgrounds, institutional associations, current relationships with parliamentary groups, political lobbies, financial institutions and economic organisations and so on i.e. the various relations which constitute their identity and enable them to act. The focus therefore is on how ‘elites’ came to occupy positions of power, how their identity and agency is configured relationally, and

how it is that they assemble and mobilise human, institutional, material and discursive resources into networks of action (Woods, 1998).

There are several advantages to approaching the elite interview relationally, as a biographical study or process of network tracing. For example, adopting a relational understanding of the 'elite' has allowed me to attend to one of ANT's most widely recognisable features – the concept of collective (non)human agency. Latour (1999:192) notes that “purposeful action and intentionality may not be properties of objects, but they are not properties of humans either”, for “action is not done under the full control of consciousness” (Latour, 2005:44), but is rather “the result of network mobilization, and networks rely on entities of many kinds”, both human and non-human (Murdoch, 2006:67). Thus, in accordance with the principle of generalised symmetry, central to the work Callon, Latour and Law, the 'elite' should not be treated as the source of action. Rather action should be understood as arising from the collective endeavour of both human and non-human entities which, as such, should be analysed in the same terms. As Ruming (2009) notes, by treating the 'elite' as the effect of networked relations, the researcher can attend to the agency of the diverse range of other interested actors – with 'actors' referring to both human and non-human agents- scattered throughout the network. With reference to the study of economics and markets more specifically, it can be seen that this approach guides the researcher towards the recognition of the *'elite' market actor* as a constitutive part of a broader socio-technical *agencement*, comprising a diverse range of other actors, material and technical devices, texts, prostheses, algorithms, and so on, all of which have been carefully adjusted to one another (Callon, 2007; Hardie and MacKenzie, 2006; Çalışkan and Callon, 2010). It focuses the researcher's attention on the materiality of markets and on disruption of agency across 'technical' linkages, as well as 'social' ones (Hardie and Mackenzie, 2006).

Furthermore, this approach to the elite interview addresses a concern which is common among qualitative researchers more generally - the issue of participant subjectivity and the fact that 'elite' participants seem well placed to influence research outcomes. As was noted above, research participants are under no obligation to 'tell the truth' and in fact it seems quite probable that they may use the interview space as an opportunity to protect or pursue their own interests, put forth their own value-based judgments and present facts and statistics which support their narratives. While adopting a relational understanding of the 'elite' does not address the issue of participants subjectivity *per se*, the participant's subjectivity is only an 'issue' in the first instance if we as researchers maintain the idea that the 'elite' still represents a reliable representational conduit from reality to depiction - i.e. that they can objectively reveal the truthful nature of how things really are. Alternatively, if we treat research as a negotiated process and understand research outcomes to be the product of a process of assemblage, then what becomes of primary interest is the *'relational construction'* of the 'elite', together with elite's role in the assemblage of their composite actor-networks. We can anticipate that, as part of the research process, participants will attempt to 'translate the

network' in the manner they wish, and these attempts should not be regarded as a methodological issue pertaining to 'subjectivity' or 'bias', but rather treated as an area of analytical interests, for they are part of the broader process of constructing a network and assembling reality (Law, 2004).

4.7 Conclusion

In understanding research as a relational process and acknowledging the role of researchers in framing the research field and translating research finding, it is clear that they play an active role in shaping the realities they seek to describe. Given the time-limited nature of fieldwork, approaching the study of market socio-technical *agencemnets* as a network-tracing exercise entails identifying the point in a network at which we decide to draw the line, determining which relations to disclose and which to make absent. In this sense, all research is the translation of a situated and highly selective network created by the researcher (Ruming, 2009). I have illustrated in this chapter that the point at which the researcher draws this line is not purely a practical matter, but is also a personal judgment reflecting what they believe to be the most interesting or important 'stories to tell'. Therefore, it is important to think reflexively and acknowledge that the way in which the researcher frames the research field is informed by their own interests and sensibilities, and is mediated by their social position related to age, gender, nationality, academic and professional status.

However, it is also important to contextualise the role of the researcher and recognise the limits of their control relative to other actors in the network being studied. For the non-hierarchical conception of power implied by ANT means that the researcher's agency – like that of any actor – is relational. After all, the researcher's ability to *follow the actors* depends on actors' willingness to become incorporated as research participants into the actor-networks we wish to study. I found the process of entering the field and beginning research to be a steep learning curve and, as discussed above, frequently struggled to identify and gain access to research participants. In this chapter I have outlined the means through which I overcame the under-representation of certain groups in the research, and reflect further in Chapter 8 (section 8.2) about lessons learnt and how my experiences of conducting research in post-Soviet Ukraine may be used to inform similar studies in the future.

Chapter 5

Price realisation and differentiated exchange relationships in the context of Ukraine's Black Sea wheat market

5.1 Introduction

In this chapter, I explore the grounded processes of price realisation through which Ukrainian producers and traders negotiate the *actual price* of a commodity, developing a specific focus on the role of the world market price in shaping this process for various producers along the export-orientated market channel for wheat in Ukraine. During interviews conducted with representatives from domestic agrohholdings and international trading houses it became apparent that the 'world price' plays an important role as a prosthetic price¹³ in informing the actual price for wheat on the ground in Ukraine. On the one hand, interviewees frequently stressed that the price for wheat is 'world defined', implying that a producer or trader can easily agree a price with their counterparty: the price is simply the 'world price', minus a premium or discount for quality and quantity of the harvest, and minus the cost of transportation, depending on the delivery arrangement. On the other hand, however, accounts of the day-to-day practices of those actors involved in the production and exchange of wheat indicate that locating the actual price is a considerably more complex and negotiated process. Taking these accounts as the fulcrum of this analysis, I demonstrate in this chapter that the realisation of various price forms among the market channel are not the result of the world price trickling down from the global to domestic markets - purely the outcome of unmediated private sector forces - but rather they are a product of intervention on the part of political institutions, as well as of "every day market politics" (Çalışkan, 2007:255) - that is, the routine struggles that occur "between actors, each attempting to impose their mechanism for determining the value and quality of a good" (Bargawi and Newman, 2017:167). The main purpose of this chapter is twofold. Firstly, while it is a generally accepted fact of orthodox economics that one price is always used in determining another price, I hope - by exploring this process from the vantage point of price realisation - to illustrate the political dimensions of price discovery that are not visible in mainstream accounts. Secondly, this chapter introduces two key concepts that provide the foundation for arguments in Chapters 6 and 7, namely: (i) the scale of Ukraine's shadow

¹³ See chapter 4 for an explanation of the term prosthetic price.

economy for grains, and (ii) the extent to which the ability of SMPs to determine the price they receive for their goods is limited by their lack of access to external finance.

I begin this chapter by exploring the meso-level technical and material processes through which the world price for wheat travels between geographically distant but connected markets - that is, from international futures markets located in the US and Europe, to the farm gate in rural Ukraine. In doing so, I highlight how the relationship between the world price and domestic prices on the Ukrainian market is not a relationship between inherently *global* and *local* entities, but rather that all price forms produced and utilised in order to facilitate and regulate the exchange of agricultural commodities are intrinsically local. At the same time, I explore how political decision making in the US and EU regarding state support to domestic agriculture ultimately influences the ‘market price’ for wheat in Ukraine through the movement of prosthetic prices between different global locations, and in so doing call into question the idea that the ‘world price’ of wheat is simply an outcome of ‘private’ market forces.

Secondly, continuing with this meso-scale analysis, I move on to explore how it is that certain categories of agricultural producer achieve a high level of price transmission from global benchmarks – that is, how they negotiate a price which closely resembles the world price - while others receive an actual price far below the world price. Here I focus on the negotiated and materially grounded processes through which prosthetic prices and terms of trade (incoterms) are established and deployed during the exchange of wheat between producer and trader. I demonstrate that the discrepancies in market power that exist between different categories of producer are a function of uneven exchange relationships in terms of capital, knowledge and network. At the same time, I explore strategies deployed by small and medium sized producers in response to these asymmetrical mercantile platforms in an attempt to improve their terms of trade.

It was frequently highlighted during interviews that a strategy of some farmers in the face of unequal exchange relationships is to sell a proportion of their harvest unregistered through informal (or shadow) market channels. In the latter part of this chapter I conceptually interrogate Ukraine’s shadow wheat market¹⁴, arguing that the existence of multiple (‘right’ and ‘wrong’) market channels exemplifies how markets are constituted through the intersection of multiple modalities of valuation and exchange, whilst also illustrating the inherently political nature of markets in which different actors struggle to impose their judgement of what constitutes legitimate forms of market exchange and the correct terms on which a good should be ascribed “commodity status” (Ouma, 2015:31). Moreover, I suggest that the frequency with which a parcel of wheat may, in its life time as a commodity, transcend the boundary between formality and informality, makes it difficult to delineate any clear analytical boundary between the two.

¹⁴ I use the terms shadow economy, grey market and informal sector interchangeably

5.2 The export-orientated market channel for wheat in Ukraine

Ukrainian agriculture is characterised by a dual production structure, divided into small and medium sized producers on the one hand, and large corporate farms on the other (Keyzer et al., 2012). Ukrainian agroholdings and international trading houses both fall into the latter category.

The activities of domestic agroholdings - vertically integrated commercial enterprises with landbanks approximately between 10,000 and 500,000 ha - are heavily export-oriented. Taking advantage of better access to market resources, marketing channels, external capital and financing, favourable prices, state support, and influence on national agricultural policy, domestic agroholdings have successfully monopolised benefits from international trade in agricultural products, including the export of wheat (Borodina, 2013). While agroholdings are themselves major producers of grains, they also utilise their superior storage facilities by purchasing from smaller producers for a lower price and holding on to the produce until the price increases. While some agroholdings have constructed their own transshipment terminals allowing them to ship their grain overseas, most holding companies (including all of those I interviewed) tend to sell their produce at port to international trading houses or domestic trading companies which then export overseas.

International trading houses are the largest exporters of agricultural commodities in Ukraine, accounting for approximately one third of grain export: in 2012/13 twelve foreign companies accounted 33.7 per cent of total grain export (7.6 million from 22.7 million tons)(Centre for Transport Strategies, 2014). The largest of such companies include the so-called ABCD companies (US companies ADM, Bunge and Cargill, and Dutch firm Louis Dreyfus) as well as the British–Swiss company Glencore. These companies are major investors in grain handling infrastructure, and own a network of elevators and transshipment terminals. While their business models are largely based on purchasing grains from domestic producers, international trading houses also engage in the production of grains, forming vertically integrated production and export structures.

Small and medium sized producers – defined as farmers between 5 and 3000 hectares¹⁵ – account for approximately 46.3 per cent cultivated land in Ukraine¹⁶ and produce approximately 50 per cent of the nation’s grains (USAID, 2011). While small and medium sized producers are not classified as export-

¹⁵ As the OECD (2016:15) notes, “the segmentation of enterprises engaged in primary agricultural production is complicated because they do not easily conform to standard SME definitions. Variations across countries and regions, as well as differences in production structure at the farm level, mean there are no international standards for segmentation of agricultural enterprises by size”. A 1,500 SMP in Ukraine would, for example, be larger than all but the largest farms in Germany where a large farm is 200 hectares.

¹⁶ Approximately 25 per cent of land in Ukraine is controlled by agroholdings, leaving an additional 28.7 per cent of the total arable land controlled by non agro-holdings not otherwise classified as SMP’s, most likely farms between 3,000 and 10,000 hectares (USAID, 2011).

orientated, much of the grain they produce find its way onto the global market as farmers sell to export-orientated companies.

In addition to agroholdings, international trading houses and small/medium sized producers, there are several domestic traders – so-called middle men – operating along the market channel. I encountered two categories of trader during fieldwork. The first comprises those traders which operate by buying grains at the farm gate and arrange transport to port, selling on their produce at a profit. The second category comprises those traders which do not handle grains themselves but rather arrange with producers for them to be delivered to an agreed upon location. The producer arranges transport and enters into a forward contract with the trader, fixing the price. This second category of trader earns a profit by taking a position on the market – that is, by either going *long* or *short*¹⁷. For instance, they fix a price via a forward contract with the producer in August, hoping the price will increase by the time the contract expires in October.

5.3 Discovering the price of wheat

As outlined in chapter 2, at the onset of post-Soviet transition, the hopes of market reformists were “pinned on market liberalisation and the harnessing of the price mechanism as a means of increasing economic efficiency and welfare” (Brümmer et al., 2009:204), in a way that was prohibited within the centrally planned economies of Central and Eastern Europe. The purpose of economic reforms since the beginning of the transition period has been to create a policy environment in which: (i) the decisions of agricultural enterprises are determined by the price of the commodities they are producing and trading, and; (ii) prices are themselves determined by the anonymous, unmediated forces of supply and demand.

This requires that buyers and sellers are able to identify the price of an asset or commodity – a process referred to in the orthodox academic literature as price discovery. In a static, abstract sense, price discovery – more of an academic than industry term - refers to “the process through which markets attempt to reach equilibrium prices” (Yang and Leatham, 1999:359). However, in a dynamic, real-world sense, price discovery describes the material means through which information is produced and transmitted across markets – that is, between market participants. What is potentially misleading about the notion that prices are *discovered* is that - as theorists from the social studies of marketisation have demonstrated - prices cannot simply be understood as entities existing ‘out there’, but are “made, produced, and challenged by a multiplicity of actors in a market process” (Çalışkan, 2007:242). Moreover, what may get lost in the notion of price discovery is that market participants are not, by virtue of participating in the production and

¹⁷ To take a long position means to purchase an asset in advance through a forward contract in expectation that the price will rise and it can be sold on in the future for a profit. To take a short position means to sell an asset which you do not yet own. Traders do so in belief that the price of the asset will decrease in value. If the price drops, they can enter the market, buy at the lower price and make a profit.

exchange of a commodity or asset, automatically or inherently cognisant of what is happening on the market and therefore able to recognise the price of an asset or commodity. Rather, in order to perceive the market and realise the price of a physical commodity, market participants must be equipped with the requisite “tools, competencies, and resources” (Callon, 2008:43).

One such tool utilised by all commodity traders are market reports. During interviews with producers and commodity traders, it was apparent that they each follow a fairly standard daily routine of collecting information on the market, drawing on research conducted by a combination of Government and private information agencies on the domestic, regional and global outlook. Whilst market reports may differ in style and format, they each cover a set of key market indicators. For a domestic report, these indicators are: domestic stocks of wheat at the start of the season; latest production levels; consumption levels (including both domestic consumption and export figures), and; ending stocks, showing the carryover into next season. This information gives a picture of domestic supply, while the same indicators for the global market contribute to a more complete picture of how the market is likely to behave over the year. In terms of market demand information, reports from agencies such as the United States Department for Agriculture cover information including global stocks (because diminishing global stocks indicate that there will be greater demand for the latest harvest), forecasted feed use (i.e. what global animal production is forecasted to be) and future food and industrial use (which tends to be fairly constant, and in most cases can be predicted using a simple trend line)(Schnepf, 2006). In addition, crop production reports from countries around the world give an indication of global supply, and therefore whether demand for Ukrainian wheat exports is likely to increase or decrease.

In this way, market reports provide market participants with a means of interpreting how the market will behave in the near and longer term. They are an important tool in equipping producers and traders with the means to perceive current and future supply and demand of a given commodity. However, while they provide important insight into market trends, these reports do not typically attach a specific numerical value to a commodity. In this regard, *prosthetic prices* play a pivotal role in the process of ascribing a quantifiable value (i.e. the actual price) to a commodity. Çalışkan (2010:24) uses the term prosthetic prices to refer to those prices “produced in the market, but not directly deployed by either buyer or seller in the actual exchange of commodities”. They are used during the process of price realisation to inform the making of an ‘actual price’ – referring to the final amount of money a seller accepts from a buyer in exchange for the right to ownership over a commodity. In this way, the price of any transaction is always calculated on the basis of other prices, and “the process of using prices to calculate prices is a powerful mechanism for unifying markets, by the singular interdependencies that it creates between a multitude of local transactions carried out or envisaged at different times” (Çalışkan and Callon, 2010:17).

Here I focus on the use of the ‘world price’ as a market prosthesis in the calculation of both the export (or border) price and producer (or farm gate) price for wheat in Ukraine. During interviews with traders from both domestic agrohholdings and international trading houses, interviewees provided a fairly standardised answer when asked how it is that they identify the price at which to buy or sell wheat. Responses nearly always comprised of two components: firstly, reference to the fact the price of wheat is ‘world defined’, and; secondly, reference to the fact that the actual price that producers or traders receive for the commodity equates to the ‘world price’ minus the logistical costs of getting the wheat from the farm to the port. I will consider each of these two points in turn, starting with the idea that the price for wheat is ‘world defined’.

5.4 Localising the ‘world market price’

The notion of a ‘world price’ plays a key role in informing the price of wheat on the ground in Ukraine, as it is accepted as a reflection of global supply and demand. Yet, there is of course no single index anywhere in the world ascribed the official label of the ‘world price’ for wheat. Rather, when interviewees stated that prices are ‘world defined’, they were referring to the fact that the export price for wheat in Ukraine is closely correlated with international wheat futures, namely those futures prices listed on the US (Chicago Board of Trade) and European (Euronext exchange in Paris, also sometimes referred to by its former French acronym, MATIF) exchanges. In this regard, future market prices are an important source of market information. Price discovery is one of the central economic functions of modern agricultural futures markets and prices quoted on the CBOT and Euronext exchange function as global reference (or benchmark) prices, guiding the price of wheat for the entire world, including Ukraine (Janzen and Adjemian, 2016). The prices listed CBOT and Euronext exchange are taken as the world price as these are the most liquid exchanges with frequent transactions occurring between a large number of buyers and sellers. This market liquidity is thought to provide more efficient and timely price discovery, reflecting both domestic and international market conditions (Janzen and Adjemian, 2016).

During interviews with representatives from both domestic agrohholdings and international trading houses, interviewees frequently mentioned that monitoring the prices quoted on both the CBOT and Euronext exchange constitutes a central part of their daily task of trying to perceive what is going to happen on the market. As the chief executive officer from one Ukrainian holding company explained:

Of course, every day we monitor what is going on in CBOT. If you’re asking about wheat, then we should explain that wheat is a little bit different in that it is not connected with the US price, but wheat is also very connected with the corn price. Meat producers can substitute corn for wheat and visa versa, so corn is more connected to the US, and wheat is

more connected to the French market, but still we monitor these quotes every day and at the same time we monitor our budget, and if the price meets or exceeds the price we need to balance our budget then we will sell (Kateryna, Chief Executive Officer, Holding Company *AgroRegion*, November 2016).

As the term benchmark (or reference) price suggests, ‘the world price’ - i.e. the prices quoted on foreign exchanges in the US and Europe - does not equate to the price that wheat is actually exchanged for on the Ukraine market, but serves as a reference for producers and traders to track market developments, and informs the agreement of a price between buyer and seller in the concluding of spot or forward contracts¹⁸. In this way, futures contract prices function as a form of prosthetic price and guide the process by which Ukrainian producers marketing their goods on the local cash (or spot) market, identify the export price and evaluate price offers. However – as I explore below - while the price for all market participants is informed by the world price, the ability to actually utilise the world price as a prosthetic device in the process of realising the actual price of wheat varies between categories of producers.

As Berg et al. (2014:33) note, the export price for wheat in Ukraine “is increasingly quoted as a basis to the NYSE Euronext milling wheat futures”. This refers to the relationship between the prices quoted on the Euronext exchange in Paris and the prices on the cash market in Ukraine (known as the spot price). *Basis* refers to the difference between the local spot price of a commodity and the price of a specific futures contract of the same commodity at any given time. The formula for calculating basis is: local cash price - futures price = basis. Because basis reflects local market conditions, it is directly influenced by a number of factors including: domestic supply and demand conditions; the supply and demand of other commodities that compete for either the same land in production or the same dollar of consumer expenditure; transportation costs; available storage space; handling costs and profit margins. Each of these factors create variations between the Ukrainian spot market price and the futures market price. The ability of the seller to evaluate whether a cash price offer or forward contract is competitive is greatly enhanced by what is known as basis history i.e. the historical relationship between the export price for wheat in Ukraine and price of milling wheat futures contract on the Euronext exchange. By charting daily or weekly basis over a number of years and calculating the average for a specific time of year, producers can use the above formula to identify an ‘acceptable’ price for any point in time. This is because, even though the cash and futures price

¹⁸ A spot contract entails the purchase or sale of an asset - commodity, security or currency - for immediate delivery (usually two business days) at the current market price. A forward contract is a customised contract between two parties to buy or sell an asset at a specified price on a future date, with the possibility of agreeing a price in advance of sale/purchase (i.e. agree on the date the contract is signed the price to be paid four months in the future). A benchmark (or reference) price is a price “recognized by parties as fair for their bilateral transactions” (Valiante, 2013:21).

fluctuate over the course of a market year, if the relationship between the two is calculated over a number of years, a historical pattern emerges owing to the cyclical nature of markets. Moreover, while both cash and futures prices may fluctuate considerably year-on-year, or within the course of a market year, basis tends to be fairly steady by comparison.

In this way, futures contract prices function as a form of prosthetic price, and guide the process by which Ukrainian producers marketing their goods on the local cash (or spot) market identify the export price and evaluate price offers. Basis history – the gap between cash and futures price calculated as an average over a number of years - serves an important market device, allowing market participants to perceive the market and realise an actual price. In using basis to evaluate price offers, export companies operating at the Ukrainian border could be viewed as the loci of the global-local links along which the world price diffuses from the global market to the farm gate. As is explained in a publication from the Chicago Board of Trade, "the futures market price represents the world price for grain", and basis - given its use in formulating the price at *the local level* – is often thought of as "localizing" the futures price (Chicago Board of Trade, 2004). Certainly, there is a strongly geographical component to basis, creating as it does a bridge between distant markets, enabling prosthetic prices to travel across distance. Yet, as explored above, the world price - i.e. the futures market price – is already localised, prior to its use as an input in the calculation of basis. For instance, although they are deemed to be ‘global’ benchmarks, the prices quoted on the CBOT or Euronext exchange refer to futures contracts which specify delivery at a specific geographical location, namely the Midwest growing region of the US and the city of Rouen, France. Moreover, while prices quoted on these exchanges reflect international market conditions, they also reflect conditions specific to the domestic market in which they are located. In this sense, global benchmarks are as much a reflection of what is happening on these domestic markets as they are on the global market. This is reinforced by the fact that the US and EU are price leaders in international agricultural commodities markets¹⁹.

As such, the ‘world market price’ can be understood as a derivation of distinctly local market processes, and the use of futures market prices in the process of calculating the export price of wheat in Ukraine can be viewed less as a process of localising a ‘world price’, and more as the movement of one form of prosthetic price between the localities in which it is produced and the localities in which it is deployed

¹⁹ Agricultural commodity markets deviate from the mainstream economic abstract model of perfect competition. Under perfect competition, each country involved in the production and export of a commodity would do so on the same or similar scale, meaning that the price of that commodity could not be determined by what is happening on the domestic market of one of those countries alone. This would mean, for instance, that government-funded agricultural support policies or adverse weather conditions in any one country could not influence the world price of a commodity. This is not the case for agricultural commodities markets, since a limited number of countries control such a large portion of export markets that they presume the role of industry ‘price leaders’ and play a disproportionate role in determining the world market price (Wise, 2004).

in a process of price realisation. This represents a departure from the geographical imaginary of mainstream economic literature which remains somewhat wedded to a notion of scale in which space is regarded as vertically differentiated and “anchored to the endpoints of the local and the global” (Jones et al., 2007:265).

This in turn raises a further question regarding the extent to which the export price for wheat in Ukraine can be understood as a derivation of unmediated market forces. For if futures prices are a reflection of domestic as well as international market factors, then they must be understood as being shaped in part by the agricultural policies of the countries or regions in which the futures exchanges are located. Government policies are typically treated in mainstream economics as exogenous factors in the formation of a market price, separate from endogenous factors such total production, stocks-to-use ratio's, demand factors relating to consumer income, expected food consumption, proximity and accessibility to delivery points, the quality of the commodity, its inherent storability, the possibility of it being substituted for an alternative (Valiante, 2013). However, state intervention has a significant bearing on agricultural commodity markets in the US and EU, determining the production structure (i.e. the types of farms that can function profitably in a globally integrated marketplace) and the price at which producers sell commodities. That is, in terms of: (i) direct price support measures; (ii) influencing the level of production and therefore total supply, and; (iii) enabling producers to sell at a competitively low price and remain profitable enterprises. Production prices in the US and EU are driven by large programmes of state support, including direct farm subsidies, price supports and other market controls, deemed necessary by the US and European governments to support their domestic agricultural sectors. In the EU for example, the price at which European farmers are able to sell wheat and still remain economically viable is determined by an extensive programme of state support in the form of the Common Agricultural Policy (CAP). The CAP is the biggest item in the EU budget, although its relative weight has gradually decreased over time from over 60 per cent at its inception to 32 per cent of the EU budget in 2013 (Valiante, 2013)²⁰.

The global reference price for wheat cannot therefore be understood simply as the outcome of the interplay between market forces, but is also an outcome of extensive programmes of state support for agriculture. Moreover, we can see how, through the use of futures market prices as global benchmarks to calculate basis in geographically distant but interconnected markets, these factors become intrinsic to the realisation of the export price for wheat in Ukraine.

5.5 From global market to farm gate

The meso-scale analysis of price realisation outlined above raises an important question, namely: if the relationship between the world price and spot price does not represent that between inherently global and

²⁰ The total cost (including research and rural areas development) amounts to USD 120 billion, of which USD 103 billion (EUR 74 billion) are direct payments to producers. (Valiante, 2013).

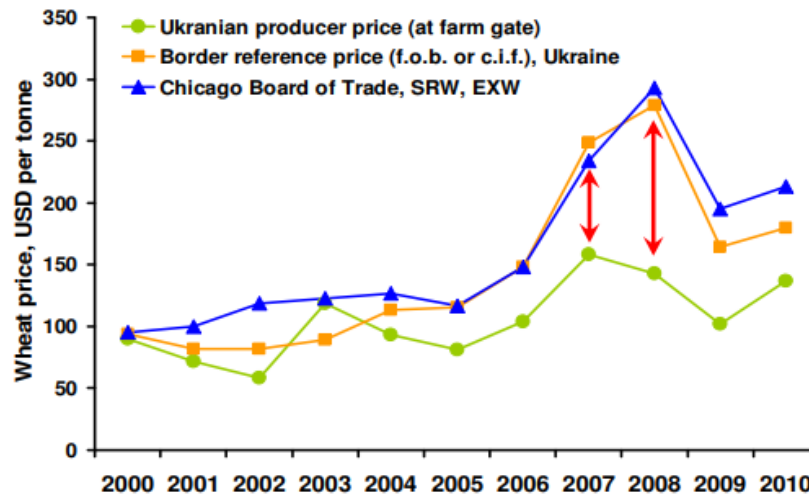
local entities, how then is it that two wheat producers can be situated within close geographical proximity to one another in the same region of Ukraine, and yet one may appear to be located ‘closer’ to the world market price than the other? In answering this question, it is useful to consider in more detail the relationship between the world price, domestic export price and produce price for wheat, and how these different price forms are realised and utilised by different market actors along the export-orientated market channel taking wheat from farm to port. As I now turn to explore, while the global reference price is used as an input in calculating the export price for wheat in Ukraine, many agricultural producers are unable to deploy the ‘world price’ directly as they negotiate an actual price.

In the same way that there is no such index as the ‘world market price’, the ‘export price’ (also referred to as ‘border price’) for wheat is also conceptual short hand used in economic literature for the Freight on Board, or FOB, price. FOB is an international commercial term, or *incoterm*. Incoterms are a standardised and predefined set of commercial indices used to define the transport component of an international commercial transaction and the share of costs and risks between buyer and seller. In this regard, they play an important role in formatting relationships between actors in an export-orientated market channel and reduce the opportunities for disagreement through the provision of a consistent framework of the expected transport services to be provided, and the legally enforceable responsibilities of each counterparty. FOB specifies that the seller is to transport and load the goods on board a vessel designated by the buyer, typically a containerised cargo. The buyer provides details of the vessel and the port where the goods are to be loaded, and it is incumbent on the seller to clear the goods for export. The cost and associated risks of delivering the goods to port fall upon the seller, and from there the buyer is responsible for shipping and all other fees associated with getting the goods to their destination country. When selling on FOB terms, the seller receives the export price.

As discussed in section 5.4, the export price for wheat is increasingly quoted as a basis to the NYSE Euronext milling wheat futures (Berg, et al., 2014:33). As Acs et al. (2013) illustrate, the domestic export price in Ukraine is closely correlated with the international wheat price, tracking the world price minus freight costs and other charges associated with shipping wheat to the destination country (see figure 1). However, this close correlation is not mirrored between domestic export prices and domestic producer prices at the farm gate. Rather, as figure 1 shows, there exists a sizable margin and considerable fluctuations in farm gate price in relation to the Ukraine export price and world market price (CBOT)²¹.

²¹ The margin widening between the producer price and export price in 2006 and 2008 has been attributed largely to quantitative restrictions by quotas on wheat export in imposed in Ukraine for those years (Kobuta et al, 2012:35).

Figure 1 Comparison of Ukrainian wheat producer price, border price and world price (price on Chicago Board of Trade, US).



Source: Kobuta (2012)

Therefore, in order to receive a price that parallels the world market price, producers must sell their goods on FOB terms. In doing so, they are responsible for covering the cost of transportation to port but avoid the steep sales discounts associated with selling to either middle-men or international trading houses at the farm gate. The alternative is to sell ‘at the farm gate’ (which may also include delivery to a nearby silo) on Ex Works terms, or EXW. Under these terms, the buyer oversees all the transport costs and responsibilities, with the only obligation of the seller being to ensure the goods are available at an agreed-upon time and premises. The term producer price refers to commodities sold on EXW terms.

A producer’s ability to sell wheat on FOB terms varies considerably depending on farm size and organisational structure, as was explained during an interview with the manager of one medium sized farm (just under 10,000 hectares):

When we need to sell wheat, 10,000 tons for instance, we start to put feelers out, and we get prices from various traders. And equally importantly, we get terms and conditions of the trade, logistics etc.

FOB?

No, normally ex farm [EXW]. There are different scales of operations in Ukraine. We sell to local traders who are bulking up and selling on to bigger exporters. They take a slice of value on each ton. Their price is based on what they do: getting from the farm, getting to the port, selling

on the ABCDs²² of this world. And then the price filters back. The price that we get is the FOB price, minus the cost of transport to port, minus a slice the trader takes for their efforts. This is something I had to explain to our investors when they asked why we were not selling grain for the FOB price. We are 600 kilometers from port, and somebody has to get the produce there. So that is why we sell it for less, because when we did the sums, taking into account transport costs and distance from port, and it all added up.

Some of the bigger producers can cut out the middle man and sell directly to exporters, and then they would get a better price. But we are not producing the quantity of wheat needed to sell directly at the port. Also, we were not traders and don't have the capacity to deal with the trading side of it. We are just farmers. And the margins on grain are raiser thin. That's why scale and the capacity to lose money is so high. As farmers, we want to grow and sell for 5 to 10 per cent margin and do that consistently. All the organisational work that needs to be done to sell directly to producers, plus sorting transport, starts to eat into the money you thought you might make, and it is very time consuming (Mike, farm manager and founder of agricultural consulting agency Agronomy Ukraine, February 2017).

As this interview extract illustrates, the scale of a farmer's operations influences their ability to sell on FOB terms, in that some farmer's do not produce on a large enough scale to meet the minimum quantity requirements of export companies concerned with ensuring they fill their vessel. Moreover, the interviewee's remark that 'we are just farmers' highlights that the trading of wheat requires both additional time and expertise to those invested in the actual growing and harvesting of agricultural commodities, which small and medium scale producers may not possess, depending on their organisational structure. A similar

²² The acronym ABCD refers to the world's four big commodity traders: Archer Daniels Midland (ADM), Bunge, Cargill and Louis Dreyfus. These companies are dominant traders of grain globally and central to the modern agri-food system. share a significant presence in a range of basic commodities, controlling, for example, as much as 90 per cent of the global grain trade (Murphy et al, 2013). other trading companies like Wilmar and Glencore have also established a major global presence. The companies are responsible for the majority of agricultural commodities exports from Ukraine. These companies are major investors in grain handling infrastructure in Ukraine and own a network of elevators and transshipment terminals.

point was raised during an interview with a market analyst from one of Ukraine's main agricultural consulting agencies UkrAgroConsult:

ABCD companies and the like, are very serious about the strict fulfilment of all contract conditions. To cooperate with these export companies is quite another level of management. It is quite another level of logistics. For some smaller companies it is not a problem, but for others it is difficult (Sergey, Owner and Founder of UkrAgroConsult Information and Consulting Agency December 2016).

There are numerous elements of contract fulfilment that require additional time and organisational capacity, including ensuring that the wheat meets quality and quantity requirements, and that goods are delivered on the date specified in the contract. One area of contract fulfilment that frequently becomes an issue for certain producers concerns the “documentary route of circulation” (Çalışkan, 2010:71). As theorists from the social studies of markets and marketisation have illustrated, the exchange of any commodity is reproduced in the circulation of various forms of documentation and certification, which concurrently formalises relationships between market actors and provides buyers and sellers with instruments to make possible the actual exchange of commodities (Çalışkan, 2010). The requisite certification to trade wheat in Ukraine concerns in part the physical dimensions of the commodity being traded. To be able to export grain from Ukraine, traders must be able to provide several certificates of this nature, including a phytosanitary certificate from the State Veterinary and Phytosanitary Service of Ukraine, regulated by the Law #3348-XII “On the Plant Quarantine”. Certification regarding the use of pesticides and other agri-chemicals is regulated by the Law of Ukraine # 180-XIV of 14.10.1998 “On Plant Protection”, while grain to be used as fodder requires a veterinary certificate according to the of Law of Ukraine #2498-XII “On Veterinary Medicine”, which should be issued no earlier than 72 hours before the loading of goods for export (Kulyk et al., 2014). In addition, transactions involving the movement of grains domestically from regions where there is a declared presence of certain types of pests require a quarantine certificate (also issued by the State Veterinary and Phytosanitary Service).

Alongside certification verifying certain physical characteristics of wheat and the substances used in its production, additional documentation is required detailing the means by which a given parcel of wheat has been exchanged between potentially multiple buyers and sellers throughout the duration of its life as a commodity. For instance, in order to receive VAT refunds on grains sold outside of Ukraine, exporters must provide documentation proving that not only did they purchase that grain officially, but that every transaction between each of the counterparties involved in moving it from the farm gate to port was also done officially. Interviewees frequently referred colloquially to official transactions as ‘going through the

bank' - as opposed to cash-based-transactions - meaning that the sale/purchase is recorded officially and thus traceable for the tax office. For a single vessel of wheat containing 100,000 tonnes, exporters may purchase several parcels from various traders. Each of these traders may have, in turn, bought multiple parcels from other farmers, silos or other middlemen. If the exporter does not possess the correct documentation for any single transaction at any stage along the market channel, or if it transpires that these documents have at some point been fraudulently altered, the exporter not only stands to lose reputational capital, but also faces a sizable fine from the Government and risks encountering additional charges due to delayed shipment of goods. For this reason, exporters typically have designated legal departments to scrutinise the third parties from which they procure commodities and ensure that all the requisite documentation is in place. This level of scrutiny means that many producers do not meet the standards required to work directly with export companies, given their propensity for selling at least a proportion of their harvest unregistered for cash. To give an indication of the scale of this phenomenon, the American Chamber of Commerce estimates that shadow transactions of this nature constitute approximately 40 per cent of all market transactions for grain, oil and other crops (National Investment Council of Ukraine, 2018).

There appears to be a combination of factors that influence certain producers to sell at least a proportion of their harvest unregistered, despite the prices on the grey market being notably lower than those offered on the formal market. Perhaps the most significant factor is that with official transactions the producer may have to wait several weeks before they receive payment for their goods. This is a problem for many producers as their chronic shortage of working capital means that they require much of the profit they make from any sales to be immediately reinvested to fund their operations. As I explore in Chapter 6, a lack of access to working capital finance has been identified by all major international financial and development institutions operating in Ukraine as one of the major constraints on the development of the agricultural sector and a central factor preventing SMPs from negotiating prices that more closely resemble global benchmarks. Shadow transactions, on the other hand, mean that the farmer receives cash in hand the same day, avoiding the delay in payment associated with going through the bank. In addition, when a producer sells for cash, they receive payment in foreign currency (typically US dollars) as opposed to in the notoriously unstable Ukrainian hryvna. They can then store foreign proceeds in cash, reinvesting when needed. This is particularly advantageous if they are purchasing agricultural inputs in foreign currency:

Immediately after the farmer gets his money, he tries to spend to spend it. He is afraid of more devaluation, and that prices delineated in hryvnia will be even more costly than before. 100 dollars is roughly 2700 hryvnia, and could be 3000, 3500 in a couple of months. (Sergey, Owner and Founder of UkrAgroConsult Information and Consulting Agency December 2016).

Furthermore, observers also report a common belief amongst producers that it is prudent to keep a certain amount of one's operations 'off the books', creating a reserve of unaudited cash to fund overheads (i.e. bribes etc.) which the farmer does not wish to appear on the official accounts (Stelmach, 2018). A farmer may also be influenced to sell their grain unregistered for cash if, as is the case with many farmer's in Ukraine, they do not declare 100 per cent of the land they operate²³. Given that arable farmers are taxed based on the area of land they operate, farmers with undeclared plots may not wish to draw attention to sales figures which do not correspond to the acreage of land they have declared on record. Significantly, the existence of the grey market for agricultural commodities does not appear to simply be a symptom of farmers' inclination towards informality, but reflects the challenge that small and medium scale producers face in operating profitably, as was explained to me by an analyst from the agricultural consulting agency UkrAgroConsult:

If banks offered loan conditions that were expectable, small size farmers would be encouraged to make contracts with the banks, and to receive money from the banks. As bank loans are unsustainable for small and medium sized farmers, they select other ways to survive. This is not because they are inherently corrupt. And I do not believe the argument that, 'oh, you know our farmers'... they have inherent tendencies towards informality due to the historical legacy USSR and the chaos after its collapse'. The small-scale farmers make rational decisions to balance their books (Sergey, Owner and Founder of UkrAgroConsult Information and Consulting Agency December 2016).

For the reasons listed above, working directly with export companies and selling wheat on FOB terms is simply not a possibility for many small and medium size producers, who therefore sell their produce at the farm gate. The actual price they receive for the wheat they sell equates to the 'world price' minus the logistical costs of getting wheat from farm to port, minus the sales discount of selling to a middle man. Acs et al. (2013) report that, in 2010 for instance, the farm gate prices of grain ranged between 105-109 €/ton, while the export price of Ukrainian wheat (FOB prices at Black Sea ports) rose to 200 EUR/ton. This suggests that margins of up almost 100 per cent of the farm gate price (inclusive of transport and handling costs) could have been earned by producers had they sold on FOB terms.

²³ The chaotic nature of land reform following the dissolution of the Soviet Union has created a situation where significant areas of agricultural land are not reflected in the land registry. Some reports indicate that in 2017, for example, approximately only 40 per cent of agricultural land, or 53 per cent of arable land, was officially registered (Stelmach, 2018).

The variation between the producer price and export (or border) price is due in part to the grain export logistics chain, namely the transaction costs (including transportation and certification costs) that influence the formation of producer prices in Ukraine. The significance of transport costs means that geography (in terms of metric distance) is an important factor in determining the price that producers receive for their produce in relation to the world market price. As a report from the FAO explains, “a farmer’s location in relation to the main domestic and international markets, and the proximity of the crop to the grain handling infrastructure and ports also significantly influence the level of the farm-gate wheat prices and revenue” (FAO, 2009:11). Farmers in remote areas typically receive lower prices than farmers located close to ports, especially when situations where farmers compete in the same export market. For instance, for both Ukrainian and Kazakhstani farmers, by far the most common means of accessing international markets is via the Black Sea. Relative proximity to Black Sea ports meant that in December 2009, for instance, farmers in Ukraine received USD 145/ton of wheat while farmers in Kazakhstan with no direct access to the Black Sea received approximately USD 110/ton for similar or better-quality wheat in the same month (FAO, 2009). Given that more than 91 per cent of grain exported from Ukraine goes through seaports (Ministry of Infrastructure of Ukraine, 2015), the distance between a Ukrainian farmer and international markets can be understood in terms of the farmer’s proximity to the seaports located along the country’s Black Sea coast line, meaning that producer prices are typically higher for those farmers located closer to the coast.

In addition to metric distance from port, spatial (i.e. location-based) price differentials are also influenced by local supply and demand factors, regional weather conditions which may create variations in quality and quantity of harvest, and the number of grain silos and storage facilities in the area. However, distance from port and regional price variations alone do not account for the discrepancy between the export price for wheat and the average farm-gate price across Ukraine. As a number of studies have illustrated (Borodina, 2013; Berg et al., 2014), this gap is also due in part to the discrepancies between the sales prices of agricultural goods by types of producers, with larger vertically integrated holding companies enjoying a substantially higher level of global price transmission than small and medium sized producers. There are several reasons for this, one of which is a discrepancy in access to storage facilities. Large vertically-integrated agro-holdings typically have their own adjusted networks for storing products which form an integral part of their closed value chain system (Borodina, 2013). By contrast, only a minority of small and medium sized producers have facilities for storing wheat, meaning they are forced to sell their harvest on the spot market instead of holding out for more favourable prices in the future. This issue is compounded by the rudimentary state of agricultural lending in Ukraine and the lack of financial instruments available to farmers. Where banks are willing to lend to small and medium producers, they do so at unsustainable interest rates well above the rates charged to other enterprises. The resulting lack of access to working

capital finance means that even if adequate storage facilities were available, producers would still be in the position of needing to sell their produce for lower prices straight after harvest in order to finance the next round of operations. Large corporate farms on the other hand - many of which are registered on international stock exchanges on the other hand - benefit from access to international capital markets and are able to attract investment in the form of risk-bearing capital (Keyzer et al., 2012).

Moreover, as large corporate farms become increasingly vertically integrated, they benefit from the increased efficiency of operating within a closed value chain (i.e. production, storage, processing and trading companies all operating as separate enterprises under the same holding company). Small and medium scale producers, by contrast, face high transportation costs and steep intermediary margins associated with selling to middle men. Acs et al. (2013) report that it costs approximately 20-25 per cent of the producer price to move grain from farm gate to port. This cost includes inland elevator handling fees, railroad tariffs, track transportation, certification, and the freight forwarder's margin. Grain producers in Ukraine are paid slightly more than 60 per cent of the world market price at the farm gate, compared with almost 90 per cent in France and other exporting countries with more efficient infrastructure and marketing systems (Acs et al. 2013). Thus, at the current market price of roughly 300 USD/ton, producers in Ukraine receive 85 USD/ton less than their competitors in other exporting countries. The world practice is that grain producers should receive at least 80 per cent of the FOB price, thus chain cost from elevator to ship and the profit margin should not be higher than 20 per cent of the FOB price (Acs et al., 2013.).

In addition, there also exist discrepancies by types of producers in access to market information. As the FAO (2010:26) explain, "good market information, especially on prices and crop forecasting, is essential for adequate decision-making on the part of the government, farmers, financial institutions and processors". However, opaque price formation as a result of information asymmetries continues to depress farmgate prices for small-scale producers which do not have access to either government or private sector statistics and analysis on crop perspectives, supply, demand and stocks-to-use ratios (FAO, 2010). Access to market information is not simply a matter of purchasing power, but also of "technologies of networking" (Çalışkan, 2010:78). Due to their remote location in the Ukrainian countryside, small and medium scale producers have little option but to accept the price quoted to them by regional traders. By contrast, large corporate agroholdings, domestic traders and international trading houses are able to run their operations from the financial and business centre of Kiev, enabling them to integrate into a tight network of 'key market actors', removing much of the anonymity associated with mercantile exchanges. Whilst conducting fieldwork in Ukraine, I had the opportunity to observe a meeting organised by the Ukrainian agroholding AgroGeneration. This meeting - referred to as *Hedge Club* - was held in the company's offices and brought together a select number of employees from the major domestic agroholdings, domestic traders and international trading houses. Also present were analysts from the various private sector market agencies

working in Ukraine. These meetings are held on a weekly basis, and operate on an invitation only basis. Whilst the majority of the meeting I attended was taken up by presentations given by special guests on topical issues relating to agriculture in Ukraine and around the World, I was informed by several attendees that the major benefit in attending such meetings are the opportunities to network and talk informally with business partners and other market participants at the beginning and end of each meeting. This was explained during an interview with a trader for on domestic agroholding:

There is a relatively small community of traders and producers in Ukraine. We have a small number of trading companies which we are working with most of the time. The fact that we can meet in one room and talk openly about the market is vital to how we do business.

Why?

[Traders] might come to me and ask ‘what does the crop look like this week?’ ‘Has the hot weather really had as much of an impact as is being suggested by the market analysts?’ And I will tell them the situation as I see it, which helps them know what position to take on the market, whether to go long or short. At the same time, they will tell me about the positions they are taking and this helps us plan our strategy (Yuriy, Head of Exports, agroholding Myronivsky Hliboprodukt, June 2017).

It is these relationships between a relatively small group of market participants at the export-end of the market channel that means larger producers and traders are able to effectively deploy their superior financial and fixed capital assets in order to secure higher prices and larger margins.

Here we see how it is that the exchange of wheat along the market channel from farm gate to world market takes place within differentiated exchange relationships (Çalışkan and Adaman, 2010), with asymmetrical trade relationships in terms of capital, knowledge and network meaning that certain producers are able to obtain a price close to the world price for wheat, while others appear destined to play the role of *local actors*. While the global price for wheat provides the basis for the price that producers receive, it is not utilised as a market prosthesis by the majority of producers in the process of price realisation. In this regard, as many interviewees emphasised, small and medium sized producers must accept the price that is quoted to them, with little to no scope to influence the price they receive. This is reflected in the steep discounts in farm gate relative to export prices.

5.6 Farmer's willingness to sell

As highlighted above, market reports are an important source of information on what is happening in terms of supply conditions in the domestic market. However, what became clear during fieldwork was that the supply of wheat on the domestic market is not simply a function of production (i.e. total harvest plus ending stocks), but is also a matter of representation and routine market politics²⁴. Efforts on the part of traders, governments or private agencies to calculate total supply based on production are a matter of approximation up until the point that the harvest begins to 'appear on the market', with discrepancies often occurring between the reported yield and/or quality of the harvest and the quantity and/or quality of the wheat which farmers indicate is available. As one representative from Bunge explained to me, international trading houses build their sales programmes – that is, they agree forward contracts with buyers in destination counties - before the harvesting season begins: “this means that you sell the good before you know what the overall quality of the crop really will be”²⁵, relying on estimations. In the case of international trading houses, these estimations are done *in house*, while other forms of traders rely on private agencies. As the interviewee explained, “if you look at [the farmer selling curve] for wheat it has a very pronounced post-harvest hook, meaning that about one half of the crop is sold right after it has been harvested”²⁶. The primary reason for this that is limited storage capacity, and the outcome is greater supply and hence depressed prices straight after harvest (from June to July). If estimates indicate - as is typically the case in Ukraine - that the harvest will comprise a higher quantity of feed wheat relative to milling wheat, then traders agree forward contracts in the pre-harvest period to sell lower grade feed wheat on the assumption that this is what is going to flood onto the market to constitute the majority of the pronounced post-harvest hook in sales figures²⁷. However, as the representative from Bunge explained, production estimates do not always match the information given by producers themselves:

Traders build their programmes before the harvest really comes onto the market [...] We sell to our destination countries, with delivery in, let's say, October or September. But when the harvest comes, you might be disappointed in the quality that you have available, because you need feed wheat and there is only milling wheat coming, and you think 'what am I going to do with that?' As it happens, Ukraine produces mainly feed

²⁴ A similar observation has been made by Çalişkan (2007).

²⁵ Sergii, Agricultural Researcher, Bunge, interview conducted December 2016.

²⁶ Sergii, Agricultural Researcher, Bunge, interview conducted December 2016.

²⁷ Ukraine producers a higher quantity of feed wheat relative to milling wheat, meaning that trader typically anticipate lower grade feed wheat to come on the market first, followed by milling wheat later in the year.

wheat, not so much milling wheat. But it might happen that farmers are telling you they only have feed wheat.

What can you do in this situation?

Firstly, there is a price reaction. In this situation as I just described, the spread between feed wheat and milling wheat starts to shrink, and it can be really low in the end. And then at this point farmers might come onto the market at say, “hey, as it happens I do have some feed wheat available” [...] I think it is becoming more obvious that farmers do have some common mind... holding back the on milling wheat converges the price of milling and feed wheat. The price of feed wheat increases... and the farmer can get a better price (Sergii, Agricultural Researcher, Bunge, December 2016).

In this way, supply is as much a function of producers’ willingness to sell and/or ability to withhold the sale of a commodity as it is a function of total production²⁸.

Interviews with other traders revealed that, in order to withhold the sale of goods in favour of better prices, farmers will on occasion renege on an agreement to sell. As mentioned above, there exists a category of traders (or middle men) which do not deal with the logistical component of transporting wheat from farm gate to port, but instead buy from small and medium scale producers on CPT (Carriage Paid To) terms²⁹ – meaning that it is the farmer that organises delivery to the port. The trader earns a margin by buying from several farmers, scaling up and selling on to an exporting company on CBOT terms. While around 90 per cent of small holders’ sales (40 hectares or less) - which contribute to roughly half of Ukraine’s production - are spot (Berg et al., 2014), there are a proportion of small and medium sized farmers that agree forward contracts in advance, providing an opportunity for traders to make profits if they are willing to deal with the higher risk of default compared to larger agroholdings. As one trader explained:

We deal with ‘farmer risk’. For instance, let’s say we decide to take a position on the market and we choose to go long³⁰, and buy wheat today at 150 dollars per metric ton CPT. If we made the correct decision, then in

²⁸ Of course, a producer’s ability to withhold the sale of a commodity is dependent on the storage facilities available and, as outlined above, these are minimal for the majority of small and medium-sized producers

²⁹ CPT terms mean that the seller is responsible for transporting goods to the names place, covering the cost and assuming the responsibility of doing so.

³⁰ That is, the trader as purchased an asset in advance and is hoping for the price to rise as to be able to sell it in the future.

two months' time the price may have gone up to 165 dollars per metric ton. The smaller farmers that we buy from do not have access to the same market information that we have, so they are happy to sign a forward contract now, not knowing – as we do – that the price is likely to rise much above 150 dollars. However, once the time to close the contract approaches, farmers are aware of the price currently being offered on the market, and if it is much above what we agreed, they are not going to be very content with our agreement.

You have a contract though?

There are ways out of that for the farmer. One way out are so-called technical problems. For instance, with our business model we do not touch the physical commodity being traded and we do not have access to silos, we don't deal with them. We leave the farmer to get their produce graded and certified. So we cannot respond when a farmer contacts us and tells us that either the harvest was not of the quality that we require, or that there was an issue with the silo and the quality has worsened in storage. We don't have the relationships with silo companies that allows us to challenge the farmer. Another strategy if the farmer does not want to sell is for them to say that they cannot access rail cars to get the produce to port. Rail car availability is an issue in Ukraine, so this could be realistic. However, when the price is falling below what we originally agreed with the farmer, they seem to always be able to find access to rail cars, and the technical quality issues aren't reported by the farmer when he is keen to get the price we agreed originally, instead of face the falling prices on the market at that time (Victor, Trading Manager, Vitex Commodities, December 2016).

Despite what is described by the interviewee as 'farmer risk', these traders maintain their business model on the basis that, overall, they can earn greater margins trading with small and medium sized producers compared with larger holding companies. Interviewees expressed an acceptance of the pros and cons of this business model, referring to efforts of farmers to negotiate a higher price as *normal market tactics*. In this sense, matters of routine struggles between market participants are subsumed and legitimised within the notion of the market which serves as a useful abstraction. At the same time, we can see that despite

asymmetrical mercantile platforms in terms of capital, knowledge and network, small and medium scale producers are able to engage certain tactics in an attempt to realise a higher price.

5.7 Exchanging goods the ‘wrong’ way

One further tactic producers deploy in the face of unequal exchange relationships is to go through informal sales channels rather than ‘going through the bank’. A review of existing grey literature – including trade guides and price reports – highlights various diagrammatic accounts of the market channel for wheat from farm gate to export market, expressed for example in the form of a value chain (see figure 2). However, these single-track depictions provide only a partial framing of the multiple means through which wheat travels from the farm gate to export. It is estimated that shadow transactions constitute approximately 40 per cent of all market transactions with grain, oil and other crops (National Investment Council of Ukraine, 2018), much of which is eventually exported – between 30 and 40 per cent of grain according to some estimates (Kreston, 2018).

Figure 2. Wheat value chain from field to port, USD/MT, as printed in a trade guide produced by the consulting firm UkrAgroConsult

wheat							
Producer's price	Truck tariff	Silo's services			Average rail tariff to port, incl all certificates	Average trader's margin	Fobbing costs
		Drying, Cleaning	1 month storage	Loading to rail			
185	2	3.5					
EXW price		190.5	2.2	4.5			
FCA price				197.2	15		
CPT port price					212.2	5	
CPT port price with margin						217.2	20
FOB price							237.2

Source: extract from UkrAgroConsult (2014)

The shadow economy for wheat provides significant insight into the processes of marketisation in three key ways. Firstly, it highlights the simple point that there exist multiple means of exchanging a single commodity, and that part of framing market encounters – a process that facilitates the monetised transfer of goods as commodities – entails a demarcation between the ‘right’ and ‘wrong’ means of exchange. Secondly, faced with uneven exchange relationships and what are perceived to be adverse policy measures³¹, the existence and scale of the shadow economy illustrates that farmers are not faithful adherents

³¹ Commentators have observed an increase in the size of Ukraine’s agricultural shadow economy from 2016 onwards, coinciding with the cancellation of the special VAT regime for agricultural producers, with some directly connecting the two events (Stelmach, 2018). Historically, Ukrainian farmers receive far fewer direct financial payments than farmers in the US and EU. State support to agricultural producers has been mainly based on indirect support in the form of special tax treatment and tax exemption. Under this system, which was in place since 1998,

to the ‘right’ means of exchange (i.e. formal transactions ‘through the bank’), but will pursue their own mercantile interests via alternative exchange relationships. Regulation of the means of exchange is undertaken by both government authorities – which amongst other things can impose fines on traders found to have purchased grain informally or to have formally purchased grain that has previously been sold informally – but also international trading houses and domestic agroholdings, which have developed legal departments to analyse the transaction history of each individual parcel of wheat they purchase. There are various incentives for exporting companies to avoid handling grains which have, at some point in their existence as commodities, been exchanged on the grey market. As one representative from Bunge explained:

In Autumn 2015 we had a parcel arrested at our vessel. [The vessel] was loaded and about to sail when the authorities arrested it and said that the grain loaded on the vessel comprised some ‘bad documents’, because our counterparties at some point further up the supply chain had bought grain ‘for cash’. We bought it normally from a trader, but somewhere along the chain, there had been a cash purchase, and documents had been forged. The company had to pay a substantial fine, in addition to demurrage costs caused by the delay in shipment.

Could the portion of wheat with the ‘bad documents’ be identified on the vessel once loaded on?

No, because that parcel is not physically different from rest. It is terms of documentation that it is different (Sergii, Agricultural Researcher, Bunge, December 2016).

This quote highlights the financial and reputational incentives for export companies to closely monitor the origins of the goods that they purchase from further up the supply chain. An additional incentive for them to do so comes from the fact that the existence of a significant shadow economy has been observed to

agricultural producers for which agricultural goods and/or services make up to at least 75 per cent of the total value of all goods and/or services sold have been entitled to a VAT refund on the produce they sell, with the money been transferred to a special account reserved for financing other production purposes. This has served as a form of tax credit and has been an important source of working capital for farmers. Importantly, there was a system of automatic VAT refunds meaning that there was a short time frame that farmers had to wait before receiving finance to reinvest in their operations (Deloitte, 2015). However, as part of the structural adjustment conditionalities laid out by the IMF in return for a USD 17 billion support package, the Ukrainian Government has been obligated to reform the nation’s tax system, which has meant gradually abandoning the policy of VAT refunds between 2016 and 2017 (Betliy 2014). As a consequence, agricultural producers now face a situation in which they must immediately pay VAT on the produce they sell, whilst waiting potentially several weeks or months for payment.

undermine the competitiveness of exporting companies. The OECD (2009:12), for instance, observes that “the informal sector is often considered to be quite competitive because numerous firms compete against each other and there are often low entry barriers. Informal firms can therefore act as an important source of competitive pressure on formal firms and may reduce the market power of large formal firms in some instances”.

Thirdly, as the above interview extract also highlights, analysis of the shadow economy of wheat illustrates the routine disputes over the “commodity status” (Ouma, 2015:31) of goods that occur within markets characterised by a high level of informality. “At the heart of market exchange”, Ouma (2015:31) notes, “lies the monetized circulation of things which are transferred as ‘commodities’ from one owner to another. However, things do not circulate out of nothing, but do so because they are valued, and it is because they are valued to *specific criteria* that they become commodities”. In the above instance, the criteria to which the parcel of wheat is valued, and upon which its commodity status hinges, pertains not to its physical qualities - which are indistinguishable from the remainder of the wheat loaded on the vessel – but to its “documentary route of circulation” – namely, the fact that it was exchanged informally before reentering the formal economy. It is this fact that means that, in the eyes of the authorities, this parcel of wheat already purchased by Bunge has lost its status as a commodity and consequently its underlying value – highlighting both the delicate nature of commodity status and the risk that high levels of informality pose to exporting companies.

At the same time, the scale at which grains are reportedly exchanged between the informal and formal sector before making their way to export suggests that a good can move into, as well as out of, commodity status as it follows its complex “sociogeographic trajectory” (Castree, 2003:274) from the farm gate. Significantly, this indicates that there is not universal acceptance amongst all market players as to the extent to which a good’s value and commodity is based on its history of exchange. For example, this principle clearly does not apply to the middle men that are willing – through fraudulent means – to obtain the documents required for wheat transferred on the grey market to be then exchanged formally. Furthermore, it is important to consider what happens to the parcel of wheat that remains on the vessel. As the representative from Bunge explained, the parcel of wheat with *bad documents* is physically indistinguishable from the rest of the wheat loaded on the vessel, and therefore cannot be separated. This means that while the export company is penalised for the purchase of this parcel of wheat, this is not the end of this parcels sociogeographic trajectory as a commodity. Rather, as the vessel leaves the port in Ukraine and arrives at its destination, the parcel will once more gain commodity status and regain its value as it is unloaded and enters new value chains elsewhere in the world.

5.8 Conclusion

I have in this chapter demonstrated that the Ukrainian wheat market cannot simply be analytically located by imposing boundaries that attach categorically distinct logics of market, nonmarket, formal, informal, political, economic or social. For instance, while market participants involved in the production and exchange of wheat on the ground in Ukraine accept the ‘world price’ as representative of *the market* - that is, an unmediated “relationship of causality” (Çalışkan 2010:189) between what is called supply and demand and the price for wheat – it can be seen that the global reference price is actually inclusive of the extensive programmes of state support out of which it was produced. Moreover, we can see how, through the use of futures market prices as global benchmarks used to calculate basis in geographically distant but interconnected markets, political decision making in the US and EU regarding state support for domestic agriculture becomes intrinsic to the realisation of the export price for wheat in Ukraine.

In this chapter I have also analysed the way in which domestic supply is not simply a function of production (i.e. total harvest plus ending stocks), but is also a matter of representation and routine market politics, as producers attempt various sale restraining tactics. Indeed, faced with asymmetrical mercantile platforms in terms of capital, knowledge and network, producers deploy various strategies to improve the price they receive for their harvest. One such strategy discussed here is to sell a portion of one’s harvest unregistered through alternative informal market channels. This strategy of farmers’ is illustrative of the fact that they are not unquestioning adherents to the ‘right’ means of exchange, but rather will pursue heterogenous strategies of self-preservation, selling in part through formal market channels and in part through the grey market. The existence of multiple (‘right’ and ‘wrong’) market channels also demonstrates the coexistence of different modalities of valuation among market participants as well as the inherently political nature of markets as different actors struggle to impose their judgement of what constitutes legitimate forms of market exchange. While government agencies and exporting companies try, for their own reasons, to reduce the number of shadow transactions, the frequency with which a parcel of wheat may, in its life time as a commodity, transcending the boundary between formality and informality, makes it difficult to delineate any clear analytical boundary between the two.

Chapter 6

The financial frontier: performing agricultural credit markets in Ukraine through cash flow-based lending

6.1 Introduction

If we are speaking about market power, then Ukrainian farmers must be seen as price takers. There is a lot of rhetoric about how farmers market their grain, what strategies they use, and so on. I have done straw polls with other farmers and asked them, ‘When do you sell your grain?’ They’ll say, ‘I sell it after Christmas because the price will go up after Christmas’. But then I ask them again, ‘When do you *really* sell it ... what is the trigger for you to sell your grain?’ And the answer is always the same: ‘when we need cash’. Imagine, you’ve put all your cash into the business, grown and harvested your crop, and now its sitting in the shed. But you’ve got the next crop that needs to go into the ground. And you need to raise money to buy fertilizer and seed. That’s what really pushes farmers to sell (Mike, Farm Manager and Founder of Agricultural Consulting Agency Agronomy Ukraine, February 2017).

This interview extract highlights the extent to which a producer’s ability to determine the price they receive for their harvest largely depends on their cash flow and access (or lack thereof) to external finance: for if they have no access to working capital, they must sell their crop for the whatever is the market price at that time, in order generate the cash flow required to finance the next round of production. In this chapter, I map out the key actors, institutions and market devices involved in assembling an agricultural finance market in Ukraine. More specifically, I examine the performative role of international financial institutions (IFIs) and loosely affiliated ‘best-practice’ financial experts and practitioners in: mobilising a certain ‘framing’ of agricultural finance; enrolling adherents – in the form of market practitioners and ‘travelling technocrats’ – capable of implementing this frame, and; creating a space for the exchange of supra-local knowledge, in

which knowledge produced by financial experts in different parts of the world is introduced in a new geographical and historical context. In doing so, I draw on data collected from semi-structured in-depth interviews with representatives from IFIs and private sector financial intermediaries working in the area of agricultural small/medium-scale producer (SMP) financing. In these interviews, I explored the role of these actors and institutions in the circulation of market rationales, the design and introduction of new instruments of valuation, and the enrolment of adherents into the *frontier* of formal finance (Von Pischke, 1991)³². In analysing this interview data, I outline both the practical work that is being done and the ‘innovative financial mechanisms’ that have been implemented in Ukraine in order to increase SMPs’ access to external finance. In doing so, I discuss efforts to reframe the role of agricultural credit as a means of creating new sources of value, through the incorporation of new actors and practices into the sphere of formal finance.

I begin this chapter by firstly outlining what has been identified as one of the major challenges facing the Ukrainian agricultural sector – namely, SMPs’ lack of access to external working capital finance – and discuss how this issue has been framed by IFIs and associated donors. I then turn to explore the efforts of these institutions to address this issue through the implementation of ‘market-based’ solutions. In doing so, I trace the genealogy of what has come to be recognised as the prevailing policy paradigm on agricultural finance, developed by a relatively narrow group of financial experts, often working under the auspices of the World Bank group and USAID. According to this policy paradigm, any intervention in agricultural credit markets on the part of state institutions or public donors must be done via private sector financial intermediaries, with the aim of connecting producers to the sphere of formal finance through the creation of value, and in a manner that supports the development of the private financial sector.

I then move on to discuss how this policy paradigm is encapsulated in J. D. Von Pischke’s (1991) concept of the ‘financial frontier’; that is, a notional boundary between formal financial markets and the wider expanse of practices and conventions which are deemed informal or non-market. My focus here on the concept of the ‘financial frontier’ is not as a means of accurately describing the true nature of agricultural credit markets, but rather on its role as a mobile market model (Peck and Theodore, 2015) which is deployed in the construction of financial markets and the creation of value. I outline how Von Pischke’s concept of the frontier comprises both normative statements about how rural credit markets *should* function as well as a set of guidelines on how to rework the socioeconomic relationship between farmers and financiers in a way that: (i) translates the world of farmers and their crops as to increase their visibility and make them more amenable to the requirements of finance, and; (ii) alters the processes of valuation through which financial intermediaries access and create creditworthiness. In doing so, I hope to illustrate the performative nature of agricultural finance, and highlight the series of calculative, discursive, legal and technological

³² I provide a brief biographical account of Von Pischke in chapter 7.

labours and investments required to bring socioeconomic realities of farmers and creditors into line with normative statements about how rural credit markets should function. I demonstrate this point empirically using the example of cash flow-based lending, promoted by the International Financial Corporation (IFC) as a means of increasing SMPs' access to agricultural finance in Ukraine.

6.2 The issue of SMP financing

As Swinnen and Gow (1997:5) explain, "the concept, nature and role of 'credit' is quite different in a planned economy versus a market economy". In a centrally planned economy, the allocation of credit serves as the main monetary instrument. For instance, under the Soviet system:

A financial plan ensured the realisation of physical targets, as expressed in the state plan. The plan specified quotas for working capital, long term loans for financing investment and public money holdings [...] Credit was provided through the central bank to farmers for these investments, typically with a negative real interest rate, not based on merit and often used as a way to support unsuccessful enterprises (Swinnen and Gow, 1997:5).

In a market economy, meanwhile, the main monetary policy instrument is control of the total money supply. The allocation of credit inside the economy is left largely to independent financial institutions which base their lending policies on assessments of risk and financial return. The basic principle behind agricultural finance reforms in Ukraine and other Central and Eastern European Countries (CEEs) during the 1990s was that, following the withdrawal of state intervention, the demand for credit from agricultural producers would be met by private-sector commercial lenders, leading to the development of a functioning agricultural credit market.

The reality, however, was that a functioning agricultural credit market did not emerge in the manner envisaged by market reformists. Ukraine's lack of success in developing a robust agricultural credit market during the 1990s was attributed to a range of 'transition-related' factors, namely a high number of unprofitable farms which were unable to service debt, alongside a government policy of soft loans³³ and credit subsidies provided to farms without regard to debt repayment capacity, leading to a situation where only 41 per cent of state loans to large farms in 1998-99 were repaid (Sedik, 2003).

Yet, over the last 15 years or so, the influence of these transition-related factors has lessened. Firstly, Ukrainian producers of varying scales are generally in a strong financial position compared to the early years of transition. Secondly, there has been a significant reduction in soft government credit, with commercial banks becoming the predominant source of finance for the sector (Schroeder and Meyers, 2017). As Schroeder and Meyers (2017) highlight, the level of support that Ukrainian farmers receive in

³³ As soft loan refers to a loan below the market rate of interest and with terms favorable to the borrower.

concessional credit (for example, interest rate subsidies) accounted for just five per cent of all input subsidies to agriculture in 2010-2012³⁴. And yet, as several studies highlight, limited access to finance for farmers remains one of the main barriers to further development of the sector (Koriakin and Kirchner, 2016; Schroeder and Meyers, 2017; OECD, 2012).

SMPs' lack of access to external working capital finance had been identified as a problem by the Ukrainian Government (Ministry of Agrarian Policy and Food of Ukraine, 2015) and all major international financial and development institutions operating in Ukraine (including the IFC, USAID, OECD, EIB and EBRD, amongst others) as one of the major constraints on the development of the agricultural sector. As the OECD (2012:29) has highlighted, "loans to agriculture are around five per cent of total loans to nonfinancial corporations [...] Banks currently seem to be addressing the financial constraints of large agri-holdings firms based in the capital region, while not meeting the needs of farmers in rural areas". Where commercial banks are willing to lend to the SMP sector, they still perceive agricultural finance as overly risky and as such hedge themselves against this perceived risk by raising the interest rate applied to loans, charging an interest rate to agribusiness which is almost twice the rate charged to other firms (this risk premium was around 4 per cent in 2007; however, it increased to 10 per cent by 2010 as a result of credit rationing)(OECD, 2012). This issue is compounded by the ongoing moratorium on the sale of agricultural land which prevents producers from using their land as collateral. The lack of financing available to SMPs is framed by IFIs as a particularly pressing issue given that "SMPs are an important category of agricultural producer, whose operations significantly affect the entire agricultural sector and social development across Ukraine" (USAID, 2013:5)³⁵.

The issue of SMPs' lack of access to external financing is not unique to Ukraine or even former socialist states more generally. Rather, as Swinnen and Gow (1997) explain, it is an issue faced by similar sized producers in even some of the most well-developed market economies, and reflects the imperfections inherent within agricultural credit markets, whereby the market fails to allocate resources efficiently, leading to widespread credit rationing (see box 1). As was highlighted in an IFC report from 2011, the issue of agricultural finance is frequently at the top of the development agenda in developing and transition economies, as "past years have demonstrated that neither commercial banks nor the emerging microfinance

³⁴ Compare this to Russia, where of the Government's proposed aggregate spending for the development of agriculture, interest rate subsidies play a central role, with a 23 per cent share of total spending for agriculture between 2013 and 2020.

³⁵ To be clear, the ideas outlined in the above two paragraphs (as well as those presented in box 1) reflect an orthodox account of the inherent imperfections of agricultural credit markets. While I use this chapter to engage critically with the body of knowledge on what constitute the supposed solution to the problem of SMP financing, that is not to say that other studies could not engage equally critically with the body of knowledge that exists on the supposed problem itself, rather than taking the orthodox account as given.

industry are willing or able to sufficiently meet the financial needs along agricultural value chains, leaving farmers and agricultural SMEs unserved in the so-called ‘missing middle’” (IFC, 2011:6).

6.3 ‘Looking to the market’ for solutions to SMPs’ lack of access to working capital finance

Having identified Ukraine’s SMPs’ lack of access to external financing as a significant market failure, IFIs have sought to intervene through various technical assistance projects and the implementation of ‘innovative agricultural SME finance models’ (IFC, 2012). These projects aim to provide ‘market-based’ solutions to the issue of SMP financing, supporting agriculture via the development and strengthening of formal credit markets. They often entail working in partnership with Ukrainian government authorities (including the National Bank of Ukraine and the Ministry of Food and Agriculture), the development agencies of foreign governments, private sector companies such as multinational input suppliers, both commercial and development banks, as well as private financial consultancy firms.

Whilst conducting fieldwork in Kiev, I had the opportunity to attend a conference and round table discussion held at the National University of Life and Environmental Science, on 27 April 2017, entitled ‘The Role of Financial-Credit Institutes in the Financing of Agricultural Businesses in Ukraine’. Speaking at this event were representatives from several of Ukraine’s largest commercial banks – including Raiffisen Bank Aval and Credit Agricole - as well as staff from IFC and USAID projects currently being run in Ukraine. Amongst these speakers was Gary Reusche³⁶, formerly an advisor to the World Bank on issues relating to agricultural finance and senior operations officer for the IFC in agri-finance for CEE, now a professor at Kiev’s International Management School, where he lectures on the subject of agricultural-SME finance and insurance.

During his presentation, Mr Reusche spoke, amongst other things, about the challenge Ukraine’s SMPs face in trying to access agricultural credit. In his capacity as a former senior operations officer for the IFC, he spoke unequivocally in favour of market-based solutions over state intervention, echoing arguments in keeping with those he has published elsewhere, namely that:

³⁶ Gary Reusche is an agricultural and rural-development expert who left the United States in 1975 to pioneer and work in social-and-economic-development projects in different locations around the world. He received a PhD in crop science from Mississippi State University and executive MBA training from the University of Twente in the Netherlands. After more than forty years project-management experience in over sixty countries, he retired from the private sector branch of the World Bank and now lives in the Ukraine, where he works as a professor at Kiev’s International Management School, lecturing on the subject of agricultural-SME finance and insurance

BOX 1. THE CHALLENGE OF LENDING TO THE AGRICULTURAL SECTOR

Given certain factors specific to the agricultural sector and the geography of rural economies, financial providers face several specific challenges in lending to agricultural producers, in addition to those inherent in any financial intermediation (IFC, 2011).

The agricultural production cycle is subject to seasonality and a gestation period which often lead to a slow rotation of the invested capital, reflected in the cash flows of rural entrepreneurs. As the IFC (2011) explains, longer loan maturities and irregular repayment schedules are riskier for creditors and present additional challenges to liquidity management.

In addition, agriculture is subject to a number of covariant risks arising from external factors outside of producers' control, such as adverse weather, major outbreaks of pests and diseases, or price fluctuations for inputs and outputs (these are on top of the idiosyncratic risks associated with any financial intermediation, such as theft of productive assets, a natural disaster, the death of the loan recipient). These covariant risks make agricultural lending a riskier prospect than other industries, and these risks are amplified by that fact that, for instance, bad weather is likely to simultaneously affect many farmers in a given area (IFC, 2011). This systemic risk makes it difficult for localised financial providers to diversify their portfolio of clients, as when one client defaults on a loan, many others are likely to be in the same situation (Ruiz, 2014).

Other factors include low population density and large geographical dispersion of clients in rural areas, making it difficult for banks to operate at a profitable scale, as there are not enough producers in a single rural area to keep a branch open, and the operational costs are often too great for a branch to expand its operations to incorporate sufficient clients (Ruiz, 2014).

One further challenge rural financial services provision face is that financial infrastructure in rural areas is in generally very poor, meaning that, for instance, tracking the identity of clients or monitoring production outcomes becomes particularly difficult (Ruiz, 2014). As Ruiz (2014) explains, "if financial providers cannot track their clients back, then the punishment of default or underperform for a farmer is low, especially if contract enforcement is low. Hence, potential lenders or insurers may well decide not to engage with the sector in the first place, or to respond by excessive credit rationing or over-reliance on traditional forms of collateral, which many farmers lack".

there will be no significant government-subsidised finance of the rural sector. Even more relevant, there should not be. Ukraine is a world class producer and the financial sector, both in and out of Ukraine, is interested to meet the demand [for credit from SMPs]. The restructured role of the government is to create an environment where finance by private sector banks will achieve the social and economic goals of the government. To believe otherwise is to return to a Soviet mindset. All participants in the Ukrainian agro-industry need to forget the illusion of direct government finance and instead look at the market for agricultural finance and its untapped potential. Any state subsidy is the way back to corruption (Reusche et al., 2016).

This stance, regarding the respective role of the market and the state in addressing the issue of SMPs' access to finance, was reiterated in interviews I conducted around the same time with representatives of other public and private sector financial organisations operating in Ukraine. This was the case, for instance, during an interview with the IFC's head of operations for Ukraine:

The history of any state institution which has money in it is usually a recipe for disaster in Ukraine. I am not too keen on having any state financing mechanism [for agriculture]. I would rather leave it up to the private sector, and the role of the IFC is to create the conditions for the private sector to function (Elena, Head of Operations, IFC, May 2017).

This unequivocal stance in favour of 'market-based' solutions over state intervention is not surprising given the remit of the IFC is to promote private sector development in developing and transition economies. Nevertheless, it raises an important question regarding the provenance of the belief that the only solution to SMPs' lack of access to finance lies in 'the market' – is this something that has developed in the context of Ukraine (or maybe CEE countries more broadly), or does it reflect a form of international best practice which has travelled across national contexts? Moreover, there is a question of what exactly is meant by the somewhat abstract notion of 'looking to the market' for a solution to SMP financing.

6.4 A paradigm shift in agricultural finance: from funding farms to financing farms

Current efforts to develop the agricultural credit market in Ukraine must be considered in the context of two broad ideological transitions. The first is of course Ukraine's transition from a centrally planned to free market economy, beginning with the dissolution of the Soviet Union in 1991. This entailed a fundamental redefinition of the role that agricultural finance plays in the rural economy, and of the role of government

in the allocation of credit. However, that is not the only transition we need to consider when trying to understand the changing role of rural finance and the allocation of credit to farmers. The second transition concerns the paradigm shift in received wisdom on agricultural finance that occurred across the developing world during the 1980s. The issue of SMPs' lack of access to external financing is not a phenomenon unique to Ukraine or even former socialist states more generally. Rather, agricultural credit markets in even the most well-developed and functioning market economies work imperfectly (Swinnen and Gow, 1999). The imperfections inherent in agricultural credit markets – and the importance of the rural economy for overall economic growth, employment, and poverty reduction in most developing and transition countries – means that there is a long-standing tendency for governments and international donors to intervene in agricultural finance markets (IFC, 2011). A consensus persists amongst major IFIs and leading agricultural finance experts that government intervention is necessary, for if left to market forces, commercial-orientated private creditors will not have sufficient risk appetite to lend to SMPs.

In this sense, the question of what role the state should play in facilitating SMPs' access to finance is complex, and it has been widely recognised that the construction of functioning agricultural credit markets involves “not a withering away of the state, but a fundamental redefinition of its role” (Swinnen and Gow, 1999:34). It is around this question, of what form state intervention in agricultural credit markets in developing and transition economic should take, that the paradigm shift in rural finance circulates.

The suggestion by Reusche, that *any* agricultural strategy orientated towards government rather than private-sector funding would represent ‘a retreat to the relict mindset of Soviet planners’ implies that directed and subsidised credit is simply a legacy of Ukraine's Soviet history. However, this implication appears somewhat misleading if we consider the broader historical context. Prior to the mid-1980s, agricultural credit programmes of this nature not only prevailed in the centrally planned economies of CEE but were widely applied across the developing world and were in fact the World Bank's preferred mode of lending up until the 1970s (Kapur, et al. 1997). Under what Meyer (2011) terms the *old-paradigm approach* to agricultural finance, governments and foreign donors ran subsidised direct agricultural credit programmes with the objective of dispersing *cheap credit* (or affordable credit, depending on one's perspective) as widely as possible. As a report from the IFC (2011:19) explains, “expanding rural and agricultural finance used to be a major concern for governments and donors ... During the 1960s and 1970s, the emphasis was on addressing market failures through massive public intervention in the form of directed and subsidized credit”. During this period, policy treated credit as an input required for agricultural production, and outreach, rather than loan repayment, was the primary objective. Agricultural development banks were established in developing and transition economies, not for the purposes of financial intermediation, but to channel loans to producers at subsidised interest rates.

Beginning in the 1970s, the old-paradigm approach came under sustained criticism, namely from a relatively narrow group of financial experts, often working under the auspices of the World Bank Group and USAID (including, amongst others, J. D. Von Pischke, Dale Adams, Hugh Patrick, Gordon Donald, and Richard L. Meyer). As Adams et al. (1984) explain, USAID took the lead in funding research on agricultural credit, rural savings, rural capital formation, and rural financial markets in developing countries, and in 1972-1973 sponsored an extensive survey of credit programmes in a range of developing countries across the globe, entitled *The Spring Review of Small Farm Credit*. This review resulted in the publication of 20 Spring Review volumes, synthesising the results of research on agricultural credit and describing the extent of the problems found in rural financial markets in different locations around the world. It has been suggested that the consensus of opinions expressed in *The Spring Review* has its origins in a single article, *Agricultural Credit in Latin America: A Critical Review*, written by agricultural economist Dale Adams at Ohio State University in 1971 (Kapur et al., 1997:436):

Drawing on his field of experience and an examination of Latin American data, Adams questioned the assumptions of the traditional credit model – that agricultural finance could be targeted on farmers at subsidized interest rates and without repressing savings or distorting the financial system.

The results of the 20 Spring Review volumes were summarised in Gordon Donald's 1976 book, *Credit for Small Farmers in Developing Countries*. Donald – together with J.D Von Pischke and Dale Adams – also edited a major compendium on rural finance, *Rural Financial Markets in Developing Countries: Their Use and Abuse* (Von Pischke et al., 1983). This publication grew out of readings collected since 1976 for the *Rural Credit Projects Training* courses offered by the Economic Development Institute (EDI) of the World Bank Group, on which both J. D. Von Pischke and Dale Adams participated as lecturers. The lectures given on these courses were subsequently published for the EDI, with the stated intention of making them readily available to economic practitioners working on rural credit problems in developing countries (see Von Pischke et al, 1983: xiii). In this edited collection, Von Pichke et al. (1983) advocated, *inter alia*: raising farm interest rates to the level of the formal market; eliminating subsidies; using rural financial institutions to mobilise deposits as well as lend resources, and; reducing the insulation of agricultural credit institutions from the rest of the financial system. The authors challenged what they described as the prevailing Keynesian doctrine that had gained authority in the aftermath of World War II, which promoted economic planning and subsidised credit programmes as a necessary tool to boost agricultural production and bring the rural poor into the mainstream of development. This doctrine, they explain, was a consequence of the Marshall Plan's successes which “were interpreted as evidence that large-scale foreign assistance for

investment could bring progress” (Von Pischke et al., 1983:2)³⁷. Of the various challenges that the contributors made against the approach of the old paradigm approach, one of the most significant was to dismiss the belief that *cheap credit* is an effective way to support agricultural development. It was argued that:

... interest rates kept low by government policy discriminate against the poor. Cheap credit is rationed; the procedures usually are at least in part politically determined and provide opportunities for corruption, cronyism, and favouritism [...] Cheap credit has been advocated as a convenient means of redistributing wealth in favor of the poor, but experience around the world suggests that it is virtually impossible to redistribute wealth to significant numbers of poor people in that way. Low interest rates also discourage activities by financial institutions that might otherwise provide services in rural areas (Von Pischke et al., 1983:10).

In addition, Von Pischke and his colleagues pointed to the fact that direct credit programmes are typically implemented without careful analysis of the nature and causes of credit rationing and are often used as a means to support failing enterprises, enabling them to avoid making the necessary structural adjustments and thus reducing efficiency. But perhaps what has proved to be the most influential assertion made by this narrow yet highly influential group of experts has been that the traditional model of supplying cheap credit at artificially low interest rates has the effect of inhibiting the development of a strong private financial sector to service the agricultural sector. This is said to be due largely to the fact that commercial banks and other private sector creditors cannot compete with artificially low interest rates, meaning they are ‘crowded out of the market’ (as producers opt for cheaper publicly funded financing). At the same time, subsidised interest rates are said to remove the incentive for farmers to increase efficiency and thus become more creditworthy, reducing the overall bankability of the agricultural sector. Moreover, it is said that the provision of cheap credit is typically done without rigorous credit checks, meaning that there is a lack of information available for commercial banks to distinguish between those producers which are ‘bankable’, and those which are not (Von Pichke et al., 1983).

³⁷ Agricultural credit programs of this nature were the World Bank's preferred mode of lending up until the 1970s, prior to what Kapur et al. (1997:436) have referred to as “an onslaught of revisionist thinking about agricultural credit”. Interestingly, Kapur et al. note that “the ginger group of new agricultural credit thinkers seems initially to have been quite distinct from the two other intellectual movements heading in a similar direction. One followed the lead of such general financial theorists as Edward Shaw and Ronald McKinnon of Stanford University, who were shaping doctrines of financial deepening and financial liberalization. The other was the resurgence of mainstream neoclassical market economics that gained a new grip on the Bank's thinking in the 1980s. There can be little doubt that these larger waves of doctrinal change helped speed [rural financial market reform] toward acceptance”.

The publication of Von Pischke et al.'s 1983 *Rural Financial Markets in Developing Countries* stimulated support for an international forum in which contributing authors presented research and policy prescriptions from various geographical contexts to an audience of practitioners from development assistance agencies. A colloquium on Rural Finance in Low-Income Countries was sponsored by EDI, USAID, and the Ohio State University in Washington, D.C., in September 1981. Papers presented at that colloquium made up most of another key publication on agricultural finance, Adam et al.'s *Undermining Rural Development with Cheap Credit* (1984). As with earlier publications, Adam et al. argued unequivocally that state intervention in agricultural credit markets must shift away from the use of finance as a means of subsidising producers and move towards policy measures designed to enhance the capacity of intermediaries in the private financial sector. It is argued that policy makers must stop viewing credit as an input – similar to fertiliser or seed – and should instead view it as “a product of financial intermediation” (Adam et al., 1984:4). “Acceptance of this view” it was argued “results in fewer attempts to measure the impact of loans on borrowers and more attention to the behaviour of savers and financial intermediaries and to the overall performance of financial systems [...] It also directs more attention toward measurement of the costs of using and providing financial services and highlights the effects of policies and of technological change on financial markets” (Adam et al., 1984:4).

In challenging the old-paradigm approach, Von Pischke et al. put forward the alternative *financial systems approach* orientated around government intervention *via private financial intermediaries* which lend to the agricultural sector because it is commercially viable and profitable, and not simply as a conduit through which to “force-feed” credit to farmers, at the expense of the wider financial system (Von Pischke et al., 1983:12). Emphasis is placed on developing “sustainable rural financial systems” (Von Pischke, 2001) by strengthening the capacity of financial institutions to lend to the agricultural sector and building up the capacity of rural economic actors to participate in larger financial markets (Von Pischke et al., 1983:12). Crucially, “the development of stable, efficient, and inclusive financial systems is regarded as a development objective on its own, rather than a means to achieve other development objectives” (IFC, 2011:20). As Von Pischke et al. (1983:7-11) note, “it is important to consider the extent to which infusions of funds for developmental purposes are associated with the creation of healthy institutions and with improvement in the overall performance of financial markets”.

The foundational texts on rural finance which emerged out of a series of USAID and World Bank-organised colloquiums and lecture series in the 1970s and 80s, give an insight into the origins of current ‘best practice’ expertise on the subject of state intervention into agricultural credit markets. However, to talk of prevailing paradigms, international best practice, or a consensus amongst experts is to say little of how policy on agricultural finance is designed and implemented in any given geographical or historical context – in this case, post-Soviet Ukraine. Therefore, I will now go on to explore the materially and

relationally embedded processes by which a prevailing policy paradigm – reflecting the market beliefs of a relatively narrow group of experts – has come to be reflected in the actions and representations of the diverse range of actors that comprise the Ukraine’s agri-finance sector.

6.5 Finance at the ‘frontier’: a mobile model of agricultural credit markets

The shift in policy from subsidising agriculture to financing agriculture, and the idea of *working with not against* financial-market forces, means that if governments or other public-sector bodies intervene in agricultural credit markets, they should do so with the aim of tying rural peoples into formal financial systems as *creators of value*. The new approach to rural financing proposes bringing agricultural producers within the sphere of ‘formal finance’ through innovative market-based solutions which also create value for the formal financial sector. Von Pischke contends that the expansion of the provision of credit to farmers must to be done in a manner that is remunerative to those financial intermediaries that operate within the sphere of formal finance, for “it is only by creating more value that the [financial] frontier can be moved outward” (1991:5).

The frontier that Von Pischke refers to here “is not geographic³⁸, but market based [...] On one side are those parts of the legitimate economy that are not usually considered creditworthy by formal financial institutions, and on the other are the generally more prosperous entities that do have access to formal finance” (Von Pischke, 1991: vii). In this sense, the frontier is defined as “the limit of the activities of formal financial institutions” (1991:317).

The inside of the financial frontier is said to be comprised of formal intermediaries which operate under government charters, are subject to government supervision and reporting requirements, and are restricted by usury laws and by limitations on the types of services they may offer. Financial markets inside the frontier include primary markets that bring together the parties to financial transactions that create new financial claims, and secondary markets in which existing financial claims are bought and sold. Von Pischke explains that “credit is widely available inside the frontier and virtually always carries an interest rate, although these rates do not reach the heights sometimes found outside the frontier [...] Formal ownership claims, liens and legal infrastructure assist borrowers to obtain relatively large amounts of credit by lowering risk and the transaction costs of credit” (1991:2). By contrast, Von Pischke explains, beyond the frontier, “financial transactions are personalized and conducted directly, without intermediaries” (1991:2). Unlike within the frontier where credit is widely available, those outside the frontier are said to find credit

³⁸ While Von Pische may not intend for his metaphor of the financial frontier to be geographical, it is clearly possible that the boundaries he refers to may have a geographical component. As theorists from the uneven geographies of money and finance have shown (Leyshon, 1996; Leyshon et al 2008), the boundaries between financial inclusion and exclusion are often highly geographical in nature.

to be “often scarce, expensive, or both, or so closely related to social ties that it carries no interest and is readily available, but only in small amounts” (1991:2-3).

Von Pischke notes that the stated objective of governments and development assistance agencies has traditionally been to “promote development by bringing more people and activities within the frontier of formal finance” (1991: vii). Consistent with the earlier recommendations of him and his colleagues, he is critical of any effort by the state to expand the frontier through what he terms nonremunerative lending. Instead, the expansion of the frontier must occur through financial innovation designed to increase confidence and assist risk management, not in the form of public intervention that forces financial intermediaries into unprofitable lending, but rather stemming from “entrepreneurial intermediaries and investors who attempt to leap the frontier and bring formal financial services to those who have not used them before” (1991:199). “Instruments and institutions that assault the frontier”, Von Pischke explains, “must be innovative and sustainable to be successful. Sustainability does not require an infinite life or constantly increasing market share, but rather that innovation be remunerative to the intermediary and the client” (1991:318).

My interest here in the concept of the financial frontier is not in the concept’s utility as a means of understanding or analysing the true nature of agricultural credit markets, but rather how it functions as a what might be called mobile market model (Peck and Theodore, 2015), deployed in the construction of financial markets and the creation of value. Von Pischke first made use of the concept of the frontier his seminal text *Finance at the Frontier* (1991)³⁹. This publication serves as something of an instruction manual on how to incorporate hitherto excluded groups into the sphere of formal finance through innovative, ‘market-based’ solutions. Von Pischke explains that “the sheer volume of development assistance and of government efforts devoted to providing credit to those outside the sphere of formal finance have led to the involvement of many officials, economists, politicians, and systems specialists who might not otherwise have been inclined to become involved in financial intermediation or in financial policy and who have had little experience with credit markets, accounting, or finance”. It is at these relative laymen that his manual is targeted. Von Pischke explains:

This book will be of particular value to readers who share three characteristics. First, they have direct or indirect responsibility for credit decisions. Direct responsibility is exercised by approving or rejecting loan applications; indirect responsibility is exercised by designing credit projects or shaping policies that influence credit decisions. Second, they lack familiarity with the culture and routines of financial institutions that

³⁹ This publication built on the prevailing wisdom of the previous two decades, and citing Dales Adam’s seminal article on agricultural credit in Latin America as a main source of inspiration.

are subjected to credit risk and guided by commercial principles. For example, they have not worked with balance sheets or income statements or constructed sources and uses of funds statements during their professional careers or have not found these tasks helpful or meaningful. Third, their status as officials of a government or of a development assistance organization shields them from personal financial, career, or professional risks related to the performance of loans for which they have direct or indirect responsibility (Von Pischke, 1991: viii, emphasis added).

The way in which Von Pischke edits the presentation of his analysis for his target readership provides us with important insight into the work required to translate ‘best practice’ expertise into a mobile model of agricultural credit markets that can travel between and be implemented in different geographical contexts. We see a clear distinction being drawn between *expert* and *non-expert*, indicating that the mobilisation of the financial systems approach to rural finance requires the enrolment of multiple adherents, many of whom may understandably lack the expertise and understanding of the rigorous empirical processes and mathematic formulae by which financial experts arrive at ‘statements of fact’ regarding the optimal or correct way in which to structure rural credit markets. As such, it is necessary for experts to translate their knowledge into a format that can be readily understood, so as the network of adherents then responsible for implementing this model of rural finance need not necessarily understand the methodology through which economic facts and knowledge of ‘best practice’ are derived: they simply need to be able to understand and enact this *translated* model. In this regard, Von Pischke’s metaphor of the ‘financial frontier’ is an interesting example of a representational device, which plays a performative role by mobilising a specific understanding of the role of rural finance within the agricultural sector, and enrolling adherents – a broad network of market agents with diverse skills and expertise - to ensure that the conditions are created for this understanding to endure. In this way, the translation of the financial systems approach to agricultural finance into what is essentially a practitioner manual reveals valuable insights as to the practical transformation of scientific models and “market beliefs”⁴⁰ (Niebuhr, 2016:82) into “conveniently portable ‘best practice’” (Peck and Theodore, 2015:176). The making of such a manual represents a moment in which a set of market beliefs – i.e. that lending must be financially remunerative, that state intervention

⁴⁰ To suggest that the financial-systems approach to agricultural credit is a *market belief* is not to deny its grounding in ‘hard’ scientific method, in the form of economic analysis. On the contrary, the rigorous scientific methods underpinning the financial systems approach are easily accessible in the above-mentioned compendiums, for those with the ability to comprehend them. Rather, it is to suggest that, when turned into policy, the economic analysis of that narrow yet highly influential group of experts listed above implies some fundamental alternations to both the role of the state and the position of private financial intermediaries. These represent a set of beliefs or normative judgments, encapsulated in a model or framing of agricultural credit markets.

must be done via private financial intermediaries, that SMPs should be incorporated into the sphere of formal finance as creators of value, and that the development of financial systems is regarded as a specific development objective of agricultural credit programmes – are translated into a mobile and actionable market model (Peck and Theodore, 2010), stitching together particular readings of a policy problem with the putative solution of financial innovations designed to facilitate entrepreneurial financial intermediaries in ‘leaping the frontier’, by increasing confidence and assisting risk management.

Crucially, Von Pischke’s manual not only contains a set of market beliefs and normative statements concerning how agricultural finance markets should function, but also practical guidance on how financial markets can create value through financial innovation. To understand exactly what form these innovations can take, Von Pischke encourages us to pay attention to what he identifies as the three building blocks of finance: value, risk and confidence (1991; 2001).

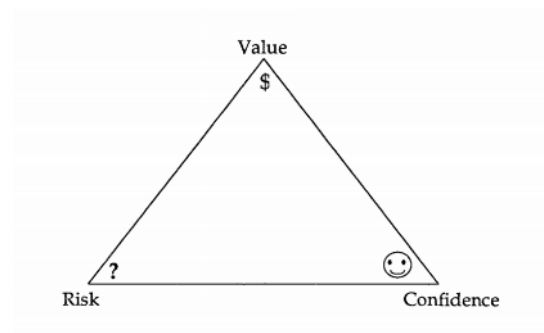
6.6 Financial innovations and the three building blocks of finance

Underpinning the concept of the financial frontier are the three building blocks of finance (see Figure 3). Von Pischke explains the relationship between these three fundamental elements with the following *simple truths*:

Value is created only when confidence offsets risk. Risk is created by every financial transaction because the future cannot be predicted with certainty [...] When risk is small, which occurs when confidence is great, lots of value can be created. When confidence is weak, value creation is difficult (Von Pischke, 2001: 36).

In this way, when risk is sufficiently offset by confidence, transactions occur, and value is created. At its most simple, this is the way in which financial markets create value. Accordingly, market-based financial innovations designed to expand the frontier of formal finance should operate according to the same principles. According to Von Pischke (1991; 2001:36), “there are only three ways in which financial markets create value and expand the frontier”. These are: by lengthening term structures (see Von Pischke, 1991:9-11), by reducing transaction costs (see Von Pischke, 1991:11-17), and by refining valuation processes used to evaluate and create creditworthiness (see Von Pischke, 1991:17-23). Of these three forms of innovation, I will focus here specifically on the latter, that is, refining the processes of valuation used to evaluate and create creditworthiness.

Figure 3. The Financial Triangle



Source: extract from Von Pischke (1991:42).

Valuations of creditworthiness are based on lenders' perceptions of what they are lending against, with changes in perception greatly influencing lending appetite, as well as the size of loans and their terms and conditions (Von Pischke, 2001). Altering the processes of valuation through which creditworthiness is evaluated – in turn altering lenders' perception of what they are lending against - has the capacity to, in Von Pischke's words, expand the frontier by creating opportunities to generate value that were not previously perceived. Refining the processes of valuation represents a form of financial innovation and is said to occur primarily through the creation of new instruments or types of contracts, and of a market that makes them liquid, which in turn provides valuation (Von Pischke, 1991).

Refining the valuation processes used to evaluate and create creditworthiness touches upon fundamental questions of finance, such as how much a promise is worth, and what are the risks in lending? The process of expanding the financial frontier as described by Von Pischke – that is, tying borrowers into the formal financial system as creators of value through profitable lending practices – implies that as producers are brought inside the financial frontier, the processes of valuation shift from those based on social and family ties to those based on economic formula and quantifiable ratios. While those on the outside may assess the value of a promise and the risk of lending according to, for instance, social or family bonds, or the extent to which the lender knows the loan recipient, providers of finance within the frontier rely on specifically designed risk-management tools, calibrated screening processes, gearing ratio's etc.

Viewed through a marketisation lens, this raises a series of questions regarding what new practices, representations, devices, calculations, technologies and materialities are required in order to bring about that shift from one means of valuation to another, to persuade adherents to accept an alternative process of valuation, and to reformat relationships between various actors and intermediaries in a manner that facilitates a certain form of valuation. How, for example, are small-scale or peasant farmers persuaded to borrow from the bank, when they can access finance from a source within their village with considerably less bureaucracy and paperwork involved? Equally, what discursive and technological resources are

required to persuade and/or equip banks to alter their perception of lending to those producers on the margins of the ‘financial frontier’, which they previously viewed as uncreditworthy?

In the remainder of this chapter, I address these questions using the example of cash flow-based lending, promoted by the IFC in Ukraine in an attempt to refine the processes through which private financial intermediaries assess the creditworthiness of agricultural producers. I consider the role of financial innovations such as cash flow-based lending in the marketisation of agricultural finance, generating new practices and market devices, reorganising relationships between market actors, and equipping creditors with calculative agency required to bring about to an alternative process of valuation. In doing so, I seek to demonstrate the performative dimension of such financial innovations, in terms of the way that they reformat the material socioeconomic realities of market actors in a manner which makes the market beliefs expressed by the financial systems approach to agricultural finance *true* by construction.

6.7 Speaking in the language of the farmer: enrolling actors, building networks and performing creditworthiness through cash flow-based lending

As mentioned above, SMPs’ lack of access to agricultural finance has been identified by all major IFIs operating in Ukraine as a major challenge to the development of the agricultural sector and several technical assistance projects remain in operation in order to address this issue. One such project is the IFC’s *Agri-Finance Project* (2010 – present) – supported with funds from the Netherlands Agency for Economic Development. This project falls under the category of *soft private sector development*⁴¹, and entails working with commercially-oriented financial intermediaries to enhance their agro-lending capacity. The project seeks to address the limited expertise and equipment to available facilitate lending to the agricultural sector through: the development of agronomy-based credit risk management tools for banks to better understand agricultural production processes, ensuing risks, and the corresponding funding needs of farms; the introduction of financial products specific for agri-lending, with appropriate credit policies and procedures, and; the provision of training for bank loan officers on the above-mentioned tools, products, policies and procedures (Broka et al, 2016)⁴².

One of the central innovations through which the IFC Agri-Finance Project has sought to facilitate investment in Ukraine’s agricultural sector is through the design and implementation of the innovative risk assessment instrument CLARA, an acronym for *Cash Flow Linked Agricultural Risk Assessment* (World Bank 2016). Cash flow-based lending represents one specific innovation designed to refine the process of valuation through which financial intermediaries can assess and create creditworthiness. In this sense, it is

⁴¹ Elena, Head of Operations, IFC May 2017.

⁴² Although this project has been running since 2010, there is a lack of available data on outcomes to date, in part because once financial tools or services are purchased by financial intermediaries, data on lending is then not collected centrally by the IFC.

consistent with the notion of expanding the frontier of formal finance and creating value by altering creditors' perceptions of what they are lending against. Unlike traditional asset-based lending, which links loan size and interest rate to the value of the borrower's available collateral, cash flow-based lending links the provision of credit more closely to the borrower's expected future performance. In a contribution to an OECD report in 2001, Von Pischke submitted that:

collateral is not a panacea, and asset-based lending in which loan size is determined by the value of collateral is not aggressively developmental from a social perspective because it tends to concentrate agrarian structures. Those who have assets acceptable as collateral can obtain loans and grow. Those lacking such assets remain beyond the frontier. Cash flow lending, on the other hand, bases debt capacity on the size of the borrower's projected cash flow, suitably adjusted for risk and for 'senior claims' that are more important to the borrower than repaying the loan (Von Pischke, 2001:43).

An important feature of cash flow-based lending, as opposed to traditional asset-based lending, is that “estimating projected cash flow is a more difficult valuation exercise than that required to support an asset-based loan” (Von Pischke 1991:25). In order for the lender to evaluate the financial prospects of the borrower over the life span of the loan, detailed background, financial and operational information is required from the borrower⁴³:

In simple asset-based loan markets lenders must know a lot about the valuation of assets, but can know relatively little about their clients. In the cash flow loan market lenders have to know about valuation in the broadest sense, including the intangibles of character, integrity, commitment, and competence. They must also deal with fungibility. The asset-based lender may lend against an asset that provides liquidity that the borrower uses for purposes unrelated to the asset that is pledged. The cash flow lender knows, and the balance sheet build-up shows, that the ability to service debt is a function of all sources and all uses of funds and of the hierarchies of claims, risks, and priorities they represent. This view of finance and risk puts a tremendous premium on information and analytical skills (Von Pischke, 1991:259-260).

⁴³ This is an example of William's (2014:422) refers to when he describes finance as “knowledge work”.

The requirement of a more rigorous valuation exercise presents a challenge in terms of its implementation. As with most forms of soft private sector development, cash flow-based lending cannot simply be imposed on financial intermediaries. Rather, the implementation of this practice must be achieved by enrolling adherents: persuading financial intermediaries to adjust the processes through which they value creditworthiness. This is in part about persuading creditors to fundamentally alter their perception of what it is they are lending against, i.e. projected cash flow as opposed to collateralised assets. By extension, it is also about persuading – as well as properly equipping – creditors to do the work required to implement this innovation in the process of valuation. For instance, to accurately project a producer’s cash flow, lenders must be willing and able to build up a sufficiently detailed picture of the producer and their operations. They must develop sufficient analytical skills and knowledge of the agricultural sector to ensure that each variable contributing materially to the derivation of cash flow projection is carefully considered and accurate. They must be able to not only calculate a balance sheet build-up, but also assess the intangibles of character, integrity, commitment, and competence. They must familiarise themselves with the intricacies of the agricultural sector in Ukraine, learning to recognise new means (i.e. ‘alternative’ sources of funds) of servicing debt previously overlooked when evaluating the financial prospects of producers. They must forge new, more intimate relationships with producers, as well as more intricate means of documenting the history of these relationships and the past performance of loan recipients.

Moreover, cash flow-based lending also places new requirements agricultural producers. Amongst other things, producers are required to volunteer the most intimate details of their business operations, bearing the risk of disclosing not just their financial history but also detailed operational information. They are also required to trust that the relationships they develop with creditors will be confidential, and that information shared remains strictly between the two parties. The requirement of full disclosure regarding business operations and sources of revenue on the part of the producer takes on a further significance when considered in the context of the often-informal nature of agricultural production and trade, and the scale of Ukraine’s shadow economy for agricultural commodities, as outlined in Chapter 5.

The IFC’s Agri-Finance Project has sought to facilitate the development of cash flow-based lending through the technical assistance branch of its operations. This has involved, in part, providing training with financial intermediaries, namely with the loan officers of commercial banks, on “how to assess agricultural producers”⁴⁴ as well as providing courses to producers on how to access agricultural finance i.e. what the likely demands of creditors are, what documents they must have, what information they must disclose etc. This training can be seen to play a key role in fostering the above-mentioned closer relationship between producers and creditors. However, the limitation of training on its own is that once the course is completed,

⁴⁴ Elena, Head of Operations, IFC May 2017.

there is no guarantee that the lessons learnt and relationships formed will endure much beyond the classroom.

Therefore, it is useful to have a more immutable mechanism by which to maintain the closer relationship that is required for cash flow-based lending to operate. One such mechanism designed and operationalised by the staff of the IFC's Agri-finance project in Ukraine is CLARA, a piece of online cash flow-based credit risk assessment software (World Bank, 2016). This software, designed for use by loan officers, calculates a producer's costs and revenues per month, and establishes benchmarked working capital needs which facilitate in the structuring of loans and repayments⁴⁵.

During fieldwork, I interviewed an operations officer of the Agri-Finance Project who was directly involved in the design of CLARA, who outlined the thinking and practical work that went into its design and construction:

Our project descriptions always start with a section called 'market failure'. We only intervene with a project if we can identify that the market is not working. The market failure that we observed was that banks in Ukraine do not possess the necessary skills to assess farmers. They try to use their traditional purely financial tools to assess farmers, which is not sufficient. And the data is not of high enough quality.

What kind of data do you mean?

Data about the farmer, about their business, about their financials. The idea was to develop an agronomy-based model or toolkit to address this market failure [...] I proposed we design a web application. CLARA is a web application aimed at banks to help them assess farmers not just by their financials but based on their production indicators, and other factors that are specific to the sector.

So it's a piece of online software, and you [meaning the creditor] enter the data and get a score?

It's not a scoring system. It is a kind of screening system. It comprises two components, or modules. The historical analysis module and the projection module (Pavlo, Operations Officer, Finance and Markets Global Practice, IFC, April 2017).

⁴⁵ Unfortunately, as CLARA is only available for purchase, I was unable to gain prolonged access to the instrument.

Both the historical analysis and projection modules of CLARA require the input of two broad categories of data: financial data and production data. As was made clear during the interview, there are certain quality issues with financial data available for agricultural producers:

We have financial data from farmers, they are obliged to provide this data to the state statistics service of Ukraine on a yearly basis, and we crunch these numbers and provide tables and charts, helping banks to analysis historical data by showing them what we see. We draw their attention to the most important indicators. But the issue is that the data provided to the state statistics service is often not of good quality [...] We have access to balance sheets and profit and loss statements, and I often see discrepancies with things not being balanced, for example, assets and liabilities not balancing out on a balance sheet, or profit and loss statements not quite adding up. And still this data is technically valid. I say it is valid because it was submitted to the state statistics service and accepted by them. Nobody checked that it was all in balance, and it then made it into the data base that we purchased. So you understand that this is not the perfectly built report (Pavlo, Operations Officer, Finance and Markets Global Practice, IFC, April 2017).

The fact that farmers appear unwilling to share accurate data on their operations clearly creates challenges in assessing a producer's financial history and future prospects, particularly given premium that cash flow-based lending puts on access to information. A similar issue exists with the available statistics of production history, as the operations officer explained:

Here again there are a number of reports that farms are obliged to submit to the state statistics service on their production, including the number of hectors they sowed, the number of hectors they harvested, what was the total of the harvest, from which field, what prices did you sell for. There are a number of those types of reports, but we are interested in just one report. It is called "50 agri", or "50 ag" if you translate. This form contains the information we need for CLARA. But the incentive to be truthful there is even less than in the financials. The penalty for submitting not fully correct reports ... well, nobody really checks that. So those reports are even less reliable (Pavlo, Operations Officer, Finance and Markets Global Practice, IFC, April 2017).

It became clear during the interview that the issue of data quality is closely linked to a tendency of certain producers to conduct their operations on an ‘informal’ or unregistered basis, meaning that availability of accurate data on SMPs is even more of an issue, given that they account for a larger proportion of the shadow economy:

Generally, the data that farms do report quite accurately represents their official business, but it does not account for their shadow operations. There is a great deal of shadow, and in agriculture this is very easy because farmers can just do side selling – especially looking at farms within the broader context the value chain, when a farm may have a contract with a processor or supermarket chain for example. In Ukraine, the majority of farms are grain and oilseed farms, and the value chains in that segment are not tight. There are very rarely contracts that oblige the farmer to go to a certain seed crusher, and they typically sell grain to traders, but it is not like they are locked in, and even when they sell to traders, they are not selling 100 per cent of their produce. There is an incentive for farmers to ... well ... let’s say there are informal financial schemes that allow them to sell their harvest for cash, and not show it in any financial statement, not going through the bank, not recording it in a balance sheet or profit and loss statement. In this way, data from the state statics service is not 100 per cent reliable, because they only represent the official part of the business, but there is also this unofficial part (Pavlo, Operations Officer, Finance and Markets Global Practice, IFC, 20 April 2017).

This lack of transparency makes it difficult to determine the creditworthiness of a producer and their projected financial prospects, in that analysis of producers’ financial and production history is of limited use. It is for this reason that the IFC Agri-finance team developed the projection module of CLARA. The projection module comprises an automatised data processing instrument which creditors can purchase from the IFC, enabling them to enter operational details obtained from a producer, which are then used to generate a cash flow projection. There is also a tool that projects the impact of a loan and associated repayment structure on the producers cash flow.

Creating the projection module required the IFC Agri-finance team to hire a number of economists and agronomists to help populate a database of crop production plans with regional benchmarks, assessing the impact of various factors including climatic conditions, different approaches to farming (for example, different types of ploughing), intended crop yield and intensity of production, input usage, and so on. Based

on this database, it is possible to compile a specific crop production plan for each crop that a producer grows and generate a projection of total production. As well as this, the software comprises a tool whereby the creditor can input the type of equipment the producer uses and calculate the cost of its maintenance. In addition, the services of the Ukrainian AgriBusiness Club (UCAB) were enrolled to assist in the creation of a database of regional farm-gate prices for agricultural commodities, as well as for inputs such as fertilisers, pesticides and fuel. Using this projection module, creditors can input a crop production plan based on information provided by the producer, as well as input data on the type of equipment used, the time of year at which the producer intends to sell, and the price the producer is expected to receive, and generate a cash flow projection for up to five years in the future:

We hired [UCAB] to help build a price projection methodology which works based on world balances of grain and oil seeds, looking at other macroeconomic factors as well as other indicators that help to project prices. But even with this methodology, there is scope for professional judgement. Initially we planned to put this as an automated module in side of CLARA, but then we decided it is better to leave it to someone knowledgeable to look at the result from CLARA and adjust it if needed. So, we left it in the hands of UCAB, and they provide us on a semi-annual basis with input prices, based on the field research they conduct. Then for the harvest, they provide us with a real harvest price for this month and also a projection for the next 12 months for the price of all the relevant crops. And this information is very useful for our partner banks because they typically do not have this analytical or agricultural part of the department, so they do not know where the price will go (Pavlo, Operations Officer, Finance and Markets Global Practice, IFC, April 2017).

Financial intermediaries' lack of knowledge regarding agricultural price dynamics means it is usually a challenge for them to assess a producer's likely cash flow based on local price dynamics. In this regard UCAB's role of providing price data is key. The Operations Officer on the IFC's Agri-Finance Project argued that the use of the projection module not only provides creditors with a better assessment of a producer's financial prospects, but also serves as a means by which to "control what the farmer tells you":

With the historical module for assessing creditworthiness, there was a lot of information to input ... Every line of the balance sheet, every line of the profit and loss statement had to be typed in for every year, and we ask for at least three years, preferable 5 years in order to perceive trends. This

information is often either unavailable or inaccurate [...] But now we use what we call monthly liquidity projection, or MLP. It's totally different, there are very few questions. We simply ask, what is your agri-climatic zone, what is your land tillage type, what is your crop mix, what are your target yields for each of those crops, as well as what equipment do you have? It's far from time consuming. And these questions serve as a kind of instrument to control the farmer. Well, I mean to control what the farmer tells you.

In what way?

In reality, the farmer is better off than they are saying, because of this shadow part of their operation. And when the bank understands that, and speaks in a language that allows the farmer to see that the bank understands that, then it brings a new mutual understanding between the two parties.

How does that work? What questions does the bank ask that show they are speaking the language of the farmer?

Imagine we have filled the questionnaire I've just mentioned. We've asked these questions and built up a picture. Once we have this cash flow projection and we know how it was calculated, we can dig deeper. We can go to the crop production plan for instance. For every crop plan, it has each crop that you have and all operations listed, and each operation has associated costs in terms of materials required, inputs, labour costs, third party services such as if you have to hire a combine. So, you can go and talk with the farmer and say 'look, this is the cash flow that I'm getting for your case. Do you think it's realistic?' And the farmer can say yes or no, but the main result of the cash flow projection is to see the cash balance by the end of each period, by the end of each month in the farmers bank account, and in the farmers 'other account', his 'under the pillow' [i.e. unregistered/shadow] account. The banker wants to see that the cash remaining at the end of each period is enough to service the loan.

You mean as well as the money in the official bank account, the unregistered income is also taken into account?

Yes, the cash flow projection in CLARA gives an honest assessment of what really happens in that farm.

So even if the farm has a lot of money coming in from his shadow operations, the bank will still consider lending to that farm?

This is up to the bank to decide (Pavlo, Operations Officer, Finance and Markets Global Practice, IFC, April, 2017).

The design and implementation of CLARA and the promotion of cash flow-based lending provides an example of how the IFC's Agri-Finance Project has attempted to expand SMPs' access to working capital finance through market-based innovations, in keeping with those prescribed by the financial systems paradigm. Training courses provided to creditors and producers, as well as the provision of refined online risk-assessment software providing monthly liquidity projections and projected cash flow statement for up to five years in the future, not only serve to increase receptivity to the idea of cash flow-based lending, but also equips creditors with the technical apparatus required for them to alter the process of valuation through which they assess the creditworthiness of producers, away from a heavy reliance on collateralised assets. Moreover, equipping creditors to 'speak in the language of producers' and recognise that a producer's ability to service their debt is a function of *all* their sources of funds – including those derived from the unregistered portion of their operations - presents new opportunities for value creation, by creating something new against which financial intermediaries can lend. This is not '*something new*' in the sense that it did not previously exist. On the contrary, the scale of the shadow economy in Ukraine is widely considered to be at least in part a legacy of the Soviet Union, and dates back to before its dissolution. Rather, the unregistered element of producers' operation constitutes *something new* in that it is being viewed with an alternative gaze, or an alternative normative standpoint: as a set of practices that can be considered part of the formal financial sphere, thus making them visible to formal sector financial intermediaries. In this sense, these practices are being brought within the frame of what constitutes part of 'the market'.

In the language of ANT its associated schools of thought, CLARA may be best described as an intermediary (Callon, 1991) or "mediating agent" (Preda, 2006:753) within the wider sociotechnical *agencement* that is the nascent Ukrainian agricultural credit market, constituting both an actor and network simultaneously. Starting with the concept of the network, a market device such CLARA should not be understood as a remote object, in that it cannot exist outside of its socio-technical context. Rather, the definition of any such market device is always "the definition of its socio-technical context: together they add up to a possible network configuration" (Callon, 1991:137). If we lift the lid on the black box, so to speak, we can see that CLARA cannot act on its own, but requires the efforts and resources of various agents that constituted its creation, including: the IFC which provided the technical and financial resources to address what they perceive as a market failure; the diverse collective skill set of IFC staff which designed

assembled the technology; the work and skills of UCAB in collecting and processing verifiable farm data, and; the transparency of producers, and; the willingness of creditors to adopt alternative form of lending and an alternative representation of what constitutes legitimate market practices. In this way, CLARA can be understood as a heterogeneous entity, the study of which reveals the heterogeneous network of human and non-human agents involved in the creation of value.

At the same time, CLARA can clearly be seen to fulfil the role of an actor, or actant, identifying and linking other actors together, defining, stabilising and testing their identities against one another, and giving “shape, existence and consistency” to sociotechnical linkages (Callon, 1991:140). If successful, CLARA serves to “break the ice between farmers and banks” (UCAB, 2011), forming linkages between these two parties that are a requisite of cash flow-based lending, but simply do not emerge organically. Moreover, the network that CLARA assembles comprises actors in addition to merely creditor and producer. For instance, in an example of what Callon and Muniesa (2005) term *collective calculative agency*, we can see that by connecting creditors to the verifiable price data provided by UCAB, this instrument has the capacity to technically and cognitively equip loan officers to engage in the process of price realisation (Çalışkan, 2010), locating an ‘actual price’ which then serves as a data input in projecting a producer’s future financial prospects. Similarly, the enrolment of various agronomists and agricultural experts onto the IFC agri-finance project in order to develop a database of crop production plans has the potential to facilitate a closer understanding between producer and creditor, meeting the premium on information required by cash flow-based lending, and enabling creditors “to rationalize their future courses of action and to project the outcomes of these actions” (Preda, 2006:753).

In this way CLARA functions as a mediating agent within a broader heterogeneous network of different human agents, technical artefacts, skills, knowledge and representations. It is the assemblage of this heterogeneous network that creates the conditions for the creation of value as described in financial systems approach to agricultural finance, and as depicted Von Pischke’s notion of the financial frontier.

6.8 The sociotechnical construction of the frontier

There is a significant body of scholarship exploring the innovative material technologies such as computer screens and price recording devices involved in (re)producing financial markets and transforming the way they operate (see Callon and Muniesa, 2005; Knorr Centina, 2005; Preda, 2006; Knorr Centina and Preda 2007). Within this literature is a subfield focusing on various technologies, such as consumer credit scores, deployed in assessing creditworthiness of potential loan recipients (Poon, 2007; Kear, 2016;2017). CLARA, the specific technical device of interest in this chapter, represents one more such material technology.

The major innovative aspect of CLARA – in a technological sense – is the automated data processing software enabling a bank’s loan officer to calculate a producer’s costs and revenues per month and establish benchmarked working capital needs. As already outlined above, this equips creditors to assess the future financial prospects of a producer and presents new opportunities for value creation through cash flow-based lending. While all private sector commercial banks of course have some form of screening process and risk assessment software in place, the innovative aspect of CLARA lies in the way it ties creditor and producer into a broader sociotechnical network, equipping creditors with the calculative agency to project a farmer’s cash flow in detail whilst themselves knowing relatively little about the agricultural sector.

However, aside from facilitating social relations and equipping creditors with the requisite material instruments, CLARA can be seen to play another significant role in (re)formatting the agricultural credit market. That is, in suggesting that creditors ‘*speak in the language of the producer*’ and recognise that a producer’s ability to service their debt is a function of *all* their sources of funds, CLARA circulates a particular framing of what constitutes legitimate market practices, and where the boundary between market and non-market lies. Through the “datafication” (Kear, 2017) of the unregistered/informal aspect of producers’ operations, CLARA not only facilitates creditors in assessing ‘what is really happening on the farm’, but also authorises them ‘to speak in the language of the farmer’. In this regard, the involvement of the IFC – a leading authority on what constitutes legitimate financial practice – can be seen as crucial in lending legitimacy to the representation of informal ‘shadow’ practices as a valid source of creditworthiness, making it possible to render new forms of economic practice (i.e. the unregistered element of a producer’s business) as data to be input into a refined process of valuation through which financial intermediaries assess and create creditworthiness. Through this shift in representation, practices previously conceived of as ‘outside’ the market economy are brought ‘inside’, enhancing the opportunity for value creation and meeting the development objective of increasing SMP access to working capital finance.

In this way, the IFC Agri-finance Project’s attempt to promote cash flow-based lending provides an example of the representational, technical and calculative work required to achieve what Von Pischke might describe as the expansion of the financial frontier. This work is necessitated by financial intermediaries’ limited understanding agriculture and the need to translate the world of SMPs into frames, calculations and data that make sense to creditors and are amenable to the needs of finance (Williams, 2014). However, it is important to ask what exactly is being achieved when we talk about the financial frontier being pushed outwards, or about bringing actors and practices within the formal financial sphere. While the application of CLARA has the potential to bring formally excluded SMPs within the frontier, it does not do so by fundamentally altering the nature of their operations. That is to say, there is not requirement for producers to reduce the unregistered element of their business, and getting them to do so is

not a specified objective of the IFC's Agri-finance project. In this sense, the role of CLARA in 'expanding the financial frontier' can be seen to represent a process of "formalization without transformation" (Kear, 2016:264). Whilst making those activities in the 'shadows' visible to creditors, CLARA also creates the opportunity for *data-generating performances*, "intended to affect the calculation of a risk metric without necessarily altering the riskiness of the underlying subject whose risk is being measured/represented" (Kear,2017:340). In this sense, the bringing of those informal/unregistered practices 'inside' the market economy (i.e. defining them as a source of creditworthiness for formal financial intermediaries), is largely a matter of representation, or *framing*. It is an attempt to place producers' informal operations within the brackets of 'the market', thus reorganising the boundary between 'the market' and the wider socioeconomic context, or 'economy of practice'. -This is not to say that markets are made simply through representation, but that those representations "contribute to the work of sociotechnical mechanisms" that help to "move people and assets across a line from outside to inside the market" (Mitchell, 2007:248).

As discussed in Chapter 3, the processes of framing market relations are both contested and always incomplete. The framing of informal or unregistered activities as part of the market is no different. This is not to say that the attempt discussed here to frame 'shadow practices' as part of the 'market' have been contested in practice (my research revealed no such evidence to date). Such a framing, however, can be seen as a potential source of controversy and political debate. As discussed in the previous chapter, various actors participating in and regulating Ukrainian's agricultural economy have made significant efforts to 'crack down' on the shadow economy, penalising those found to be participating – or even just partially implicated – in the unregistered trade of agricultural commodities. This then points towards the clear potential for disagreement over the framing of unregistered/informal practices as part of the formal economy. It also highlights that market rationalities are not put to work in a unilinear way (Berndt 2015), nor are market practitioners a homogenous group with a single vision of how markets should operate. As it gets put into practice, "abstract market thinking gets articulated with all sorts of alternative logics and conventions" which inscribe organisational rules and principles of worth which don't necessarily fit with the abstract notion of a formal market economy (Berndt, 2015:1870). As Cooper (2015) illustrates, different market actors often have different ideas about how to frame this variegated articulation, and where best to draw the boundary between those logics and conventions which belong to 'the market', and the larger expanse of material activities and resources which are deemed to exist beyond its limits (see Mitchell, 2007).

At the same time, attempts to frame the entirety of a producer's operations as part of 'the market', can only ever accomplish a partial disentanglement from the wider socioeconomic context. That is to say, while CLARA permits creditors to recognise the revenue generated from informal/unregistered activities as a source of creditworthiness and therefore 'part of the market', this revenue is inexorably linked to and

cannot be bracketed of from the unregistered, untaxable, incalculable operations that lie outside the boundary of what would typically be defined as the formal market economy. In this regard, the concept of the financial frontier marking a clear boundary between markets and what lies outside them becomes somewhat problematic, in the sense that producers which operate to at least some degree in the ‘shadow’ economy are not fully inside the market, and yet are not fully outside the market in that they may be tied into formal financial markets. Moreover, determining what is inside the market and what is outside is not a cut-and-dry matter, but rather is open to interpretation and negotiation, and hinges upon the control and circulation of representations (Mitchell, 2007). In this way, the notion of the financial frontier as a narrow line between the inside of the formal financial market and all that which is outside of it can be viewed as a misrepresentation of what is actually a broad socio-technical network or “terrain of negotiations” (Mitchell, 2007:260), comprising a diversity of entangled economic practices, actors and materials, and attempts to (re)frame and disentangle them through the introduction of various market devices and technologies of representation.

However, to say that the notion of the financial frontier is a misrepresentation is not to suggest that it does not have effects in shaping markets. As Mitchell (2007) has argued, the notion that markets have boundaries is powerful, not because it is an accurate description of socioeconomic relations, but because of the tools and arguments that it makes available and the contribution it makes to the work of sociotechnical mechanisms. According to both Von Pischke’s concept of the financial frontier and the financial systems approach to agricultural finance, CLARA and cash flow-based lending constitutes a legitimate market-based mechanism, creating new sources of value through the incorporation of new actors and practices into the sphere of formal finance.

6.9 Conclusion

Broadly speaking, the financial systems approach outlined in this chapter can be understood as an attempt to reframe agricultural finance in a way that positions producers as creators of value for the private financial sector. According to this policy paradigm, efforts to address the issue of SMPs’ limited access to external finance should focus on tying this group of producers into the formal financial sphere through profitable lending practices. This represents an attempt to position agriculture (specifically the SMP sector) as an alternative asset class (Ouma, 2016).

As illustrated by the efforts of the IFC to refine the way in which creditors assess and create creditworthiness through the introduction of cash flow-based lending, attempts to frame agriculture as an alternative asset class require considerable practical work and material, technical and institutional investment, in order to render agriculture “visible to finance” in new ways (Williams, 2014:409). The idea that agriculture must be *made visible* to finance reflects the fact that the requisite linkages between farmers

and financiers are not a natural occurrence but must be performed on a routine basis across heterogeneous assemblages of actors and market devices and through a shifting set of practices, logics and representations. These performative labours reformat the relationship between producers and creditors and extend these linkages through the enrollment of new actors and devices. In this way, as theorists such as Williams (2014) and Ouma (2016:82) have argued, categories such as *value* and *creditworthiness* represent “practical accomplishments” or a *form of work*. Efforts to reconfigure the SMP sector in Ukraine as a workable investment through the promotion of cash flow-based lending has entailed: (i) creating new financial subjectivities through training, education and the introduction of market devices to ensure that creditors are willing to alter their perception of what they are lending against, and that producers are willing to share the more intimate details of their operations; (ii) translating the socioeconomic realities of producers in a way that makes sense to creditors and enables them to *speak in the language of the farmer*, and; (iii) responding to the “knowledge demands” (Williams, 2014:401) of finance by equipping creditors with the calculative agency to engage in new data-generating performances and evaluate the intangible characteristics of farmers.

In focusing on Von Pischke’s concept of the financial frontier, I have illustrated the active role that architects of the financial systems approach have played in performing agricultural credit market around the world over the last three decades or so. In developing a new paradigm approach to agricultural finance, Von Pischke and his peers ‘mainstreamed’ a set of normative judgments about how rural credit markets should function, while also – by educating market practitioners, promoting certain ‘innovative agricultural financial models’ and embedding their ideas within the operational practices of IFIs – provided a practical means through which the socioeconomic realities of producers and financiers could be brought in line with the vision of rural credit markets described in the financial systems approach. One way in which the financial systems approach reconfigures these socioeconomic realities is by managing the boundary of formal financial markets, producing and validating certain rules and procedures that demarcate certain practices and entities as either informal/non-market or formal/market-based (Mitchell, 2007). With the example of cash flow-based lending, explored in this chapter, the utility of attempts to frame the informal portion of farmers’ operations as ‘part of the market’ – irrespective of whether or not this is an accurate representation of economic reality – comes from the way in which they facilitate alterations in the process of valuation through which creditors assess and create creditworthiness. In this way, such representations form part of the sociotechnical toolkit available to those actors tasked with expanding the provision of finance to SMPs and reworking agriculture as a source of value for the private financial sector.

Chapter 7

What constitutes ‘market-based intervention’? Financial innovations, distortions and the new role of the state in agricultural credit markets

7.1 Introduction

In the previous chapter we saw that, following the removal of direct state intervention, Ukrainian agriculture has not experienced a natural and spontaneous emergence of a functional agricultural credit market. There is therefore a consensus that some form of intervention is necessary in order to address the issue of SMPs’ lack of access to working capital finance. We also saw that, according to the prevailing policy paradigm, any interventions designed to address the issue of SMPs’ lack of access to finance must ‘*come from the market*’. This chapter seeks to address the question of what exactly constitute ‘market-based’ solutions, and what forms of interplay have emerged between the public sector and private finance in the delivery of such solutions.

I firstly consider how attempts to reframe the role of agricultural finance have entailed redefining what constitute legitimate objectives of state intervention and legitimate uses of public funds: that is, away from the provision of direct support to farmers, and towards meeting the requirements of the private financial sector, by assisting in the rendering of agriculture as an alternative asset class. In this sense, it is financial sector actors rather than farmers that represent the primary beneficiaries of ‘market friendly’ (Meyer, 2011) interventions in agricultural credit markets. Whilst being careful not to dismiss the potentially productive relationships that can exist between finance and agriculture (Williams, 2014), I draw attention to observations of commentators such as Westercamp et al. (2015) that, in the thirty plus years since the so-called paradigm shift in agricultural finance, the financial systems approach has so far not led to satisfactory solutions to address financing needs of agriculture (in particular of SMPs), instead resulting in a drastic drop in the overall level of credit available to farmers. In this sense, the reframing of what constitutes legitimate development objectives of state interventions, and associated efforts to marketise agricultural credit markets, can be seen to have resulted in an overall reduction in SMPs’ access to external finance.

I then move on to explore the possibility that the limited success of efforts to rework agriculture as an alternative asset class can be explained in part through the contingent, (often) unstable, experimental and highly mutable character of the market arrangements through which the financial systems approach is materialised on the ground. I explore this point empirically by drawing on examples I observed during fieldwork of attempts to implement innovative agricultural finance models in Ukraine through technical assistance projects – that is, highly ephemeral networks of market practitioners, financial experts, state representatives, technical devices, institutional norms and forms of knowledge, assembled around a given problem. These examples are the OECD’s Credit Guarantee Scheme (CGS) Project and the IFC’s Crop Receipt Project⁴⁶.

In analysing the OECD’s CGS Project, I explore the reasons why the project was ultimately unsuccessful in establishing a guarantee scheme in Ukraine. I analyse how the success of the project depended upon the rapid mobilisation and temporary fixation of a network of experts, practitioners and material devices, and explicate the challenges of trying to implement market models through these transient arrangements. I also consider the legacy effects of this project, exploring the way in which knowledge generated through the project has been taken forward and applied elsewhere by former project-members, whilst an explicit focus on addressing SMPs’ lack of access to finance has fallen by the wayside.

Through analysis of the IFC’s Crop Receipt Project, I explore efforts to induce private sector lending to SMPs through the collateralisation of farmers’ crops. This refers to the process whereby a farmer’s unharvested crop – the value of which only exists *in potencia* - is framed as secure collateral, meaning the creditor is accepting as security for the repayment of a loan a commodity that does not yet exist in material form. This creates an incentive for creditors to not just monitor the expected returns from their investment in agriculture, but to also concern themselves with the operational efficiency and productivity of the farm. Here I explore the series of technical and legal labours intended to increase the traceability of farmers and their crops, enabling creditors to monitor the growth of their pledge throughout the production cycle. I also consider some of the uncertainties that exist around attempts to frame agricultural crops as secure collateral, given that there has not been a single case of default to date.

Drawing insight from the growing literature on policy mobilities, I attempt to demonstrate that the implementation of these ‘best practice’ models in the context of Ukraine has not simply been a case of “emulation and linear replication”, but a more complex process of “nonlinear reproduction” (Peck and Theodore, 2010:170), during which the use and function of these models have in some instances shifted considerably from that originally intended. I orientate the analysis towards the practical work through

⁴⁶ During fieldwork I also encountered a CGS being ran by the IFC in partnership with German~~y~~-based pharmaceuticals, polymers, and agrochemicals conglomerate Bayer Ltd. However, I have omitted this example from this chapter as space is limited and it does not add substantially to the analysis.

which market models - as well as the network of actors responsible for their design and implementation – have been brought together and explore successful (the IFC Crop Receipt Project), as well what may be considered incomplete or failed (the OECD Credit Guarantee Scheme), attempts to implement ‘market based’ interventions through IFI-led technical assistance projects. In doing so, I argue that practical accomplishments of collective efforts to reconfigure agriculture as a workable investment are often more modest than either the proponents or critics of *financialisation* may be inclined to suggest.

Finally, I discuss the role of public-private partnerships – in particular public-private SME-orientated banks - as an institutional arrangement via which state-backed institutions have been able to leverage public funds to stimulate private sector lending. I consider the role of these banks in: (i) blurring the boundary between state intervention and private sector ‘market-based’ finance, and; (ii) institutionalising the connection between state support for the SMP sector (and SME sector more broadly) and the development of private sector finance. Moreover, I explore the role of these banks in facilitating the boundary crossing activities of ‘borderline’ actors (Mertens and Thiemann, 2018), providing the institutional platform for such actors to cross the public/private sector divide, as well as that of theory/practice, as financial experts have become implicated in the establishment and practical management of commercial banks.

7.2 Market failures, distortions and ‘legitimate’ subsidies

In the previous chapter I provided a detailed interrogation of the shift towards a new paradigm approach to agricultural finance – the financial systems approach (IFC, 2011). This has entailed the circulation of a specific market rationale which makes two clear normative judgements. The first judgment concerns the means by which credit is distributed to farmers. The argument that this should be achieved through ‘the market’ is underpinned by a negative discourse regarding the apparent failure of public sector institutions to distribute credit efficiently, together with a circular logic which appears to assume that “markets provide the answer to the problems of government because they are markets. If the market fails, either the effects are not very important or somehow market mechanisms need to be strengthened” (Burch, 2009:18).

The second normative judgement imposed by the new paradigm approach relates to the overall role of agricultural credit in the economy, and what constitutes ‘legitimate’ development objectives of market interventions designed to address the issue of credit rationing and increase the provision of finance to agriculture. Under financial systems approach, development of the private financial sector is identified as a “development objective on its own, rather than a means to achieve other development objectives” (IFC, 2011:20). In this way, the new paradigm approach to agricultural finance has reframed what constitute legitimate objectives of state intervention and legitimate uses of public funds: away from the provision of

direct support to farmers, and towards meeting the requirements of the private financial sector, by assisting in the rendering of agriculture as an ‘alternative asset class’.

Proponents of the new financial systems approach dismiss direct state interventions, such as interest rate subsidies, as a solution to SMPs’ lack of access to working capital, arguing that such measures have a distortionary effect on both the agricultural sector and the financial system. In particular, direct state interventions designed to make affordable credit as widely accessible as possible, have been identified as having the following unintended consequences: (i) they remove the incentive for farmers to increase efficiency and thus become more creditworthy; (ii) they distort resource allocation resulting in, for example, the overuse of inputs such as fertilisers (iii) they undermine the private financial sector by lending at below market rates, meaning that private creditors are ‘crowded out’ and unable to compete; (iv) there is no rigorous screening process to determine which producers are more financially viable than others, creating an information asymmetry in which commercial banks cannot distinguish between those producers which are ‘bankable’, and those which are not, and; (v) they discourage savings and capital formation, as low interest rates incentivise spending in the immediate term rather than saving for the future.

The provision of ‘cheap’ targeted credit to the agricultural sector can be seen as a form of price setting or price control on the part of the state or public sector institutions. As Gonzalez-Vega, (1983:366) explains, interest rates represent perhaps "the most important relative price in a market economy [...] Like other prices in a market system, interest rates are signals which influence decisions: interest rates affect more numerous, diverse, and important decisions than any other price". The market distortions that arise from interventions such as interest rate subsidies can therefore be seen as the result of distortions to those price signals provided by interest rates, which inform the decisions of market participants, be they agricultural producers or private-sector financial intermediaries⁴⁷.

It is worth emphasising here that the policy of targeted state intervention in agricultural credit markets with the aim of dispersing affordable credit as widely as possible – which prevailed across developing and transition economies until the 1980s - was (is)⁴⁸ a response to, rather than the initial cause of credit rationing in agricultural finance markets. That is to say, policies such as interest rate subsidies are not the root cause of market failure, but one form of response to the imperfections inherent within agricultural credit markets (Swinnen and Gow, 1997; Ruiz, 2014). As explored in the previous chapter, the creation of value through profitable lending between farmers and creditors is a “practical accomplishment” (Ouma,

⁴⁷ Interest rates represent the price of credit and influence the decisions to spend in the present, or in the future by saving and capital formation (Gonzalez-Vega, 1983).

⁴⁸ While policies such as interest rates are often portrayed as discredited and long-since abandoned (e.g. Reusche et al, 2016), it is a form of agricultural support that is still used in some countries today. For example, The Russian Government signed an agreement with the Russian Agricultural Bank on providing subsidised loans to agricultural producers at an interest capped at 5 per cent (Russian Agricultural Bank, 2017).

2016:82). That is to say, there is no underlying economic reality in which the removal of state intervention or other impediments against ‘the market’ results in the spontaneous emergence of functioning agricultural credit markets. On the contrary, when left to their own devices, even with the benefit of full and relevant price signals, private sector creditors in developing and transition economies have been unwilling or unable to sufficiently meet the financial needs of SMPs (IFC, 2011). In this sense, given that most developing and transition economies do not have functioning rural credit markets, it may be more accurate to think of policies such as interest rate subsidies as inhibiting the potential *future* development of the financial sector, rather than distorting the operation of *existing* financial markets. In this way, the financial systems approach arguably privileges the future over the present in that, what some observes (see Westercamp et al., 2015) note to be a considerable reduction in the supply of credit to farmers following the paradigm shift in agricultural finance and the removal of targeted government support, is framed as a necessary part of developing a sustainable financial system in years to come.

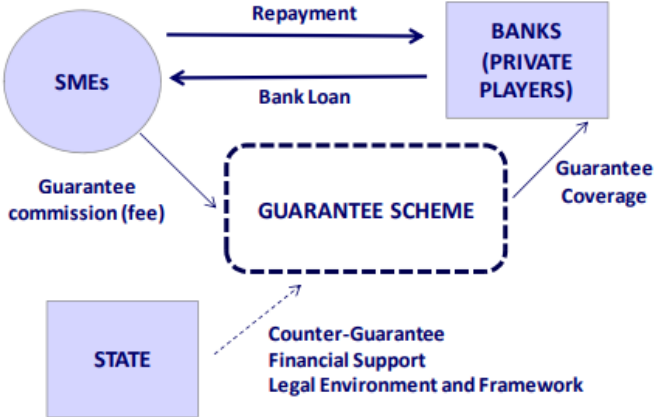
In contrast to direct targeted support, ‘market-friendly’ (Meyer, 2011) interventions – in promoting agricultural development by reworking the SMP sector as an alternative asset class and source of value for the private sector lenders – are said to have the long run advantage of avoiding the distortionary effects associated with interest rate subsidies, working “with, rather than against, financial-market forces” (Kane, 1984:178). As explored in Chapter 6, the market-based solutions advocated for by proponents of the financial systems approach work by bringing agricultural producers within the sphere of ‘formal finance’, through the design and implementation of “innovative agricultural finance models” which also create value for private-sector financial intermediaries (IFC, 2012). These innovations allow interest rates *to be set by the market* – that is, by the creditors – but induce creditors to lend to the agricultural sector at sustainable interest rates, by altering their perception of what they are lending against and/or by creating something new (e.g. a new asset or income stream) against which creditors can lend (Von Pischke, 2001). The roles of the state and publicly funded IFIs in this process include financing the design, implementation and operation of financial innovations and creating the legal and regulatory basis for these innovations to operate. This is often achieved through public-private partnerships, together with financial intermediaries and private sector financial consultancies (OECD, 2016).

An oft-cited example of an innovative agricultural finance model – and one which has been experimented with in Ukraine (as I discuss below) – are Credit Guarantee Schemes, or CGSs. CGSs work as a type of risk-sharing facility, providing third-party credit risk mitigation to lenders through the absorption of a portion of the lender’s losses in case of default, typically in return for a fee paid by either the creditor, the borrower or both (World Bank, 2015a). In this way, they can be viewed as a form of collateral subsidy (Karp and Stefanou, 1994), whereby support for farmers is provided by the state or a publicly funded IFI underwriting collateral for bank loans and covering a share of the default risk. As Karp

and Stefanou (1994:404) note, “with this kind of subsidy, [the public sector] contributes (e.g. by means of a guarantee) to the collateral that a farmer has, thereby improving the terms of a loan he can obtain on the private market”. CGSs (or collateral subsidies) are a means of supporting agriculture *via the banks*. While public funds are being used to increase farmers access to finance, the incentive itself is provided to the banking sector and not to agricultural producers, the argument being that this avoids the distortionary effects of interventions such as interest rate subsidies (see figure 4, reproduced from OECD, 2012).

Significantly, while market-based interventions (unlike interest rate subsidies and other forms of direct state intervention) avoid distortions to the price signals that interest rates provide, they can be seen to have their own ‘distortionary’ effects in that – through the use of public funds – they too alter the signals that guide creditors’ decision making, in this case by altering their perception of the risks and rewards associated with financial transactions⁴⁹. However, rather than being viewed as problematic, these ‘distortions’ are pivotal to the reworking of agriculture – in particular the SMP sector – as a distinct field of engagement and source of value for the nascent agricultural financial sectors of the developing and transition economies. For it is through these alterations to creditors’ perception that agriculture is made

Figure 4. Schematic diagram of a basic public credit guarantee scheme



Source: Financial Services Authority (2005), “A Framework for Guarantee Schemes in the EU: A Discussion Paper”, HM Treasury, London.

In this diagram is the fee is paid by the borrower to the scheme. In other instances, it may be the bank that pays a fee for risk mitigation. It is also possible for a publicly funded IFI to take the place of the state.

Source: OECD (2012)

⁴⁹ To say that such interventions distort creditors perception of risk is not to say that they necessarily have an economically harmful effect. However, examples from recent history illustrate the issues that can arise from distorted perceptions of risk in financial markets (Cheng et al, 2013; Keys et al, 2009).

visible to finance. Here we see how certain forms of state intervention and public subsidies are deemed legitimate, based on the ‘public good’ they intend to provide, and whether the specific problem they intend to address is deemed sufficient reason to intervene in the operation of the market.

As Hall (1993:279) explains, a policy paradigm “specifies not only the goals of policy and the kind of instruments that can be used to attain them, but also the very nature of the problems they are meant to be addressing”. Under the old paradigm approach (of subsidised, direct credit), agricultural credit is treated as a type of agricultural support mechanism, designed to support the development of the agricultural sector and enhance the wellbeing of farmers. Here, the farmer-borrower is the main beneficiary of state support and support for agriculture is itself treated as a public good, given agriculture’s importance to rural development and national food security. The argument for supporting farmers through the provision of direct credit is based largely on the fact that market mechanisms have traditionally failed in this regard. Moreover, policy makers in developing and transition economies have advocated interventions in and subsidisation of credit markets as a means of offsetting the vast programmes of state support for farmers in advanced market economies such as the US and EU member states (Meyer, 2011).

By contrast, under the financial systems approach, “smart” or *market-friendly* subsidies that induce private sector creditors to lend to agriculture are justified as public goods in that they contribute to the development of private sector finance which in turn benefits the wider economy (IFC, 2011; Meyer, 2011). As Meyer (2011:29) – a key proponent of the financial systems approach – argues, the idea is to “subsidize the institution but not the borrower”. Here, the *primary* beneficiaries of such interventions are first and foremost representatives of the private sector finance, with farmers being positioned “as clients rather than beneficiaries” (Meyer, 2011:v). To state that producers are not the primary beneficiaries of such interventions is not to argue – as the existing literature on the ‘financialisation of food’ often does⁵⁰ - that there is any inherent reason why farmers cannot benefit from publicly funded efforts to develop the private financial sector and induce lending to SMPs⁵¹. Yet, the reality across developing and transition economies is that, since the financial systems approach became the prevailing paradigm in the 1980s, “new approaches

⁵⁰ Much of the current literature remains grounded in a structuralist framework with emphasis placed on the actions of ‘financial capital’ as a homogeneous group of actors and interests, and analysis “geared towards the normative implications of finance’s growing interest in agriculture, namely threats to ‘food security’ and related notions of ‘sovereignty’ and ‘sustainability’” (Williams, 2014:407). Such accounts depart from the assumption that finance represents an unnatural or artificial coupling with agriculture, and focus on the negative impacts of finance in terms of the extraction of value from the agricultural sector, the generation of negative externalities, the subjectification of farmers to the laws of finance, and the deepening of corporate control over agriculture (e.g. Burch and Lawrence, 2009; Russi, 2013; Clapp, 2014; Martin and Clapp, 2015).

⁵¹ Indeed, it is widely recognised that one of the major challenges facing SMPs in Ukraine – particularly relative to larger agroholdings – is their exclusion from agricultural finance markets (Berg et al., 2014; Keyzer et al., 2012). In this sense, an argument can be made that those farmers that make up Ukraine’s SMP sector would be better positioned if efforts to rework the sector as a viable investment opportunity for commercial banks were successful.

have not led to satisfactory solutions to address financing needs for agriculture, as rural financial markets remain insufficiently developed, and their exit interest rates are often too high for farmers” (Westercamp et al., 2015:5). This point has been acknowledged by proponents as well as critics of the financial systems approach. For example, Meyer (2011:45) notes that:

Donors and governments have spent billions subsidizing programs and policies to develop and strengthen financial institutions. Nonetheless, national decision makers, international donors, and farmers in nearly all countries are dissatisfied with the supply and cost of agricultural credit.

As a result, "implementation of the new paradigm has thus resulted in a drastic drop in the financial services supply, especially credit, for agriculture” (Westercamp et al., 2015:9)⁵². In this sense, the reframing of what constitutes legitimate development objectives of state intervention and attempts to marketise agricultural credit markets have resulted in an overall reduction in the SMPs’ access to external finance.

This speaks to a second important point. Several theorists have observed the role that the state and/or public donor organisations have played in developing and transition economies in facilitating the so-called *financialisation of agriculture* (Martin and Clapp, 2015). Many of these accounts have portrayed the state as complicit in the “subordination” of agriculture to the “logic of financial capital” (Russi, 2013:40), by opening the doors to unfettered financial forces. However, as I demonstrated in the previous chapter, finance is not an abstract force propelled by a telos of expansion, but a practical accomplishment. As Williams (2014:409) notes, “this is not simply a case of colonization, of finance turning its eye to agriculture and ‘making it so’”. If we attempt to unpack what the ‘financialisation of agriculture’ means as a matter of practice, we see that attempts to make agriculture more visible and amenable to the demands of finance and to alter the process of valuation through which financial intermediaries calculate and perform value, require considerable time, energy and investment, together with the use of various technical and representational devices, in order to forge the necessary socio-technical linkages through which agricultural credit markets are constituted. Therefore, it is important to recognise that the practical accomplishments of efforts to reconfigure agriculture as a workable investment are often considerably more modest than either the proponents or critics of *financialisation* may suggest. That is to say, we must recognise the “failures and incongruities underlying the intersections between finance and agriculture and of the existence of financialization as an ‘unfinished business’” (Williams, 2014:410; Erturk et al., 2008).

In the remainder of this chapter, I attempt to illustrate this point empirically through analysis of the real-world attempts to implement innovative agricultural finance models in Ukraine that I encountered whilst in the field. In doing so, I argue that the limited success of efforts to reconfigure agriculture as a

⁵² Unfortunately, a lack of available data makes it difficult to quantify this point. As Meyer (2011:24) notes, despite “consensus that agricultural finance in many parts of the world could work better than it presently does for small farmers”, “there is surprisingly little quantitative evidence to document credit flows before and after reforms”.

workable investment can be explained in part through the contingent, (often) unstable and highly mutable character of the market arrangements through which the financial systems approach is materialised on the ground. As outlined above and in the previous chapter, the version of agricultural credit markets envisioned by the financial systems approach is materialised through the implementation of innovative agricultural finance models (IFC, 2012). Almost invariably, it is IFI-led technical assistance projects which are tasked with the assemblage of these market models. In this sense, the success of the financial systems approach rests in no small part on the ability of technical assistance projects as an organisational form to implement these innovative models on the ground.

While there is no shortage of reports published by IFIs outlining the types of ‘best-practice’ innovative finance models available to market practitioners, these models must travel from the reports in which they are contained, and from the contexts in which they have previously been implemented, to new national contexts and economic landscapes. As contributors to the emerging literature on policy assemblages and mobilities have illustrated (McCann and Ward, 2012; Clarke et al., 2015), market models do not exist as a “kind of ‘package’, ready and able to be transplanted or transferred from one setting to another”, unpackaged and deployed during technical assistance projects (Lendvia and Stubbs, 2009:675; Peck and Theodore, 2010). Rather, these models are better conceived of as actor-networks which are *achieved* through a process of assemblage. In this sense, they do not simply travel, whole and unchanged, across space to emerge as fully formed in new locations, but must be re-assembled in each new setting (McCann and Ward, 2012).

The concept of assemblage places emphasis on “the *process* of arranging, organizing, fitting together” (Wise, 2005:77, emphasis in original) and the emergent nature of market models. This highlights the possibility of stability but also of instability; of success but also of failure, as projects might veer off course or run out of stream if, for example, funding runs out or participants lose interest. This analytical orientation emphasises the contingent and non-linear character of any particular assemblage (Clarke et al., 2015). Moreover, it “makes visible the (variable) fragility of assemblages – that which has been assembled can more or less easily come apart” (Newman and Clarke, 2009:9) This means that, when studying these models empirically, we should not simply identify examples where they have been deployed and assume them to have had their intended effects. Instead, it is the job of researchers to focus on the process of assemblage – the process of translation and enrolment – and consider the extent to which technical assistance projects have been successful in building the requisite sociotechnical network of actors and materials through which these models are constituted.

A second related point refers to what McCann and Ward (2012) call *mutations*. As I now turn to explore, the assemblage of market models through technical assistance projects entails creating a network, or taskforce, of various actors with their own set of interests, objectives and motives, as well as their own

understanding of what the model is and ideas about how it should operate. This implies that a process of translation is required when enrolling actors onto the project, in order to align understandings and interests, enabling them to work towards a common goal. Not only does this open up the possibility of misunderstanding and divergent interests, it also highlights how, as models are reassembled in new contexts by different sets of actors, their structure and functionality may morph as project participants put their own stamp on their version of models. As Ong and Collier (2005:11, 18 *cited in Clarke et al., 2015:51*) note, any phenomenon that has the “distinctive capacity for abstractability and movement” tends to produce equally distinctive “lines of mutation” through “the de- and re-articulation” of its elements (Clarke et al., 2015:51). As such, researchers must be aware that real-world incarnations of market models observed in the field may well differ from those of described in theory, and focus their line of inquiry on explaining the processes of assemblage through which these mutations occur.

7.3 OECD Credit Guarantee Scheme: an example of a policy paradigm ‘failing forward’

CGS have been widely applied in emerging economies by governments, donors and NGOs to promote credit delivery to smallholder farmers as well as micro, small and medium-scale enterprises more generally (Onumah and Meijerink, 2011). While there are multiple examples of established CGS in Eastern Europe, the concept has only recently begun to gain traction in Ukraine over the last five to ten years (Koriakin and Kirchner, 2016). Below I discuss the OECD CGS Project which ran from 2013 to 2016, and was an attempt to establish a public-private guarantee fund for agricultural SMEs which ultimately never reached the implementation stage.

The OECD project ‘Putting in Place the Conditions to Set up a Credit Guarantee Scheme for Agribusiness SMEs’ in Ukraine (here referred to as the OECD’s CGS project) emerged out of the OECD’s Sector Competitiveness Strategy for Ukraine, which was launched in 2009 in cooperation with the European Commission and the Swedish Government. The Sector Competitiveness Strategy was intended to identify “high-potential sectors in the Ukrainian economy and competency-based barriers that were hindering their development” (Broka et al., 2016:2). ‘Agribusiness’ was “a key sector identified in this work, and access to finance for agribusiness SMEs was identified as a major constraint hampering the sector’s development” (Broka et al., 2016:2 pre-feasibility).

The OECD’s CGS project ran from September 2013 to February 2016 and, as with the OECD Sector Competitiveness Strategy, was fully funded by the Swedish Government. For the purposes of the project, the OECD assembled a task-force which included representatives from the OECD, the Swedish International Development Cooperation, the Ukrainian Ministry of Finance, the Ministry of Economic Development, the Ministry of Agrarian Policy and the National Bank of Ukraine (see figure [2.4](#), reproduced

from OECD 2014). After the first year, the private-sector financial consultancy Internationale Projekt Consult (IPC) was also contracted to assist with the project.

Figure 5. The composition of the OECD CGS Project Task Force, as presented at the Task Force’s first meeting on 11 June 2014



Source: OECD (2014)

The primary objective of the project was to design an independent CGS, the blueprints for which could be handed over by the OECD to the Ukrainian Government for implementation at the end of the project. Achieving this objective entailed deciding on a range of the scheme’s primary (such as, at whom the scheme should be targeted and the type of ownership structure the scheme should take i.e. public guarantee scheme, private guarantee scheme or public-private guarantee scheme) and secondary features (including: the size of the guarantee coverage; eligibility criteria for loan recipients by farm size; how much commercial banks should be changed to use the scheme; the source of initial funding (to cover seed capital and technical assistance funding requirements), and; whether or not the scheme should be part of a Government Ministry or established as a legally separate entity).

Consensus on each of these many design features was arrived at through a number of task force meetings, in which task force members came to collective decisions based on analysis of interviews conducted with the scheme’s potential stakeholders, as well as desk research looking at international practices and the Ukrainian environment, carried out by representatives from the OECD and Internationale Projekt Consult. Despite recent efforts to identify good practices for CGSs (e.g. World Bank, 2015a), the international community still lacks a common set of principles or standards on how best to establish,

operate, and evaluate CGSs. For this reason, when it came to designing a best-fit scenario for the ‘the Ukrainian context’, the OECD-led task force was faced with a multitude of decisions regarding the scheme’s design, with numerous ‘best practice’ examples from other geographical contexts from which to draw insight. Part of this work entailed establishing “a common understanding of the CGS concept among key stakeholders – namely, the Ukrainian government, regulatory bodies, commercial banks, international donors, and targeted beneficiaries” (OECD, 2016a:5). Establishing a ‘common understanding’ among stakeholders implies a process of translation, through which various actors’ interests and intentions were alienated, enabling them to act with one voice towards a common goal. These translations can be seen to have taken place during routine task-force meetings⁵³.

The final output of the OECD’s CGS project came in the form of a technical report containing the design details of the proposed scheme (OECD, 2016c). The final design was an instrument to guarantee a portion of loans (up to EUR 250,000 per loan) to SMPs of 100-2000 hectares. Perhaps the most distinguishing feature of the OECD’s CGS design was the decision to establish the scheme as a public-private legal entity, namely a limited liability company, with the status of a registered non-bank financial institution operating under the regulation of the National Bank of Ukraine. Under this scheme, guarantees would not be extended by IFIs or Government institutions, but by a legally separate fund (OECD, 2016c). It was envisaged that the Ukrainian Government would help with establishing the fund, and that Government ministers would have a place on the management board. However, the scheme was designed to be independent of Government control, with Government officials having no influence over routine operational decisions such as to which farmers guarantee would be provided, or which banks were able to participate in the scheme. The OECD’s design stipulated that the scheme be managed by private-sector representatives, selected either through a public tender or owing to their sectoral expertise and background. The CGS was designed to be a profitable entity, generating revenue through the fees paid by commercial banks to participate in the scheme. The intention was that, in time, the fund would attract capital from both domestic and foreign investors, in the form of commercial banks, investment funds etc. However, to initially launch the fund, the OECD calculated that approximately EUR 10 million in seed capital⁵⁴ and EUR 1.5 million in technical assistance funds would be required in order for the CGS to operate in accordance with its plans (OECD, 2016c). Given the requirement for the scheme to be independent from the Ukrainian Government, as well as the limited public funds and private actors interested in funding the scheme, it was

⁵³ The project had finished by the point at which my fieldwork had begun, meaning I was unable to these meetings. Summaries of topics discussed at each meeting are available online, but don’t give insight into “the arguments, interests and divergent points of view” (Niebuhr, 2016:87) that may have emerged during the process of coming to a consensus about the design and function of the proposed CGS. As an alternative to directly observing the task force meetings, I explored these themes in interviews which I conducted with former task force members.

⁵⁴ Seed capital is the initial capital used when starting a business.

the decided that this initial EUR 11.5 million should come from an international donor, either a foreign government agency or IFI. It was stated in the final technical report that:

This funding should be provided as a lump-sum grant, since this will assure partner banks and regulators of the scheme's capital adequacy and will weaken the risk of asset/liability mismatches. The return for donors would be the additional impact of the scheme (in its most basic form, the increased number of agricultural SMEs receiving credit which would not have previously) and dividend payments made possible after three years of operation (OECD, 2016c:34).

At the end of the OECD CGS project, the OECD published the technical report with the design blueprints. However, the scheme ultimately did not get beyond the design stage, to the disappointment of some of those who contributed. During an interview with a representative from IPC who participated on the project, it was suggested that one reason the scheme did not get off the ground was the high rate of staff turnover within each of the Government ministries involved in the task force:

... at that time in particular, there was an unstable political and economic situation which meant that all top managers in the Ministry were changing every few months. And if a minister leaves, all their team leaves, and new people come in. And we found that even during the running of the project that we were having to deal with new people, and start from scratch again trying to explain to them what the point of the project was, its aims and goals, and what kind of support we need from them [...]. So, nobody really took ownership and went on to establish the CGS. That is why nothing has happened as a result [of the OECD project] (Oksana, Senior Bank Advisor, IPC, June 2017).

In technical terms, this issue falls into the category of 'political risk': "the risk that political decisions or events in Ukraine may adversely affect the dynamics and profitability of the CGS" (OECD, 2016c:14). Such risks are said to be heightened during the instalment of a new government or by social instability⁵⁵.

⁵⁵ Running from September 2013 to February 2016, the OECD project spanned a period of extreme political and economic instability. Beginning with the Euromaidan demonstrations in Kiev (and elsewhere in western Ukraine and central), and culminating in the ousting of the Yanukovich government on February 22nd 2014. The revolutionary events in Kiev, including the appointment of an (allegedly) avowedly pro-western government, in turn sparked civil unrest in the East of the country, which has subsequently morphed into a militarised separatist movement. Since August 2014, Ukraine has been engulfed in a bloody civil conflict, played out in the Donbass (the largely industrial region of Eastern Ukraine) between Western backed Ukraine forces and pro-Russian separatists.

The challenges that arose from the high turnover of ministry staff highlights the routine practical work that goes into maintaining market assemblages, as well as the inherent fluidity and hence fragility of such assemblages. It also points to the fact that ‘translation’ (the alignment of actors’ interests and actions) is not a one-off event which occurs at the beginning of every new project, but rather a continual process required to keep the associations between actors stable and their roles clearly defined, as actors enter and leave the assemblage.

However, instability in Government and the high turnover of ministry staff appears not to have been the only reason for the OECD’s CGS not being followed through at the end of the project. The other major factor behind the scheme not being taken forward relates to a lack of clarity regarding which stakeholder would provide the funding to get the scheme off the ground. To borrow a phrase from the above interview extract, it appears there was a lack of consensus or understanding about who exactly was to *take ownership* of this aspect of the scheme after the OECD task force disbanded. During an interview with a representative from the Swedish International Development Cooperation Agency (SIDA), it was made clear that it was never an option for SIDA to fund such a scheme, raising the question as to why the establishment of a CGS initially emerged out of the Sector Competitiveness Strategy as a project the OECD wished to pursue:

It is just not the way we operate. We could not give the banks money to sit in a pot and lend out to farmers. Nor could we provide the money to the pot for the guarantee scheme. We are not that kind of donor, we fund technical assistance (Daniel, First Secretary/Programme Officer, SIDA, June 2017).

Similarly, the OECD is not an institution which is itself capable of functioning as an international donor. The OECD functions as a policy think tank and advisory organisation, with a strong record in agricultural policy analysis but no capacity to fund such a project (SIDA, 2017). Moreover, a project evaluation report published by SIDA identified the OECD’s lack of experience in running development assistance projects and working with international donor organisations as an area of concern:

SIDA has in their ongoing project with OECD put considerable efforts into managing the administrative challenges that have occurred as a consequence of OECD not being a donor-oriented organisation. These experiences suggest that the organisation has little capacity of managing

This political stability transmuted into economic crisis, with Swain (2015) noting that “Ukraine is on the verge of economic collapse; GDP fell by a barely conceivable 17.6% in the first quarter of 2015 due to armed conflict in the Donbass and the depressive effect of domestic austerity policies”.

development projects and dealing with donors and their reporting requirements (SIDA, 2017:26).

The SIDA report also highlighted as an issue the OECD's lack of a national office and "permanent presence" in Ukraine⁵⁶. The lack of a permanent presence during the project, and the absence of any presence in country following the conclusion of the project, highlight the transient nature of technical assistance projects as an organisation form (Grabher, 2002), and help explain why the designed CGS was not followed through once the OECD CGS project finished. As was noted in the SIDA report:

[A permanent presence in Ukraine] could have enabled a clearer anchoring of the project activities in ongoing reform efforts, in particular in the aftermath of the Maidan events and in direct support of the reform momentum at the time (SIDA, 2017:26).

The idea for a CGS emerged out of the OECD-led Sector Competitiveness Strategy and, as the SIDA report highlights, it is for this reason, rather than any specific expertise or experience in implementing development assistance projects, that the OECD came to oversee the CGS project. The fact that the OECD and SIDA (the two main taskforce members) inherited the task of creating a CGS for SMPs – rather than being enrolled onto the CGS project on the basis of their specific technical experience or capabilities – goes some way to explaining the lack of clarity from the outset regarding which actors were responsible for sourcing the seed capital to get the scheme up and running. Moreover, this uncertainty regarding the roles and responsibilities of different actors – i.e. who was to take 'ownership' of the scheme – was compounded by the transient nature of the OECD CGS Project. As the OECD-led task force disbanded following the project end-date, the option to clarify any uncertainties or address any other outstanding issues was removed. A constituent feature of technical assistance projects is what Lundin and Soderholm (1995:449) term "institutionalized termination". This means that the heterogeneous networks of experts, practitioners and material devices brought together for the purpose of assembling a given device or instrument and making it active, are highly ephemeral in nature. In this way, the assemblage of market devices such as innovative finance models is "highly dependent on the creation, mobilization and temporary fixation of actor-networks" (Muller, 2015:80). Following their temporary association with the OECD CGS Project, former participants were free to reassemble individually in different networks, involving different groups of actors, around a different set of problems. This is the point at which the OECD's CGS design was dropped.

⁵⁶ This was something I observed during fieldwork, as the OECD was very helpful in putting me in contact with other project stakeholders, but had no representatives on the ground in Kiev with whom I could meet

However, that is not to say that the ideas and knowledge generated during the OECD CGS project were lost following the dismantling of the project network. On the contrary, these can be seen to have endured, for example, in the form of project reports and are embodied within former task force members. I conducted interviews with two former task force members, previously staff members at the National Bank of Ukraine, who had since begun working with an organisation called the German-Ukraine Fund, or GUF, where the concept of a CGS continued to be developed. The GUF is a non-commercial financial institution, established by Presidential Decree in 1998⁵⁷. Its stated objective is to enhance the competitiveness of Ukrainian SMEs through the granting of loans via selected partner banks operating in Ukraine. GUF shareholders are the National Bank of Ukraine (31.3 per cent), the Ukrainian Ministry of Finance (31.3 per cent) and the German government-owned development bank KfW (Kreditanstalt fuer Wiederaufbau) (37.45 per cent). As one individual, formally a NBU representative on the OECD task force, now working with the GUF, explained to me:

With the OECD project, we had the design for the guarantee scheme but we could not get the seed capital for the fund. We are continuing with this idea now at the GUF, and it looks like the seed capital is going to come from the European Commission's European Investment Fund. There has been a proposal from European Commission of EUR 10 million, a third of which will be technical assistance to the GUF and partner banks. The other two thirds will be to capitalise the fund. It was proposed in the OECD report that a separate fund should be established for the guarantee scheme. The GUF will fulfil this role. However, the scheme is going to be expanded beyond agriculture, to include all small and medium sized enterprises (Valeriy, Deputy Fund Manager, German-Ukraine Fund, interview June 2017).

As the interview extract highlights, the failure of the OECD CGS Project clearly did not deter former task force members from pursuing the task of establishing such a scheme. In this sense, notwithstanding the ephemeral nature of technical assistance projects, we should not underestimate the ability of their constituent parts to survive and reassemble in different networks, with different people, around a different problem (Gibbons et al., 1994). The way in which elements of the OECD project appear to have seamlessly integrated into the new project led by the GUF and its partners, provides an example of the way in which

⁵⁷ According to the Decree of the President of Ukraine dated 1 June 1998 No. 574/98 On German-Ukrainian Fund and Regulation of the Cabinet of Ministers of Ukraine dated 19 April 1999 No. 628.

failed attempts at market assemblage can still inform future projects, without impeding them from proceeding on more or less unchanged policy premises (Johns, 2015).

At the same time, however, we can observe how the perceived function of the CGS also morphed as it passed from one project to another. The stated objective of the OECD project was to specifically address SMPs' limited access to finance by inducing commercial banks to lend to the agricultural sector. Agriculture was the focus of the scheme and farmers were its target. As was highlighted in the OECD's prefeasibility study, such are the specificities of agricultural enterprises that they necessitate an equally specialised CGS, designed specifically for the purpose of facilitating lending to SMPs (OECD, 2016a). By contrast, as I learnt during meetings with staff at the GUF, ongoing efforts by the GUF, NBU and EUF to establish a CGS have moved beyond a specific focus on agriculture, focusing instead on SMEs across all industries. In this sense, the project is no longer orientated toward policy issues specific to the agricultural sector. As highlighted in an EU4Business press release, the introduction of this CGS is intended to compliment "the GUF's participation with KfW in the EU4Business SME Finance Facility⁵⁸, which aims to stimulate local currency lending, especially for micro, small and medium-sized enterprises" (EU4Business, 2017). This is part of an agreement on the hedging on currency risk between the GUF, KfW and European Union:

German-Ukrainian Fund understands the need for banks and SMEs is in the hryvnia resources, and wants to provide them. But in the course of converting of the attracted currency loans in hryvnia the Fund will be exposed to currency risks. The European Union, realizing the importance of stepping up lending to SMEs in Ukraine, has offered to undertake a part of currency risk of the German-Ukrainian Fund, in amount of 5.2 mln. euros, under its EU4Business initiative. According to the signed agreement, the European Commission is ready to compensate the German-Ukrainian Fund through the KfW to 30% of losses arising from adverse changes in the hryvnia exchange rate against the euro on credit GUF programs amounting to 17 million. euros. In this Agreement KfW acts as an agent of the European Commission on the implementation mechanism for hedging GUF (Ministry of Finance of Ukraine, 2017).

In this way, while the CGS designed by staff at the GUF is continuing to fulfil its role in facilitating financial innovation, the specific focus on agricultural development has fallen by the wayside. While the CGS was

⁵⁸ EU4Business is an EU initiative that helps SMEs in the six countries of the Eastern Partnership region to realise their full potential and boost economic growth.

originally conceived of as an innovative agricultural finance model, its intended function has altered considerably during the process of its assemblage.

7.4 IFC Crop Receipt Project: the attempted collateralisation of living things

Another attempt to implement an innovative agricultural finance model in Ukraine is the IFC Crop Receipt Project. Crop receipts are a type of pre-harvest financial instrument and form of collateralised commodity transaction in which a farmer's future crop is accepted as collateral against a loan, be it from a bank or any other provider of credit (e.g. input supplier or commodity trader). The instrument works by providing financiers with additional security when dealing with collaterally constrained farmers, whilst enabling farmers to obtain working capital prior to harvest, without having to sell their stored produce at a lower price in order to fund their operations.

As a report from the World Bank (2017) highlights, crop receipts are a relatively uncommon financial instrument in development finance, largely because of the risk involved in lending against something that does not yet exist (the future crop). Brazil is the only national context to date in which crop receipts are in popular usage amongst financial intermediaries. The main beneficiaries of Brazil's crop receipt system (*Cedula Producto Rural*) tend to be medium and larger commercial farmers. Recently, there have been efforts to pilot crop receipts in certain large grain markets in Eastern Europe and Central Asia, including in Ukraine, where the instrument has been introduced as a mechanism to induce lending to SMPs (World Bank, 2017).

The Ukrainian Crop Receipt Project was launched in 2015 by the IFC, in partnership with the Ukrainian Government, Switzerland's State Secretariat for Economic Affairs (SECO) and multinational input suppliers BASF and Syngenta. The purpose of the programme was to: (i) create the legislative environment for crop receipts (ii) pilot the first use of crop receipts before expanding nationwide; (iii) design and build a national crop receipt registry, and; (iv) provide training for stakeholders on how to use the system (including notaries, farmers, input suppliers and banks). The Brazilian system served as something of a blue-print for the Ukrainian model. As part of the IFC project, a delegation of experts was flown in from Brazil to consult on the design and implementation of the instrument in Ukraine. Prior to the launch of the IFC project, leading industry participants sponsored a study tour of Brazil for high-level officials from Ukraine in 2011 (EBRD, 2014).

Following support in designing the legislation from the IFC and other IFIs, including the EBRD, Ukraine's parliament passed a law on agricultural receipts in 2012 (World Bank, 2015b). According to this law, a crop receipt represents:

A document of title establishing a debtor's absolute obligation secured by pledge to deliver agricultural products or pay funds on the terms set forth therein. [A crop receipt] establishes security of fulfilment of debtor's obligations under the agrarian receipt by pledge of its future crop. The subject of such pledge may only be future crop. The amount of pledge shall be no less than the amount of the obligation under the receipt (FAO, 2012).

The law sets out two types of crop receipt: financial crop receipts and commodity crop receipts. With a financial crop receipt, the future crop is pledged as collateral and accepted by the creditor should the farmer default on a loan. However, if the farmer does not default, then the loan is paid back in currency based on the terms agreed with the creditor. With a commodity crop receipt, the farmer pays back the loan using the crop itself (a type of barter trade). A commodity crop receipt establishes the obligation of a debtor to deliver a certain quantity and quality of agricultural products, to a specific location and within a period of delivery agreed with the creditor and specified in the crop receipt.

For a crop receipt to be recognised as a legal document of title, it should be agreed by the farmer and creditor, before being notarised by a public notary⁵⁹ and entered into the national crop receipt registry. This registry, created as part of the IFC crop receipt project, is accessible online to all members of the public⁶⁰, the purpose being to increase transparency and provide creditors with maximum information about a potential borrower's credit history. The registry includes details of each crop receipt that has been signed since the introduction of the instrument, including the names of the parties that made the agreement, what type of crop receipt it was (financial or commodity), the value of the farmer's obligation, and whether or not the obligation was met. As a representative from the Swiss State Secretariat for Economic Affairs (SECO) explained:

The state registry creates an information platform where every deal should be registered, where every crop receipt should be registered. And this system is fully open, so let's say, you are a bank, and you'd like to know a little more about this farmer before you sign a crop receipt. Well you can use this registry to see the history of the farmer, how many crop receipts he took before, what were his repayments, previous providers of funding and so on. This history you can find on the open registry (Victor, Assistant

⁵⁹ An official who verifies the identities of everyone signing the document, witnesses the signatures and marks the document with a seal.

⁶⁰ The online register can be accessed using the following web address: <https://agroregisters.com.ua/en/working-with-the-registry/>

director, Department of Sustainable Economic Development, SECO, June 2017).

Significantly, each crop receipt is linked to a specific plot of land, and this plot can be located by tracing the receipt's cadastral number⁶¹, which is available on the state registry. Since the dissolution of the Soviet Union, Ukraine has lacked an adequate administrative system for registering agricultural land ownership. The absence of accurate cadastral records has been cited as one historical factor preventing the establishment of a market for agricultural land in Ukraine, as the lack of data on the dimensions and location of land parcels means that "fraudulent transactions and land related disputes would be highly likely" (OECD, 2015:10). However, Ukraine's parliament finally passed 'The law on the State Land Cadaster' in 2011, which stipulates the creation of a unified register of all agricultural land plots. Using part of a USD 195 million loan from the World Bank for the 'Rural Land Titling and Cadastre Development Project', the infrastructure of the cadastre was completed in 2013, although the system still remains incomplete, with records for some regions being more reliable than others (OECD, 2015; World Bank, 2013). Developers of the crop receipt system have subsequently been able to include data from the cadastre in the land registry, meaning that creditors can easily locate and track down their pledge as it grows in the field. This is why any farmer that wishes to sign a crop receipt must be able to provide a cadastral number. Ensuring the traceability of farmers and their crops in this way can be seen as a crucial element of the work being done to frame agricultural crops as secure collateral. In agreeing a crop receipt with a farmer, the creditor is accepting as security for the repayment of a loan a commodity that does not yet exist in material form. That is to say, the value of the crop only exists *in-potencia*. The idea is that - for the pledge to eventually cover the cost of the loan and therefore secure the creditor's investment - the *potential value* will become *actual value* as the collateralised crop develops in the field. This creates an incentive for creditors to not just monitor the expected returns from their investment in agriculture, but to also concern themselves with the operational efficiency and productivity of the farm and to ensure their crop is growing as expected. The cadastral system and crop receipt registry are essential in facilitating this.

The allocation of a cadastral number to each crop receipt – which is then visible in the registry and enables creditors to locate the specific plot of land on which their pledge is growing - is a key feature distinguishing crop receipts from other means of commodity exchange such as forward or future contracts. For example, let us compare commodity crop receipts with a traditional forward contract. With both forward contracts and commodity crop receipts, farmer and buyer (also the creditor in the case of crop receipts) enter into a transactional agreement, whereby the producer is contractually obligated to deliver a certain

⁶¹ A cadastre is a comprehensive land record mapping out the dimensions and location of land parcels described in legal documentation. Cadastres are a fundamental source of data in legal disputes over land ownership.

quantity and quality of a given agricultural material to an agreed location by a set date. In the case of forward contracts, however, the buyer generally has no claim over the crop until it has been harvested, graded, delivered and signed for at the agreed location of exchange. At the same time, it is at the discretion of the producer as to where they source the agricultural products from: for example, they can either harvest a crop from one of various plots or landbanks, or purchase it from another farmer or middle man. There is no need for the buyer to know where the crop has come from, as long as they have the correct certification to show that the crop was grown and traded both in accordance with the law and with the terms of the forward contract (e.g. the contract might state that the crop should be non-GMO, or grown using only organic fertilisers). In fact, as studies of the social and material life of agricultural commodities have demonstrated (Busch, 2011; Çalışkan, 2010; Busch & Juska, 1997; Busch & Tanaka, 1996; Cronon, 1991), the ‘commodification’ (Çalışkan and Callon, 2010) of agricultural materials necessitates a process of standardisation so as the farmer need not know, for example, from which plot of land or train carriage a given parcel of grain came from. For agricultural materials to become tradable commodities, they must be disentangled from the physical reality of their production (i.e. where they were grown and by whom) and rendered as “homogeneous abstractions”– e.g. 500 tons of Grade 2 Winter Wheat (Cronon 1991:132).

By contrast, in the case of crop receipts, the buyer-creditor has a claim to the crop before it has been harvested. Moreover, that claim relates not to a homogenous abstraction, but to a single specific crop on a defined area of land. This means that, using the cadastral system, the creditor should be able to physically visit that plot and monitor the growth of their pledge. This requires the collateralised commodity to remain at least partially entangled with the physical material reality of its production, up until the closure of the crop receipt. In addition to the technical labour of the IFC and its partners in creating the land cadastre and national registry, forming and maintaining linkages between creditor, farmer and crop has also required legal work to establish the procedure of foreclosure on the collateralised crop. The intension behind the introduction of crop receipts in Ukraine was not just to provide an alternative source of collateral in the absence of a functioning land market, but also to create a simpler process of foreclosure on collateral – the idea being that the exchange of property rights is more straightforward for agricultural commodities than it is with fixed assets:

This idea of tracking specific plots is important from an enforcement point of view because, in the case of a default, the creditor has the right to go to a specific plot and take the crop from that plot. If it is already harvested, then you can go to the storage and take the part of the grain that you have a right to. If there is no crop at all, in the case of drought or something, you have the right to wait for another season and then collect harvest from the

specific plot mentioned in your agrarian receipt (Ksenia, Junior Business Development Manager, Syngenta, June 2017).

Significantly, creditors are not just able to check up on the producer in case of default, but also have a legal right to monitor the growth of their pledge through the production cycle. The Law on Crop Receipts states that:

The creditor under an agrarian receipt shall have the right to monitor alone or through third parties' future crop of agricultural products being the subject of pledge under an agrarian receipt. Monitoring may be made during the whole period of pledge of future crop of agricultural products, unless otherwise agreed upon by the parties to the agrarian receipt.

Monitoring provides for supervision over future crop, observance by the debtor under the agrarian receipt of the respective technological processes with an opportunity to access the land plots, on which the future crop being the subject of pledge under the agrarian receipt is harvested, and access to the premises, where the gathered agricultural products being the subject of pledge under the agrarian receipt are stored (FAO, 2012).

It can be seen that rendering a farmer's (not-yet-harvested) crop acceptable to the needs of financiers – i.e. ensuring that it represents secure collateral – has entailed reworking both the relationship between farmer and financier, as well as the relationship between the farmer, their means of production and the crop they are tasked with growing, as the creditor gains an increased stake in how the farm is operated.

Yet, while the collateralisation of agricultural crops requires that the pledge remain partially entangled with the physical reality of its production, this entanglement *is only partial*. This is because, for the IFC's crop receipt project to function as is intended in the long term, crop receipts should simultaneously serve as proof of the creditors pledge and function as a derived security. In order to serve the latter function, crop receipts must be bracketed off from the underlying asset. At present, the legal status of a crop receipt is a document of title rather than a derived security. However, this may change in the short to medium term as the IFC and its partners continue to support legislation to make Ukraine's crop receipt system more closely reflect the Brazilian model, in which crop receipts have the legal status of a tradable security (IFC, 2018). This would allow creditors to transfer ownership of crop receipts on secondary markets:

Banks are keen [to use the instrument], but the problem is that the instrument has not yet been proven, so banks do not view it as a very liquid

collateral yet. But in time, we expect more and more banks to start participating, and lending against these notes. This is exactly what happened in Brazil, and eventually these crop receipts became tradeable securities on the stock exchange. The market in Brazil is not huge, we're talking USD five billion for crop receipts. We are hoping that the same will happen in Ukraine, we just need a little time to develop (Elena, Head of Operations, IFC, May 2017).

Should a secondary market for crop receipts emerge as planned under the IFC project, this could be seen as a form of what Clapp (2014) refers to a 'distancing' within the agricultural finance sector, in that it would: (i) increase the number and type of actors active in the agricultural commodity chain; (ii) increase the distance between the farmer and the actor with a claim to their crop, and; (iii) increase the distance between the derivative (the crop receipt) and the underlying asset (the crop).

To date, although still in the relatively early stages, the IFC Crop Receipt Project can be seen as a successful attempt to frame agricultural crops as secure collateral. As of 9 July 2018, 638 crop receipts had been issued, attracting a total UAH 4 billion (EUR 134 million). The instrument has been successfully rolled out across the country⁶². As I hope to have illustrated above, the success of the project to date lies largely in the technical and legal work of the IFC and its partners to reduce the perceived risks associated with lending against a harvest that does not yet exist. Framing agricultural crops as secure collateral has required the implementation of both technical and legal instruments designed to make farmers' actions predictable and, to an extent, controllable. The assignment of a cadastral number ensures that farmers can be located geographically, while the law on crop receipts enables creditors legal access to the farm, together with the ability to question the farmer about their operation and the scope to make recommendations about how the farm operates. In this way, crop receipts can be seen to rework the farmer's relationship with the creditor in a way that also alters the farmer's autonomy over their means of production, as the creditor gains an increased stake in how the farm is operated. Maintaining this relationship requires cooperation on the part of the farmers involved in the crop receipt system whom, to date, have been faithful adherents to this particular attempt at market framing. This is reflected in the fact that there have thus far been no defaults on loans made using the instrument.

⁶² On the date I concluded the fieldwork, crop receipts were being used in eight regions of Ukraine. However, in February 2018, the IFC (2018) announced that crop receipts were to be rolled out across the whole of the country.

However, the fact that there has not been a single default to date also creates uncertainty about whether attempts to frame crops as secure collateral will endure in the instance of a default. As a representative from SECO explained:

There is not a single negative case where farmers cannot fulfil their obligations. In fact, there was talk of simulating such as case – like an experiment or test case - just to see how the system works. But, having provided over 1 billion hryvnia, there has not been a single case. Probably because at this stage, those farmers who are engaged in the scheme are very dedicated, and they know what they want from participating in the scheme. I do not exclude the possibility that later on when we will have a bigger scale of operation, such cases could appear (Victor, Assistant Director, Department of Sustainable Economic Development, SECO, June 2017).

While the farmers engaged in the scheme to date may have been ‘very dedicated’ to its success, the above quote implies that the introduction of crop receipts into the mainstream will require the enrolment of many more farmers into this hitherto unknown market arrangement, who may potentially not share the same dedication to the success of the scheme. In this sense, the durability of the market frame across space and time remains untested. However, the main unknown is not whether or not farmers will eventually default (as the instrument is designed to protect creditors in such an eventuality), but whether, in the instance of a default, the various actors that constitute this market arrangement will continue to accept the roles ascribed to them. For instance, farmers’ commitment to the scheme in case of default remains untested, and it is unknown, for example, how readily some producers may be willing to relinquish their claim on a creditor’s collateral. At the same time, the procedure for foreclosing on a collateralised crop is untested, and it remains unknown the extent to which the legal system will facilitate foreclosure in practice. As one interviewee explained:

There are some advantages but also disadvantages with the new instrument because nobody knows how the process of recovering your collateral will work in practice. For example, does it really work that within seven days you will get your collateralised crop? (Ksenia, Junior Business Development Manager, Syngenta, June 2017).

At the same time, as living organisms and organic materials, agricultural crops are also capable of exerting their own agency over any attempt to frame their exchange, and can (and often do) defy the efforts of human agents to build stable market arrangements around them (Çalışkan and Adaman, 2010; Ouma, 2015). For example, in order to retain their value and function as secure collateral, crops must be handled and stored in a certain manner to ensure their natural qualities remain within certain quality parameters. This raises a series of questions that the Crop Receipt Project has not yet tested, such as how creditors would handle and preserve the value of their collateral in the instance of foreclosure. In this regard, input suppliers are well placed, as they have both a strong understanding of the agricultural sector, as well as the experience and facilities to store and trade in agricultural commodities. By contrast, commercial banks typically have no such knowledge or infrastructure⁶³. This perhaps goes some way to explaining why, as interviewees stressed, crop receipts have to date been utilised mainly by input suppliers rather than commercial banks. In order for the crop receipt system to function and for agricultural crops to be accepted as collateral, banks will require access to storage facilities (e.g. a warehouse or silo) which can provide a performance guarantee “assuring that the quantities of goods stored match those specified by the receipt and that their quality is the same as, or better than, that stated on the receipt” (IMF, 1996:38). Otherwise, any deterioration in the quality of the crop would create a discrepancy between the stated value of the derivative (the crop receipt) and the actual value of the underlying organic material. As commentators have observed, there exist concerns as to whether Ukraine has sufficiently reliable inspection and certification infrastructure to provide such guarantees to commercial banks (Koriakin and Kirchner, 2016; Interfax-Ukraine, 2013).

7.5 Public-private partnership in agricultural finance

The design and (attempted) implementation of each of the innovative financial models discussed above has involved a level of corporation between public (foreign donors and/or government ministries) and private (commercial banks and/or other categories of creditors) actors. CGS provide a means of IFIs leveraging public funds to stimulate private sector lending. Similarly, financial innovations such as crop receipts would not have been possible in Ukraine without substantial investment of public money in the development of a functional land cadastre.

Within both the extensive grey literature on agricultural finance (IFC, 2012) and the wider development literature (Spielman and Von Grebmer, 2010; Moreddu, 2016), public-private partnerships (PPPs) have been widely promoted as an effective vehicle through which to govern the involvement of foreign public institutions and national governments in the development of private sector finance in

⁶³ Expectations include banks such as AP Bank Ukraine, which specialise in agricultural lending and form part of a larger holding company which also has branches operating in agricultural production and exchange.

developing and transition economies, whilst creating a new interface between public funds, development policy and commercial banking (Schmidt and Moisa, 2005). While there is no single definition of what constitutes a PPP, a broad definition is “any formal relationship or arrangement over a fixed-term/indefinite period of time, between public and private actors, where both sides interact in the decision-making process, and co-invest scarce resources such as money, personnel, facility, and information in order to achieve specific objectives” (Moreddu, 2016:3). A more restrictive understanding of a PPP, suggested by Schmidt and Moisa (2005), is an institutional arrangement whereby: (i) private and public sector institutions jointly undertake a sizeable and complex project in a field which was previously regarded as the domain of (foreign) public sector activity; (ii) said project would not be possible without cooperation of public and private sector agents, and; (iii) the project is at least partially owned and managed by representatives from the private sector⁶⁴.

As Schmidt and Moisa (2005) observe, recent decades have seen the emergence of institutional arrangements in post-Soviet Europe in which private parties own and manage commercial banking services specifically orientated towards servicing the SME sector, with the financial support of foreign public sector finance. Generally, these private parties are not established foreign banks but rather “development finance experts who have developed a framework that makes SME financing attractive enough to warrant investment if supported by start-up subsidies” (Schmidt and Moisa, 2005:263). Rather than being funded exclusively or even primarily by private debt or equity capital, these SME-oriented banks are reliant to a greater or lesser degree – at least initially- on public funds (Schmidt and Moisa, 2005). These PPPs function as private sector institutions via which IFIs and development banks can leverage public funds to stimulate private sector lending to the SME sector, whilst also promoting the development of the financial sector. At the same time, as commercial enterprises, they represent an investment opportunity for private sector actors, creating an alternative asset class from what was previously considered the domain of public sector activity – SME lending.

One institutional arrangement that perhaps represents the essence of a PPP better than any other financial sector project in southern, central or eastern Europe is the *ProCredit Group*. Founded in 1998 under the original name Internationale Micro Investitionen AG (IMI), Frankfurt-based ProCredit Holding is the majority shareholder and parent company of the ProCredit group – a collection of development-orientated commercial banks, now trading under the common name ProCredit Bank, with an operational focus on SMEs in South Eastern and Eastern Europe (Schmidt and Moisa, 2005; Schmidt and Von Pischke,

⁶⁴ Under this stricter definition, the IFC Crop Receipt Project would not be categorized as PPPs, as they do not entail the element of private ownership. In this sense, they more closely resemble what Schmidt and Moisa (2005) refer to a public-private cooperation, a concept they use to denote partnership without ownership.

2005)⁶⁵. The private sector consulting firm IPC (Internationale Projekt Consult)⁶⁶ has been central to the development of the Procredit Group since its inception. In the 1980s and 1990s IPC established itself as an industry leader in commercial microfinance development, setting up commercially viable microfinance institutions in developing economies. Unlike other financial consultancies which pursued a strategy of upgrading non-profitable schemes into commercial enterprises, IPC pioneered an alternative 'greenfield' strategy of developing newly founded banks from scratch and becoming an active investor in these banks (Schmidt and Von Pischke 2005). Since 1996, IPC has been commissioned by a group of IFIs, including the EBRD, the IFC, KfW and the Dutch FMO, to establish and manage a series of microfinance banks across Southern and Eastern Europe. Aside from taking on the management of these banks, IPC was also required to contribute to the banks' equity, as it was believed that a strong incentive for the consultant and technical implementor to succeed is created by requiring IPC to co-invest. As IPC did not have the financial resources to undertake shareholdings in each of these new banks, IMI was established as an investment company closely related to IPC, in which IPC is the largest shareholder, but which also seeks investment from other shareholders. IMI was established in 1998 as a joint stock cooperation under German law. The first public investors included the IPC, a group of IPC staff members (which formed IPC-Invest, known today as ProCredit Staff Invest) and the Dutch DOEN Foundation. By 2002, various public sector organisations - including KfW, IFC and Dutch Development Bank FMO - had become stakeholders in IMI, meaning its equity is divided between public and private entities. In 2003, individual banks in different countries were united under a common name - Procredit - and ultimately consolidated under the leadership of the majority shareholder IMI. In the same year, IMI was renamed Procredit Holding. In 2018, the Ukrainian branch of ProCredit Bank had an annual turnover of EUR 38 million and a profit before tax of EUR 25 million (ProCredit Holding, 2019).

Procredit Holding also cooperates closely with European institutions such as the EIB and EIF (European Investment Fund) (ProCredit Holding, 2018). Of particular note is the agreement between Procredit and the EIF for the InnovFin (EU finance for innovator's) guarantee facility, which facilitates lending to innovative SMEs⁶⁷ in South Eastern and Eastern Europe through the provision of credit guarantees. As of December 2017, the EIF committed EUR 10.5 million in credit guarantees to Procredit Holding Ukraine which is expected to leverage EUR 50 million in debt capital by 2020 (EIF, 2017; Procredit Holding, 2016).

The Procredit Group represents an interesting example of what constitutes *legitimate* public sector involvement in the development of private sector financial institutions, and the linkages between people,

⁶⁵ ProCredit Banks operate in Albania, Bosnia and Herzegovina, Bulgaria, Kosovo, Macedonia, Moldova, Romania, Serbia and Ukraine.

⁶⁶ This is the same IPC that consulted on the OECD's CGS project.

⁶⁷ Referring to companies using new technologies and producing new products

capital and knowledge that constitute the acceptable interface between the public and private sectors. For most of its history, the chairman of Procredit Holding (IMI) has also been the founder and main owner of IPC (Schmidt and Moisa, 2005). As the largest shareholder in Procredit Holding (IMI), IPC has historically⁶⁸ had discretion over the allocation of public funds invested by public sector shareholders of Procredit Holding (IMI), and has mainly invested in banking projects launched and managed by IPC staff. Expatriate IPC staff have to a large extent been paid through technical assistance contracts with donors and contracts agreed between the banks and IPC (Schmidt and Moisa, 2005). In this way, there has historically been a “delicate” balance of power between IPC and ProCredit holding, as investment decisions by ProCredit holding have generated a source of revenue for IPC (as both the largest shareholder and strategic investor in the holding company, and the company contracted to manage ProCredit Bank projects) (Schmidt and Moisa, 2005:269). This represents a departure from the prevailing wisdom of western technocrats whose anticorruption efforts have typically entailed prescribing restrictions on the relationships between public and private entities in developing and transition economies (Johnson, 2005; Hellman et al., 2000).

As Schmidt and Moisa note, this institutional arrangement – with IPC fulfilling a double role – can be seen to create scope for potential conflict of interest. However, as they also note, while the concept of 'conflict of interest' is sometimes used to infer abuse, “the correct definition describes a situation in which abuse could occur, but without any implication that it has occurred” (2005:269). In this sense, the concept may be better thought of as a means of highlighting what Wedel (2004) refers to as the boundary crossing activities of actors in the multiplex networks that constitute certain PPPs – those are, networks in which an actor or institution is known by others in more than one capacity and plays more than one role vis-a-vis other actors and/or institutions in the network. In this regard, IPC plays the role of a flex organisation (Wedel, 2004), operating at the state-private nexus as both a private sector consultant and the largest shareholder and strategic investor in ProCredit Holding.

It is also important to note the involvement of financial expert and major proponent of the financial systems paradigm, J. D. Von Pischke, within the ProCredit Group. Von Pischke is chairman of Frontier Finance International (FFI), founded in 1998 as the Washington office of both ProCredit Holding and IPC. There is an absence of information accessible online regarding the role of either Von Pische or FFI in the establishment or operation of the ProCredit Group. Moreover, although Von Pische himself has published several academic papers referencing ProCredit Bank and the role of IPC in the Bank’s foundation and management, he does not disclose his role or that of his company (beyond a footnote in the beginning

⁶⁸ I say historically because as of as of November 2017 IPC ceased to be a related party of the ProCredit Group (ProCredit Holding, 2018). In May 2016 IPC divided the two aspects of the company at an institutional level: IPC continued to perform consulting activities whilst the company Zeitinger Invest was established to manage investment operations. In December 2017 the ownership of IPC changed in the course of a management buyout (IPC, 2018).

explaining who he is e.g. *Von Pischke is the president of Frontier Finance International, a consulting firm based in Washington D.C. working in of development finance*). Nevertheless, Von Pischke's association with IPC and the ProCredit Group provides an interesting example of the dual role that economic experts can play in performing markets. As established in the previous chapter, Von Pischke is one of a narrow group of financial experts behind a prevailing policy paradigm which links state-support for the SME sector to the development of private sector finance and the creation of SME loans as an alternative asset class. However, his business affiliation with IPC and ProCredit Bank suggests that, when analysing his role in shaping SME finance markets over recent decades, Von Pischke cannot be viewed simply as a dispassionate expert, somehow producing knowledge on how financial markets should function from *way over there*, which informs the functioning of real-world markets *way over here* (Holm, 2007). Rather, through FFI's connection to IPC, Von Pischke has played some role in establishing and managing the financial institutions through which state-backed institutions have been able to leverage public funds to stimulate private sector lending. At the same time, FFIs' affiliation with ProCredit Bank suggests that Von Pischke can be thought of to at least some degree as a representative of private sector finance and a beneficiary of a policy paradigm which positions financial intermediaries amongst the primary beneficiaries of state intervention in SME finance markets.

Whilst not wishing to use a single example to imply a wider phenomenon⁶⁹, the example of the close relationship between Von Pischke, the IPC and ProCredit Bank highlights the close traffic that exists between financial expertise and real world markets, as well as the way actors within multiplex networks can play multiple roles, transcending preconceived boundaries between public/private and theory/practice. It also illustrates that there exists scope for further research into the provenance of the current paradigm approach on what constitutes legitimate forms of state intervention in financial markets, focussing in particular on the institutional and personal linkages that exist between expert knowledge, public money and private sector finance.

7.6 Conclusion

The marketisation of Ukraine's agricultural finance sector has entailed a fundamental change in the function of government intervention, with financial intermediaries being framed as the primary benefices of public sector support and agricultural producers' being recast as "clients" (Meyer, 2011:v). The provision of credit to producers at reduced interest rates – through policies such as interest rate subsidies – is deemed

⁶⁹ Another example of a financial expert who transcends the boundary between theory and practice is Claus-Peter Zeitinger. Over the last three decades, Zeitinger has published extensively on the subject of SME finance whilst also holding the positions of Managing Director at IPC and Chairman of the Supervisory Board at ProCredit Holding (see Schmidt and Zeitinger, 1998; Zeitinger, 1996; 2002).

incongruent with a market-based system, in that it distorts the price signals that interest rates provide. By contrast, the policy of subsidising financial intermediaries rather than farmer-borrowers is said to have the advantage of stimulating lending to the agricultural sector whilst promoting the development of the private financial sector. Such an approach is deemed to be market-based (or market-friendly) because it facilitates lending to producers at more affordable interest rates whilst allowing commercial banks to set the cost of borrowing - that is, the price of credit. Yet, under the financial systems approach, the interest rates at which creditors lend – where facilitated through IFI-implemented innovative agricultural finance models - can hardly be thought of as purely a product of unmediated market forces, but are in part a function of considerable public-sector support. For it is through these publicly funded interventions that agriculture is made visible to finance and creditors are willing and/or able to lend to producers. By the same token, to say that government policies directing ‘cheap’ credit to farmers do so at below-market rates overlooks the fact that without public-sector support for the financial sector, there would not be the private sector lending to agriculture – hence there would not be a *market-rate*. In this sense, rural credit markets depend on a degree of political (that is, public sector) intervention. This is not simply a case of the state and/or publicly funded IFIs unlocking the door for private sector financiers. The crucial point here is that public sector intervention is not external to the market mechanism, but integral to it (Muellerleile, 2015). Such interventions are not limiting – or merely facilitating - the play of market forces, but are actively implicated in “making markets work” (Berndt, 2015: 1867).

There is an additional political element to the marketisation of Ukraine’s agricultural finance sector aside from the role of political institutions (governments and publicly funded IFIs) in subsidising private sector finance. I refer here to normative judgments regarding what constitute legitimate forms of state intervention and legitimate uses of public funds - away from the provision of direct support to farmers and towards meeting the requirements of the private financial sector – which are inherently political in that they have a fundamental impact on the fortunes of the two respective sectors. Framing the use of public funds to leverage private sector lending as a *public good* serves to bring state support for the financial sector within the scope of ‘market-based solutions’. At the same time, SMP access to affordable finance is viewed almost as a by-product of the primary objective of developing the financial sector. As discussed in this chapter, this policy paradigm has, over the last thirty plus years, resulted in a drastic drop in the overall level of credit available to farmers across developing and transition economies. The political dimension of agricultural credit markets becomes clearer still when we consider the dual roles of key actors and institutions as both proponents of the financial system approach and representatives of private sector finance. As a case-in-point, Von Pischke and IPC are not only proponents of normative judgments regarding how SME credit markets should function, but are active on the ground in facilitating the use public funds

to leverage private sector lending, and have direct financial interests tied to the development of the private financial sector.

In this chapter I also discussed two examples of attempts to implement innovative agricultural finance models in Ukraine through technical assistance projects. In doing so, I presented the OECD's CGS Project as ultimately unsuccessful and, whilst exploring the successes of the IFC's Crop Receipt Project, also illustrated the uncertainties that surround the introduction of this instrument in Ukraine. In highlighting the challenges encountered by these projects, the idea was not to in any way to question the competency of those practitioners tasked with their implementation. Rather, it was to illustrate the contingent, (often) unstable and highly mutable character of the market arrangements through which the financial systems approach is materialised on the ground. Through this analysis, I have demonstrated that practical accomplishments of collective efforts to reconfigure agriculture as a workable investment are often more modest than either the proponents or critics of *financialisation* may be inclined to suggest. In acknowledging the failures and incongruities underlying the intersections between finance and agriculture, and abandoning the analytical separation of the market and government intervention, research into the development of rural credit markets can move beyond debates regarding the extent to which political forces inhibit or facilitate the market mechanism, exploring a different set of issues relating to: (i) whether the financial systems approach has actually been successful in increasing SMPs' access to external finance, and; (ii) more generally, reopening discussions on what constitute legitimate public goods and desirable development outcomes from the use of public funds.

Chapter 8

Conclusion

8.1 Introduction

Several decades before the eventual collapse of the Soviet Union, western academics began to observe forms of private agriculture and instances of reciprocity and market-like transactions within its centrally planned economy. These economic practices and logics, that were counter to the central tenets of central planning, constituted what were known in some quarters as the second economy (Simis, 1982). Rather than existing as a parallel, rival system, the second ‘marketlike’ economy of the Soviet Union has been shown in many instances to have been an integral part of the official planned economy (Sampson, 1987). Nevertheless, the numerous instances of parallel and supposedly contradictory economic logics interwoven in the Soviet agricultural system is something that theorists of post-Soviet transition have struggled to assimilate within the transition paradigm (Stark, 1998), in that they undermined the notion of a total shift from one social order to another.

In the same vein, orthodox economists and political commentators have problematised the way in which, following the dissolution of the Soviet Union, Ukraine’s transition towards an agricultural market economy has entailed the articulation of market rationale with what are perceived to be contradictory rationalities and logics. This is clear, for instance, in Hellman’s (1998) notion of a partially reformed state and Gaddy and Ickes’ (2002) notion of the post-Soviet *virtual economy*. Such accounts dismiss Ukraine’s economic development as inauthentic⁷⁰ based on a supposed lack of separation between market and the state, as well as between the formal market and informal or inauthentic forms of production, ownership and exchange. Yet, as Stark (1998) argues, if, by the 1980s, the societies of Eastern Europe were decidedly not systems organised around a single logic, they are not likely in the post-Soviet epoch to become societies with a single system identity. Ukraine’s market-orientated transition is better understood, therefore, not as a passage from one order to another, but as a rearrangement in the patterns of multiple orders interwoven with one another. In this thesis I have built on this argument and responded to Berndt’s (2015:1866) call for further research that: (i) recognises markets as “diverse arrangements articulated by particular combinations of these rationalities and logics”, and; “regards the determination of their precise articulation and their relative weight as a question that can only be answered empirically”. In doing so, I have provided further empirical examples of the political nature of marking-making in frontier regions (Ouma, 2015) and

⁷⁰ This is epitomized in Gaddy and Ickes’ (2002) notion of a “mutant system”.

demonstrated the scope for further application of the marketisation lens to the study of nascent markets in post-Soviet Europe.

In this final chapter I reflect on the theoretical and empirical strands of the thesis and revisit the key objectives outlined in the introduction. I also reflect on the strengths and limitations of my research and situate the study within broader debates in the social studies of marketisation.

8.2 The politics of market-making and marketisation

In this thesis I initially approached the marketisation of the Ukrainian agricultural sector from the vantage of price realisation, developing a specific focus on the Ukrainian wheat market and nascent agricultural credit market (Çalışkan and Callon, 2010). One of the main insights from the existing literature on price realisation (see Çalışkan, 2010; Ouma, 2015) is that prices are produced in “inherently political sites of encounter” (Çalışkan, 2010:206). *Political* here refers in part to the role of political institutions such as governments and publicly funded financial institutions. However, it also refers to what Çalışkan (2007:255) terms “every day market politics” – that is, the routine struggles that occur “between actors, each attempting to impose their mechanism for determining the value and quality of a good” (Bargawi and Newman, 2017:167).

In Chapter 5 I explored the grounded processes of price realisation through which Ukrainian producers and traders operating along the export-orientated market channel negotiate the *actual price* of wheat. In doing so, I demonstrated that the Ukrainian wheat market cannot be analytically located by imposing a boundary between categorically distinct institutional realms – that is, the state and the market. For example, while market participants involved in the production and exchange of wheat on the ground in Ukraine accept the ‘world price’ as representative of *the market*, it can be seen that global reference prices are actually inclusive of extensive programmes of state support out of which they are produced in different locations around the world. Through the use of futures market prices as global benchmarks used to calculate basis in geographically distant but interconnected markets, political decision making in the US and EU regarding state support for domestic agriculture becomes intrinsic to the realisation of the export price for wheat in Ukraine.

I also demonstrated in chapter 5 that the domestic supply of wheat cannot be understood simply as a function of production (that is, total harvest plus ending stocks). It is also a matter of routine market politics as agricultural producers – faced with unequal exchange relationships in terms of capital, knowledge and network – deploy various strategies in an attempt to improve the price they receive for their harvest. One such strategy is for producers to sell a portion of their harvest unregistered through alternative informal market channels. The existence of multiple (‘right’ and ‘wrong’) market channels exemplifies how markets are constituted through the intersection of various modalities of valuation and exchange, and

illustrates the inherently political nature of markets, in which different actors struggle to impose their judgement of what constitute legitimate forms of market exchange and the correct terms on which a good should be ascribed “commodity status” (Ouma, 2015:31). For instance, government agencies penalising exporters for purchasing through formal market channels wheat that was previously exchanged on the grey market is a clear example of an attempt to frame informal (or shadow) transactions as external to the formal market economy. Yet, the scale of the shadow economy clearly indicates that, in practice, many market participants do not adhere to the market frame which links the value of a good to its history of exchange. Moreover, the frequency with which a single parcel of wheat may in its lifetime as a commodity transcend the boundary between formality and informality makes it difficult to delineate any clear analytical boundary between the two.

This boundary becomes blurred still further when we consider (as explored in Chapter 6) how proponents of a market-based agricultural finance system have framed the revenue generated from producers’ informal operations as a legitimate source of income, in an effort to improve the perceived creditworthiness of SMPs in the eyes of private sector lenders and thus induce lending to the SMP sector. The IFC has promoted cash flow based-lending in Ukraine – a process that links the provision of credit and the terms of loans to the borrower’s cash flow rather than the value of their available collateral - as an alternative means of banks assessing the creditworthiness of agricultural producers. This has entailed encouraging creditors to recognise a producer’s ability to service their debts as a function of *all* their sources of income – both formal and informal. The representation of informal ‘shadow’ practices as a valid source of income has made it possible to render new forms of economic activity (i.e. the unregistered element of a producer’s business) as data to be input into a refined process of valuation through which financial intermediaries assess and create creditworthiness. Through this shift in representation, practices previously conceived of as ‘outside’ the market economy are brought ‘inside’, enhancing the opportunity for value creation within the private financial sector. Here we see that marketisation is not a uniform process, but that the market rationale is put to work in nonuniform and often contradictory ways, creating scope for market actors to become involved in political struggles over how best to frame what constitute legitimate market practices and where the boundary of the market lies.

The decision to extend the research focus to the marketisation of Ukraine’s agricultural credit sector (Chapters 6 and 7) was one made during the research process, taking account of a key theme that reoccurred during the early analysis of interview data – that is, the extent to which SMPs’ ability to negotiate a price for their goods is limited by their lack of access to external finance. The frequency with which this theme was raised by interviewees led me to explore it in more detail, addressing questions such as: (i) how does access to external finance vary in Ukraine for different types of production structures (i.e. between large commercial enterprises and medium and small scale farmers)?; (ii) how has the role of rural finance changed

in Ukraine during the transition period? and; (iii) who have been the central actors in shaping the current system of agricultural lending in Ukraine?

In Chapter 6 I provided a detailed conceptual integration of the prevailing paradigm approach to agricultural credit in developing and transition economies – known as the financial systems approach (IFC, 2011) – developed by a relatively narrow group of financial experts as a market-based solution to the issue of SMPs’ lack of access to external finance. There exists a consensus amongst the major IFIs and leading agricultural finance experts that some form of government intervention in the agricultural finance sector is necessary as, when left to their own devices, commercially orientated private creditors have insufficient risk appetite to lend to SMPs. Under the financial systems approach, there has been a fundamental shift in the function of government intervention - away from the distribution of affordable credit as widely as possible, toward facilitating private sector lending through measures designed to increase the visibility and amenability of SMPs to the requirements of finance. Any intervention from the state or publicly funded institutions in the rural credit sector should be done *via the banks*, which distribute credit to farmers because it is profitable for them to do so. In this way, producers are tied into the formal financial sector as creators of value.

The market-based solutions advocated for by proponents of the financial systems approach work by bringing agricultural producers within the sphere of ‘formal finance’, through the publicly funded design and implementation of innovative agricultural finance models (IFC, 2012). These innovations are categorised as market-based or ‘market friendly’ (Meyer, 2011) in that they allow interest rates to be set *by the market* – that is, by the creditors themselves - whilst inducing creditors to lend to the agricultural sector at sustainable interest rates, by altering their perception of what they are lending against and/or by creating something new (e.g. a new asset or income stream) against which creditors can lend (Von Pischke, 2001). In this sense, they are said to avoid the distortions to the price signals provided by interest rates that arise from direct state interventions such as interest rate subsidies, which essentially fix the price of credit. However, as I have explored in this thesis, the interest rates on loans facilitated through IFI-implemented innovative agricultural finance models – whilst not fixed by the state – can again hardly be thought of as the outcome of unmediated market forces, but are in part a function of considerable public-sector support. This is because, whilst market-based interventions allow for interest rates to be set by creditors, they can be seen to have a their own distortionary impact on the operation of agricultural credit markets in that – through the use of public funds – they too alter the signals that guide creditors decision making, in this case by altering their perception of the risks and rewards association with financial transactions. Crucially, it is only through these alterations to creditors’ perception of what they are lending against that agriculture is reconfigured as a workable investment and that profitable lending practices develop between producers and creditors.

In conceptually integrating the key actors, institutions and market devices involved in assembling an agricultural finance market in Ukraine, this thesis contributes to the existing marketisation literature by providing further evidence of the ways in which state intervention is implicated in “making markets work” (Berndt, 2015:1867). This analysis has illustrated that attempts to reconfigure the SMP sector as a workable investment and source of value for private sector finance require considerable practical work and material, technical and institutional investment, in order to render agriculture “visible to finance” in new ways (Williams, 2014:409). The idea that agriculture must be *made visible* to finance reflects the fact that profitable lending practices between farmers and financiers are not a natural occurrence but must be performed on a routine basis across heterogenous assemblages of actors and market devices and through a shifting set of practices, logics and representations. In this sense, the central categories of market-based finance such as value and creditworthiness represent “practical accomplishments” (Ouma, 2016:82). Significantly, the series of calculative, discursive, legal and technological labours through which value is performed depend in no small part on public sector interventions in the form of IFI-funded technical assistance projects and, more generally, the use of public money to leverage private sector lending.

This thesis has also contributed to the marketisation literature in illustrating how efforts to reframe what constitute market-based interventions are underpinned by normative, value-based judgements regarding what constitute legitimate development objectives and desirable public goods. For example, under the financial systems paradigm, distortions caused to creditors’ perception of the risks and rewards associated with financial transactions are not treated as problematic, but as pivotal to the reworking of the SMP sector as a distinct field of engagement and source of value for nascent agricultural financial sector. The development of the private financial sector is the primary development objective and identified as a public good given the contribution that a functioning financial system can make to the wider economy (IFC, 2011; Meyer, 2011), while agricultural producers are framed as financial sector clients rather than beneficiaries of public sector interventions. This opens a line of political inquiry in which social scientists not only explore the ways in which state intervention is implicated in making markets work, but investigate for whom (which actors, institutions and economic sectors) markets are being made to work. For instance, while representatives of private sector finance have been framed as the primary beneficiaries of market-based interventions, it has been observed that in the 30 or so years since the so-called paradigm shift in agricultural finance, the financial systems approach has resulted in a drastic drop in the overall level of credit available to farmers (Westercamp et al., 2015). In this sense, the reframing of what constitutes legitimate development objectives of state intervention, and associated efforts to marketise agricultural credit markets, can be seen to have resulted in an overall reduction in SMPs’ access to external finance. In investigating for whom markets are being made to work, it is also important to consider the role of economic experts and institutions as interested actors. For instance, as explored in Chapter 7, Von Pischke and IPC

are not only proponents of international best practice regarding how SME credit markets should function, but are active on the ground in facilitating the use public funds to leverage private sector lending, and have direct financial interests tied to the development of the private financial sector. Through FFI's connection to IPC, Von Pischke has played a role in establishing and managing the financial institutions through which state-backed institutions have been able to leverage public funds to stimulate private sector lending. At the same time, FFI's affiliation with ProCredit Bank suggests that Von Pischke can be thought of to at least some degree as a representative of private sector finance and a beneficiary of a policy paradigm which positions financial intermediaries amongst the primary beneficiaries of state-intervention in SME finance markets.

8.3 Reflections on the research process

This thesis has shown post-Soviet Ukraine to be an interesting national context in which to explore the process of market-making, not least because the fault lines between the market and other forms of production, ownership and exchange are clearer than in more established market economies, making it a useful case study of the practical accomplishments of marketisation. In addition, this thesis has demonstrated that the application of a marketisation lens in Ukraine provides considerable insight into the sorts of state politics that the marketisation literature is often accused of overlooking. As explored in this thesis, critics of marketisation suggest that, due to its performative sociology, this approach to the study of markets is overly focussed on grounded, everyday material processes to the extent that it is able to say little about the big political or economic phenomena of our time. Proponents of marketisation have responded by arguing that *big* phenomena are constituted through routine, grounded processes, and the former comes into focus when our description of the latter is saturated. Post-Soviet Ukraine provides an interesting national context in which to demonstrate this as - when compared to more mature market economies - there is less of an established consensus around the big questions concerning how society and the economy are ordered. This means, for example, that analysis of the practical means through which innovative agricultural finance models have been implemented on the ground quickly reveals ongoing struggles to establish an agricultural credit markets as per the prevailing global paradigm approach to agricultural finance.

In this sense, the decision to make the Ukrainian agricultural economy the empirical focus of this thesis was justified, and has demonstrated the scope for the further application of the marketisation lens to the study of nascent markets in post-Soviet Europe. At the same time, however, as a relatively novice researcher and foreign national in Ukraine, I encountered several challenges associated with being a foreign academic trying to study a national economy characterised by a high level of informality. These challenges mainly had an impact upon the selection of actors for interview and my level of success in gaining access to the target groups outlined in the research plan.

One limitation of the research concerns the fact that, given that the experiences of SMPs are discussed at length in the empirical chapters of this thesis, the analysis would clearly have been enhanced if I had conducted interviews with this category of farmer directly. There are several instances where this would have strengthened the analysis. For instance, in exploring in Chapter 5 the processes through which farmers and traders negotiate the price for wheat along the export-orientated market channel, I discussed the concept of ‘farmer risk’ in the context of SMPs renegeing on forward contracts agreed with traders. During interviews with traders, they discussed the tactics that some producers deploy to get out of a commitment to sell their goods in the instance that they might be able to secure a higher price elsewhere. However, without the farmers’ versions of events, this is a somewhat one-sided account. It may be, for example, that in the experience of farmers, traders are equally likely to seek a way of an agreement if there is an opportunity for them to enter into a new agreement on terms more favourable to the trader. In this regard, in-depth interviews with SMPs would help to answer such questions and build a more detailed picture of the routine struggles between market participants in realising the price of wheat on the ground in Ukraine.

A similar case can be made for incorporating interviews with SMPs into the study of the marketisation of Ukraine’s agricultural credit sector. Qualitative data on the experiences of these farmers would be particularly useful given the lack of centralised quantitative data on: (i) the extent to which credit flows to SMPs have changed following the removal of direct credit programmes and the introduction of ‘market friendly’ approaches; (ii) the scale of lending that has been facilitated from individual innovative agricultural finance models, and; (iii) whether efforts to induce private sector lending to SMPs have increased the available of *affordable* loans, or have simply facilitated the process of reconfiguring the SMP a workable investment without bringing down the interest rates charged to farmers.

There are two main practical reasons why SMPs were not included as a target group in this research. Firstly, as I do not speak Ukrainian, there would have been a significant language barrier considering that Ukrainian is the first language in many rural communities⁷¹. Secondly, as previous studies have illustrated (Allina-Pisano, 2004) conducting in-depth qualitative research with rural communities in Ukraine is a lengthy process given the time it takes to gain access to and establish a rapport with interview participants. This is excluding the time it would have required for me to either find suitable accommodation outside Kiev or travel back and forth from the city. However, while I was unable to include SMPs as a target interview group in this study, this thesis has generated a range of themes to be explored in future research in which SMPs are central to the research design.

⁷¹ Ukrainian is the official language of Ukraine and is the first language of 67.5 per cent of the population, while 29.6 per cent speak Russian as their first language (US Central Intelligence Agency, 2019).

Concluding thoughts: retheorising the failed transition state

In this thesis I have sought to destabilise the portrayal of Ukraine as a failed transition state on the basis of a supposed lack of separation between the market mechanism and those practices and rationales deemed to be external and/or antithetical to the market. I have done this by demonstrating empirically that markets are practical accomplishments, achieved in part through the purposeful articulation of abstract market thinking with various other forms of production, ownership and exchange which do not fit with an idealised notion of a pure market economy. This analysis has conceptual and theoretical implications for the way in which we think about Ukraine's economic development and market-based transition. Rather than dismissing forms of market development as inauthentic based on the discrepancies between a pure essentialised economy and Ukraine's variegated economy of practice, I have illustrated that real-world markets invariably "emerge at the crossroads of various logics that inscribe often contradictory organizational rules and principles of worth" (Berndt, 2015: 1871).

This analysis can also be seen to have a series of political implications for the way in which theorists of post-Soviet Ukraine's economic development understand and engage in the process of market-making. Orthodox academic accounts which problematise the lack of separation between the market and non-market (i.e. between market and state, or between formal and informal or inauthentic market practices) can be seen to obscure the market-making activities of interested actors whose agendas are tied to the construction and management of an analytical boundary between 'the market' and the wider expanse of material activities and resources which are deemed to exist beyond its limits (Mitchell, 2007). Since the dissolution of the Soviet Union, 'the market' has been assumed to be the single end point of historical progression (Bradshaw and Stenning, 2004). The legitimacy of economic policies and various modalities of valuation and exchange have throughout this period depended on the whether they are deemed to be 'market-based'. In this sense, there is considerable power and influence in being able to determine where the boundary of the market lies. In exploring the development of agricultural markets in Ukraine through a marketisation lens, I have demonstrated the practical means through which the boundary of the market is reconfigured, and the key actors and material devices involved in this process. Moreover, having illustrated the analytical boundary between the market and non-market to be a practical accomplishment, this research highlights the possibility for social scientist to themselves engage in the process of marketisation by more closely integrating the efforts of market practitioners to determine, for instance, what constitute legitimate development objectives, which forms of state intervention should be incorporated within the frame of the market, and which forms of economic activity should ascribed value and economic worth.

References

- Acs, S., Borodina, O., Gomez y Paloma, S. & Kharchenko, A. (2013) *Ukraine's agriculture: potential for expanding grain supply: Economic and institutional challenges* [Online] JRC Scientific and Policy Reports. Brussels, Belgium: European Commission. Available from: <http://ftp.jrc.es/EURdoc/JRC84652.pdf> (Accessed: 7th January 2016).
- Adams, D.W., Douglas, H.G., Von Pischke, J.D. (1984) *Undermining rural development with cheap credit*. Boulder: Westview Press.
- Allina-Pisano, J. (2004) 'Sub rosa resistance and the politics of economic reform: land redistribution in post-Soviet Ukraine', *World Politics*, 56 (4), pp.554-581.
- Allina-Pisano, J. (2004) 'Sub rosa resistance and the politics of economic reform: land redistribution in post-Soviet Ukraine', *World Politics*, 56 (4), pp.554-581.
- Allina-Pisano, J. (2008) *The post-Soviet Potemkin village: politics and property rights in the Black Earth*. Cambridge: Cambridge University Press.
- Aris, B. (2017) Long Read: *Ukraine is a global agro-superpower* [Online]. Intellinews. Available from: <https://www.intellinews.com/long-read-ukraine-is-a-global-agro-superpower-119847/> (Accessed 21 Jan 2016).
- Åslund, A. (2007) *How capitalism was built: the transformation of Central and Eastern Europe, Russia and Central Asia*. Cambridge: Cambridge University Press.
- Åslund, A. (2015) *Ukraine: what went wrong and how to fix it*. East Peoria: Versa Press.
- Åslund, A., Boone, P. & Johnson, S. (2001) 'Escaping the under-reform trap', *IMF Economic Review*, 48 (1), pp.88-108.
- Austin, J. L. (1962) *How to do things with words*. Oxford: Clarendon.
- Baker, S. E. & Edwards, R. (2012) *How many qualitative interviews is enough? Expert voices and early career reflections on sampling and cases in qualitative research* [Online] Discussion Paper: National Centre for Research Methods. Available from: http://eprints.ncrm.ac.uk/2273/4/how_many_interviews.pdf. (Accessed: 21 Jan 2016).
- Bargawi, H. K. & Newman, S. A. (2016) 'From futures markets to the garm gate: a study of price formation along Tanzania's coffee commodity chain', *Economic Geography*, 93 (2), pp.162-184.
- Barkema, A. (1991) 'How will reform of the Soviet farm economy affect US agriculture?', *Federal Reserve Bank of Kansas City, Economic Review*, Sept/Oct, pp.5-19.
- Barkema, A., Drabenstott, M. & Skold, K. (1992). Agriculture in the former Soviet Union: the long road ahead. *Economic Review-Federal Reserve Bank of Kansas City*, 77 (4), pp.79-85.
- Barry, A. (2002) 'The anti-political economy', *Economy and Society*, 31 (2), pp.268–284.
- Barry, A. & Slater, D. (2002) 'Technology, politics and the market: an interview with Michel Callon', *Economy and Society*, 31 (2), pp.285–306.
- Beckert, J. (2007) *The social order of markets*. Köln: Max-Planck-Institut für Gesellschaftsforschung.
- Berg, A., Puricelli, E., Gravelet Blondin, R., Chao, S. & Wang, H. (2014) International commodity benchmarks and producer prices. Agricultural Market Information System, Research Paper No. 4. Available from: http://www.amis-outlook.org/fileadmin/user_upload/amis/docs/resources/4%20International%20commodity%20benchmarks%20and%20producer%20prices%20October%202014.pdf (Accessed: 5th March 2016).

- Berndt, C. (2015) 'Ruling markets: the marketization of social and economic policy', *Environment and Planning A*, 47, pp.1866–1872.
- Berndt, C. & Boeckler, M. (2008) 'Geographies of marketization', in Barnes, T., Peck, J. & Sheppard, E. (ed.). *The Wiley-Blackwell Companion to Economic Geography*. Oxford: Wiley Blackwell, pp.199-212.
- Berndt, C. & Boeckler, M. (2009) 'Geographies of circulation and exchange: constructions of markets', *Progress in Human Geography*, 33, pp.535–551.
- Berndt C. & Boeckler, M. (2011) 'Geographies of markets: materials, morals and monsters in motion', *Progress in Human Geography*, 35, pp.559–567.
- Berndt, C & Boeckler, M. (2017) 'Economic, experiments, evidence: poor behaviour and the development of market subjects', in Higgins V. & Larner W. (ed.). *Assembling neoliberalism*. New York: Palgrave Macmillan, pp 283-302.
- Berry, J. M. (2002) 'Validity and reliability issues in elite interviewing', *PS: Political Science and Politics*, 35 (4), pp.679-682.
- Betliy, O. (2014) *VAT in agriculture: Ukrainian experience and international evidence* [Online] Agricultural policy report, German-Ukraine agricultural policy dialogue. Available from: https://apd-ukraine.de/images/APD_APR_07-2014_VAT_in_agriculture_eng.pdf (Accessed: 27th April 2017).
- Borodina, O. (2013) *Processor driven integration of small-scale farmers into value chains in Ukraine* [Online] Food and Agriculture Organization of the United Nations. Available from: <http://www.fao.org/3/a-au851e.pdf> (Accessed: 3rd March 2016).
- Boycko, M., Shleifer, A. & Vishny, R. (1995) *Privatizing Russia*. Cambridge, Mass: MIT Press.
- Bradshaw, M. (2001) 'Contracts and member checks in qualitative research in human geography: reason for caution?', *Area*, 33 (2), pp.202–211.
- Bradshaw, M. & Stenning, A. (2004) *East Central Europe and the Former Soviet Union: The Post-Socialist States*. London: Routledge.
- Broka, S., Giertz, A., Christensen, G., Hanif, C. & Rasmussen, D. (2016) *Tajikistan: agricultural sector risk assessment* [Online] Agricultural sector risk assessment World Bank Group report number 103077-TJ. Available from: <https://openknowledge.worldbank.org/bitstream/handle/10986/23765/Tajikistan000A0ctor0risk0assessme nt.pdf?sequence=1&isAllowed=y> (Accessed: 14th February 2019).
- Brümmer, B., von Cramon-Taubadel, S. & Zorya, S. (2009) 'The impact of market and policy instability on price transmission between wheat and flour in Ukraine', *European Review of Agricultural Economics*, 36 (2), pp.203–230.
- Burch P, (2009) *Hidden markets: the new education privatization*. New York: Routledge.
- Burch, D. & Lawrence, G. (2009) 'Towards a third food regime: behind the transformation', *Agriculture and Human Values*, 26 (4), pp.267–279.
- Butler, J. (2003). 'Performative acts and gender constitution', in Auslander, P. (ed.). *Performance*. 4, pp.97-110.
- Çalışkan, K. (2007) 'Price as a market device: cotton trading in Izmir Mercantile Exchange', *The Sociological Review*, 55 (2), pp.241-260.
- Çalışkan, K. (2009) 'The meaning of price in world markets', *Journal of Cultural Economy*, 2 (3), pp.239-268.
- Çalışkan, K. (2010) *Market threads: how cotton farmers and traders create a global commodity*. Princeton: Princeton University Press.

- Çalışkan, K. & Adaman, F. (2010) 'The logic of neo-liberal agricultural reform in Turkey: perspectives, consequences and alternatives', in Adaman, F., Karapinar, B. & Ozertan, G. (ed.). *Rethinking structural reform in Turkish agriculture: beyond the World Bank's strategy*. New York: Nova Publishers, pp. 87-105.
- Çalışkan, K., & Callon, M. (2009) 'Economization, part 1: shifting attention from the economy towards processes of economization', *Economy and Society*, 38, pp.369–398.
- Çalışkan, K., & Callon, M. (2010). 'Economization, part 2: a research programme for the study of markets', *Economy and Society*, 39 (1), pp.1-32.
- Callon, M (1980) 'Struggles and negotiations to define what is problematic and what is not: the sociology of translation', in Knorr, K. D., Krohn, R. & Whitley, R. (ed.). *The social process of scientific investigation: sociology of sciences*, Vol. IV, Dordrecht: Reidel, pp.197-219.
- Callon, M. (1986) 'Some elements of a sociology of translation domestication of the scallops and the fishermen of St Brieux Bay', in Law, J. (ed.). *Power, action and belief. A new sociology of knowledge?* London: Routledge, pp.196–229.
- Callon, M. (1991) 'Techno-economic networks and irreversibility', in Law, J. (ed.). *Essays on power, technology and domination*. London: Routledge, pp.132-161.
- Callon, M. (1998) 'Introduction: the embeddedness of economic markets in economics', in Callon, M. (ed.). *The laws of the markets*. Oxford: Blackwell, pp.1-57.
- Callon, M. (2005) 'Why virtualism paves the way to political impotence: a reply to Daniel Miller's critique of "The laws of the market"' [Online] Economic Sociology: European Electronic Newsletter. Available from: <https://www.econstor.eu/bitstream/10419/155843/1/vol06-no02-a2.pdf> (Accessed: 6th December 2015).
- Callon, M. (2007) 'What does it mean to say that economics is performative?', in Mackenzie, D., Muniesa, F. & Siu, L. (ed.). *How economists make markets: the performativity of economics*. Princeton: Princeton University Press, pp.311-357.
- Callon, M., & Latour, B. (1981) 'Unscrewing the big leviathan: how actors macro-structure reality and how sociologists help them to do so', in Knorr Cetina, K. & Cicourel, A.V. (ed.). *Advances in social theory and methodology: toward an integration of micro- and 45 macro-sociologies*. Boston: Routledge & Kegan Paul, pp.277-303.
- Callon, M. & Muniesa, F. (2003) 'Les marchés économiques comme dispositifs collectifs de calcul', *Réseaux*, 21 (122), pp.189-233.
- Callon, M. & Muniesa, F. (2005) 'Economic markets as calculative collective devices', *Organisation Studies*, 26 (8), pp.1229-1250.
- Centre for Transport Strategies (2014) Ukraine –Agricultural trade, transport, and logistic advisory services activity. Centre for Transport Strategies - World Bank. Available from: https://mtu.gov.ua/files/for_investors/Ukraine%20Agricultural%20Trade%20Transport%20and%20Logistic.pdf (Accessed: 5th July 2017).
- Cheng, I. W., Raina, S. & Xiong, W. (2013) *Distorted beliefs and the financial sector* [Online] Vox CEPR Policy Portal. Available from: <https://voxeu.org/article/distorted-beliefs-and-financial-sector> (Accessed: 18th June 2017).
- Chicago Board of Trade (2004) *Understanding basis* [Online] Chicago Board of Trade. Available from: <https://www.gofutures.com/pdfs/Understanding-Basis.pdf> (Accessed: 2nd November 2016).
- Christophers, B. (2012) 'Markets, the media, and the state of contemporary economic geography', *Dialogues in Human Geography*, 2, pp.243–245.

- Clapp, J. (2014) 'Financialization, distance and global food politics', *The Journal of Peasant Studies*, 41 (5), pp.797-814.
- Cooper, M. (2015) 'Measure for measure? Commensuration, commodification, and metrology in emissions markets and beyond', *Environment and Planning A*, 47 (9), pp.1787–1804.
- Crang, M. (2002) 'Qualitative methods: the new orthodoxy?', *Progress in Human Geography*, 26 (5), pp.647-655.
- D'Anieri, P. J. (1999a) *Economic interdependence in Ukrainian-Russian relations*. Albany: University of New York Press.
- D'Anieri, P. (1999b) 'The impact of domestic divisions on Ukraine foreign policy: Ukraine as a 'weak state'', in Kuzio, T., Kravchuk, S. & D'Anieri, P. (ed.). *State and Institution Building in Ukraine*. New York: St. Martin's Press, pp.83-106.
- D'Anieri, P., Kravchuk, R. S. & Kuzio, T. (1999) *Politics and society in Ukraine*. London: Westview Press.
- Darden, K. A. (2001) 'Blackmail as a tool of state domination: Ukraine under Kuchma', *East European Constitutional Review*, 10, pp.67-71.
- Deleuze, G. & Guattari, F. (1998) *A thousand plateaus: capitalism and schizophrenia*. London: Athlone.
- Deloitte (2015) *Ukraine business and investment guide. Tax issues 2015* [Online] Deloitte. Available from: http://www.iberglobal.com/files/2016-2/ucrania_guide_deloitte.pdf (Accessed: 19th April 2017).
- Dicken, P., Kelly, P.F., Olds, K. and Yeung, H. (2001) 'Chains and networks, territories and scales: towards a relational framework for analysing the global economy', *Global Networks*, 1, pp.89-112.
- Donald, G. (1976) *Credit for small farmers in developing countries*. Boulder, Colorado: Westview Press.
- EBRD (2011) *Ukraine – Factsheet* [Online]. Available from: <http://www.ebrd.com/downloads/research/factsheets/ukraine.pdf> (Accessed: 11th December 2015).
- EBRD (2014) *The EBRD's experience with policy dialogue in Ukraine case study - grain sector* [Online] EBRD Evaluation Department. Available from: <https://www.ebrd.com/downloads/about/evaluation/1405PDGrain.pdf> (Accessed: 4th December 2015).
- EIF (2017) *Juncker Plan: EUR 820 million for SMEs as EIF and ProCredit double support for innovative companies* [Online]. Available from: https://www.eif.org/what_we_do/guarantees/news/2017/efsi_innovfin_procredit.htm (Accessed: 4th February 2019).
- England, K. V. (1994). 'Getting personal: reflexivity, positionality, and feminist research', *The Professional Geographer*, 46 (1), pp.80-89.
- FAO (2009) *Agribusiness handbook: Wheat Flour* [Online] FAO Investment Centre Division, FAO Rural Infrastructure and Agro-Industries Division. Available from: <http://www.fao.org/3/al376e/al376e.pdf> (Accessed: 11th March 2017).
- FAO (2013) *Agriculture and trade background policy note: Ukraine* [Online] Agriculture and trade background policy note. Available from; http://www.fao.org/fileadmin/templates/est/meetings/wto_comm/Trade_Policy_Brief_Ukraine_final.pdf (Accessed: 11th March 2016).
- Fourcade-Gourinchas, M. & Babb, S. (2002) 'The rebirth of the liberal creed: paths to neoliberalism in four countries', *American Journal of Sociology*, 108, pp.533–579.
- Fukuyama, F. (1989) *The end of history and the last man*. New York: Free Press.

- Gans-Morse, J. (2004) 'Searching for transitologists: contemporary theories of post-communist transitions and the myth of a dominant paradigm', *Post-Soviet Affairs*, 20 (4), pp.320-349.
- Gibson-Graham, J. K. (2008) 'Diverse economies: performative practices for `other worlds"', *Progress in Human Geography*, 32 (5), pp.613-632.
- Goffman, E. (1971) *Frame analysis: an essay on the organization of experience*. Chicago: Northeastern University Press.
- Gonzalez-Vega, C. (1983) 'Arguments for interest rate reform'. In: Von Pischke, J. D., Adams, D. W. & Donald, G. (ed.). *Rural financial markets in developing countries*. Baltimore: The Johns Hopkins University Press. pp.365-372.
- Granovetter, M. (1985) 'Economic action and social structure: the problem of embeddedness', *The American Journal of Sociology*, 91 (3), pp.481-510.
- Greimas, A. & Courtes, J. (1982) *Semiotics and language: an analytical dictionary*. Bloomington: Indiana University Press.
- Grossman, G. (1979) 'Second economy of the USSR', idem, 'Notes on the illegal private economy and corruption', in *The Soviet Economy in a Time of Change*. U.S Congress, Joint Economic Committee. Washington, DC: Government Printing Office, pp.834-855.
- Guesnerie, R. (1996) *L'économie de marché*. Paris: Flammarion.
- Hall, P. A. (1993) 'Policy paradigms, social learning, and the state: the case of economic policymaking in Britain', *Comparative Politics*, 23 (3), pp.275-296.
- Hardie, I. & MacKenzie, D. (2007) 'Assembling an economic actor: the agencement of a hedge fund', *The Sociological Review*, 55 (1), pp.57-80.
- Havrylyshyn, O. (2006) *Divergent paths in post-communist transformation: capitalism for all or capitalism for the few?* London: Palgrave Macmillan.
- Hellman, J. S. (1998) 'Winners take all: the politics of partial reform in postcommunist transitions', *World Politics*, 50 (2), pp.203-234.
- Hellman, J. S., Jones, G. & Kaufmann, D. (2000) *Seize the state, seize the day': state capture, corruption and influence in transition*. World Bank Policy Research Working Paper, Report no. WPS2444. Washington, DC: World Bank.
- Hellman, J. S. & Kaufmann, D. (2001) 'Confronting the challenge of state capture in transition economies', *Finance and Development*, 38 (3), pp.31-35.
- Holm, P. (2007) 'Which way is up on Callon', in MacKenzie, D., Muniesa, F. & Siu, L. (ed.). *Do economists make markets? On the performativity of economics*. Oxford: Princeton University Press. pp.225-243.
- Hutchins, E. (1995) *Cognition in the Wild*. Cambridge, Mass.: The MIT Press.
- IMF (2000) *Transition economies: an IMF perspective on progress and prospects* [Online]. Available from: <http://www.imf.org/external/np/exr/ib/2000/110300.htm> (Accessed: 13th Nov 2015)
- IFC (2011) *Scaling up access to finance for agricultures SMEs. Policy review and recommendations* [Online] International Finance Corporation. Available from: https://www.ifc.org/wps/wcm/connect/04da89804a02e2e19ce0fdd1a5d13d27/G20_Agrifinance_Report.pdf?MOD=AJPERES (Accessed: 2nd September 2017).
- IPC (2018) *IPC company history* [Online]. Available from: <https://www.ipcgmbh.com/wp-content/uploads/2017/12/IPC-Company-History.pdf> (Accessed: 9th January 2019).

- IFC (2018) *World Bank Group, Switzerland, and Ukraine Roll out Innovative Financial Tool to Support Small Farmers* [Online] International Finance Corporation, World Bank Group. Creating markets, creating opportunities. Available from: <https://ifcextapps.ifc.org/ifcext/pressroom/ifcpressroom.nsf/0/A94E6E33838723228525822E003DABDE?OpenDocument> (Accessed: 12th January 2019).
- Janzen, J. P. & Adjemian, M. K. (2016) *Estimating the location of world wheat price discovery* [Online] 2017 Allied Social Science Association Annual Meeting, January 6-8, 2017, Chicago, Illinois (No. 250112). Agricultural and Applied Economics Association. Available from: file:///C:/Users/Alastair/Downloads/EstimatingTheLocationOfWorldWheatP_preview.pdf (Accessed: 21st September 2017).
- Johnson, T. G. (2005) 'Decentralizing government administration', in Meyers, W. H., Demyanenko, S. I., Johnson, T. G. & Zorya, S. I. (ed.). *Refocusing agricultural and rural development policies in Ukraine: action plan for the road ahead*. United States Agency for International Development, pp.81-99.
- Jones, J. R., Li, S. L., Devadoss, S. & Fedane, C. J. (1996) 'The former Soviet Union and the world wheat economy', *American Journal of Agricultural Economics*, 78 (4), pp.869-878.
- Jones III, J. P., Woodward, K. & Marston, S. A. (2007) 'Situating flatness', *Transactions of the Institute of British Geographers*, 32, pp.264-276.
- Kane, E. J. (1984) 'Political economy of subsidizing agricultural credit in developing countries', in Adams, D. W., Graham, D. H. & Von Pischke, J. D. (ed.). *Undermining rural development with cheap credit*. Boulder, Colorado and London: Westview Press, pp.166-182.
- Karp, L. & Stefanou, S. (1994) 'Domestic and trade policy for Central and East European agriculture', *Economics of Transition*, 2 (3), pp.345-371.
- Katsenelinboigen, A. (1977) 'Coloured markets in the Soviet Union', *Soviet Studies*, 29, pp.62-85.
- Kaufmann, D. Kraay, A. (2002) 'Growth without governance', Policy, Research working paper series; no. WPS 2928. Washington, DC: World Bank.
- Kaufmann, D. & Siegelbaum, P. (1997) 'Privatization and corruption in transition economies', *Journal of International Affairs*, 50, pp.419-458.
- Keys, B. J., Mukherjee, T. K., Seru, A. & Vig V. (2009) 'Did securitization lead to lax screening? Evidence from subprime loans', *The Quarterly Journal of Economics*, 125 (1), pp307-362.
- Keyzer, M.A., Merbis, M.D., Witt, R., Heyets, V., Borodina, O. & Prokopa, I. (2012) *Farming and rural development in Ukraine: making dualization work* [Online] JRC scientific and policy report. Available from: <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/farming-and-rural-development-ukraine-making-dualisation-work> (accessed: 4th April 2016)
- Kobuta, I., Sikachyna, O. & Zhygadlo, V. (2012) *Wheat export economy in the Ukraine* [Online] Policy Studies on Rural Transition No. 2012-4. Available from: <http://www.fao.org/docrep/017/aq344e/aq344e.pdf> (Accessed: 2nd October 2015).
- Kogan, F. (1981) *Grain production in the USSR: present situation, perspectives for development and methods for production*. Research Division, Statistical Reporting Service US Department of Agriculture, Staff report no. AGES810904. Available from: <agris.fao.org/agris-search/search.do?recordID=US8132635> (Accessed: 5 December 2015)
- Kokushkin, M. (2011) 'Transitional societies in Eastern Europe: moving beyond the Washington Consensus Paradigm in transitology', *Sociology Compass*, 5 (12), pp.1044-1057.

- Krasnozhon, L. (2004) 'Lessons of privatization: property rights in agricultural land in Ukraine', in *Property rights: the essential ingredient for liberty and progress*. Great Barrington, Mass.: American Institute for Economic Research. Economic Education Bulletin Vol. XLV, no. 5 45.5 pp.123-36.
- Kreston (2018) 'Grey' grain in Ukraine: causes and consequences [Online] Kreston 11 May 2018. Available from: <https://kreston-gcg.com/en/grey-grain-ukraine-causes-consequences/> (Accessed: 24th Oct 2018).
- Kulyk, I., Herzfeld, T. & Nivievskiy, O. (2014) *Comparative assessment of Ukrainian grain export policies* [Online] German-Ukrainian Agricultural Policy Dialogue. Agriculture policy report. Available from: https://apd-ukraine.de/images/APD_APR_01-20134_Getreidehandelspolitik_eng.pdf (Accessed: 19th May 2016).
- Kuns, B. & Visser, O. (2016) *Towards an agroholding typology: differentiating large farm companies in Russia and Ukraine* [Online]. Available from: <http://tinyurl.com/z24ykvv> (Accessed: 25th March 2017).
- Latour, B. (1984) 'The powers of association', in Law, J. (ed.). *The techniques of power*. London: Routledge and Kegan Paul, pp.264-280.
- Latour, B. (1987) *Science in Action*. Cambridge, Mass: Harvard University Press.
- Latour, B. (1991) 'Technology is society made durable', in Law, J. (ed.). *A sociology of monsters: essays on power, technology and domination*. London: Routledge, pp.103-131.
- Latour, B. (1996) *Aramis, or the love of technology*. Cambridge: Harvard University Press.
- Latour, B. (1999) 'On recalling ANT', in Law, J. & Hassard, J. (ed.). *Actor network theory and after*. Oxford: Wiley-Blackwell, pp.15-25.
- Latour, B. (2002) 'Gabriel Tarde and the end of the social', in Joyce, P. (ed.). *The social in question: new bearings in history and the social sciences*. London: Routledge, pp.117-132.
- Latour, B. (2004) *The politics of nature*. Cambridge, MA: Harvard University Press.
- Latour, B. (2005) *Reassembling the social. An introduction to actor-network theory*. Oxford: Oxford University Press.
- Lapa, V., Gagalyuk, N. & Ostapchuk, I. (2015) 'The emergence of agroholdings and patterns of land use in Ukraine', in Schmitz, A. & Meyers, W. H. (ed.). *Transition to agricultural market economies: the future of Kazakhstan, Russia and Ukraine*. Croydon, UK: CPI Group (UK) Ltd., pp.102-110.
- Law, J. (1992) 'Notes on the theory of the actor-network: ordering, strategy, and heterogeneity', *Systems Practice*, 5 (4), pp.379-393.
- Law, J. (1994) *Organizing modernity*. Oxford: Blackwell.
- Law, J. (1999) 'After ANT: complexity, naming and topology'. In: Law, J. & Hassard, J. (ed.). *Actor network theory and after*. Oxford: Blackwell, pp. 1-14.
- Law, J. (2003) *Making a mess with method* [Online] Centre for Science Studies, Lancaster University, Lancaster, UK. Available from: <http://www.comp.lancs.ac.uk/sociology/papers/Law-Making-a-Mess-with-Method.pdf> (Accessed: 03 Jan 2016).
- Law, J. (2004) *After method: mess in social science research*. London: Routledge.
- Law, J. (2007) *Actor network theory and material semiotics* [Online]. Available from: <http://www.heterogeneities.net/publications/Law2007ANTandMaterialSemiotics.pdf> (Accessed version of 25th April 2007: 16 November 2015).
- Lendvai, N. & Stubbs, P. (2009) 'Assemblages, translations, and intermediaries in South East Europe', *European Societies*, 11 (5), pp.673-695.

- Leyshon, A. (1996) 'Financial exclusion and the shifting boundaries of the financial system', *Environment and Planning A*, 28 (7), pp.1150-1156.
- Leyshon, A., French, S. & Signoretta, P. (2008) 'Financial exclusion and the geography of bank and building society branch closure in Britain', *Transactions of the Institute of British Geographers*, 33 (4), pp.447-465.
- Lindner, P. (2013) 'Situating property in transformation: beyond the private and the collective', *Europe-Asia Studies*, 65 (7), pp.1275-1294.
- Lerman, Z., Brooks, K. M. & Csaki, C. (1994) *Land reform and farm restructuring in Ukraine*. WDP270. Washington, DC: World Bank.
- Lerman, Z., Sedik, D., Pugachov, N. & Goncharuk, A. (2007) *Rethinking agricultural reform in Ukraine: studies on the agricultural and food sector in Central and Eastern Europe*. No. 38, ISBN 3-938584-18-1 [Online] Leibniz-Institut für Agrarentwicklung i Mittel- und Osteuropa (IAMO), Halle (Saale). Available from: <https://www.econstor.eu/bitstream/10419/45946/1/531232433.pdf> (Accessed: 10th July 2016).
- Mackenzie, D. (2006a) 'Is Economics Performative? Option Theory and the Construction of Derivatives Markets', *Journal of the History of Economic Thought*, 28(1), pp.29-55.
- MacKenzie, D. (2006b) *An engine, not a camera: how financial models shape markets*. London: MIT Press.
- MacKenzie, D. (2007) 'Is economics performative? Option Theory and the construction of derivatives markets', in MacKenzie, D., Muniesa, F. & Siu, L. (ed.). *Do economists make markets?: on the performativity of economics*. Oxford: Princeton University Press, pp.245-279.
- MacKenzie, D. (2009) *Material markets: How economic agents are constructed*. New York: Oxford University Press.
- Marangos, J. (2002) 'A political economy approach to the neoclassical model of transition', *American Journal of Economics and Sociology*, 61 (1), pp.259-276.
- MacKenzie, D. & Millo Y. (2003) 'Constructing a market, performing theory: the historical sociology of a financial derivatives exchange', *American Journal of Sociology*, 109, pp.107-145.
- MacKenzie, D., Muniesa, F. & Liu, L. (2007) 'Introduction', in MacKenzie, D., Martin, S. J. & Clapp, J. (2015) 'Finance for agriculture or agriculture for finance?', *Journal of Agrarian Change*, 15 (4), pp.549-559.
- Mäki, U. (2013) 'Performativity: saving Austin from Mackenzie', in Karakostas, V. & Dieks, D. (ed.). *EPSA11 Perspectives and foundational problems in philosophy of science*. Cham: Springer International Publishing, pp.443-453.
- Marangos, J. (2005) 'A political economy approach to the neoclassical gradualist model of transition', *Journal of Economic Surveys*, 19 (2), pp.263-293.
- Martin, S. J. & Clapp, J. (2015) 'Finance for agriculture or agriculture for finance?', *Journal of Agrarian Change*, 15 (4), pp.549-559.
- Melnychuk, V., Parkhomenko, S., Lissitsa, A. (2005) *Creation of agricultural land market in Ukraine: current state of development*. Discussion Paper, Volume 86, Institute of Agricultural Development in Central and Eastern Europe, IAMO, Halle.
- Meyer, R. L. (2011) *Subsidies as an instrument in agricultural finance: a review* [Online] Joint discussion paper. The International Bank for Reconstruction and Development/The World Bank. Available from: http://siteresources.worldbank.org/INTARD/Resources/Subsidies_as_Instrument_AgFin.pdf (Accessed: 14th May 2017).
- Miller, D. (2002) 'Turning Callon the right way up'. *Economy and Society*, 31, pp.218-233.
- Ministry of Agrarian Policy and Food of Ukraine (2015) *Single and comprehensive strategy and action plan for agriculture and rural development in Ukraine for 2015-2020* [Online] The National Strategy and

Action Plan for Agriculture and Rural Development. Available from: <http://extwprlegs1.fao.org/docs/pdf/ukr169405.pdf> (Accessed: 7th May 2016).

Ministry of Infrastructure of Ukraine (2015) *Investment opportunities* [Online] Ministry of Infrastructure of Ukraine. Available from: https://mtu.gov.ua/files/for_investors/MIU%20Investment%20Opportunities%20detailed%20version%20.pdf (Accessed: 12th November 2018).

Ministry of Finance of Ukraine (2017) *The Agreement on hedging currency risk between the German-Ukrainian Fund and the Reconstruction Credit Institut (KfW) was signed at the Ministry of Finance* [Online] Available from: <https://mof.gov.ua/en/news/vidkryta-prezentatsiia-ta-dyskusiia-shchodostvorennia-sluzhby-finansovykh-rozsliduvan> (Accessed: 2nd February 2019)

Mirowski, P. (2002). *Machine dreams: Economics becomes a cyborg science*. Cambridge: Cambridge University Press.

Mirowski, P. & Nik-Khan, E. (2007) 'Markets made flesh: performativity, and a problem in science studies, augmented with consideration of the FCC auctions', in MacKenzie, D., Muniesa, F. & Siu, L. (ed.). *Do economists make markets?: on the performativity of economics*. Oxford: Princeton University Press, pp.245-279.

Mitchell, T. (2002) *Rule of experts: Egypt, techno-politics, modernity*. Berkeley: University of California Press.

Mitchell, T. (2007) 'The properties of markets', in MacKenzie, D., Muniesa, F. & Siu L. (ed.). *Do economists make markets?: on the performativity of economics*. Princeton: Princeton University Press, pp.244-275.

Mol, A. (1999) 'Ontological politics. A word and some questions', *The Sociological Review*, 47 (S1), pp74-89.

Moreddu, C. (2016) Public-private partnerships for agricultural innovation: lessons from recent experiences [Online] OECD Trade and Agriculture Directorate, European Agricultural Research Conference 27-28 January 2016, Brussels. Available from: <file:///C:/Users/Alastair/Downloads/ParallelS5-PresentationMoreddu.pdf> (Accessed 25 March 2019).

Muellerleile C, (2015) 'Speculative boundaries: Chicago and the regulatory history of US financial derivative markets', *Environment and Planning A*, 47, pp.1805–1823.

Müller, M (2015) 'Assemblages and actor-networks: rethinking socio-material power, politics and space', *Geography Compass*, 9 (1), pp.27-41.

Muniesa, F. & Siu, L. (ed.). *Do economists make markets?: on the performativity of economics*. Oxford: Princeton University Press, pp.1-19.

Muniesa, F., Millo, Y. & Callon, M. (2007) 'An introduction to market devices', *Sociological Review*, 55, pp.1–12.

Murdoch, J. (2006) *Post-structuralist geography: a guide to relational space*. London: Sage.

Murphy, S., Burch, D. & Clapp, J. (2013) *Cereal secrets. The world's largest grain traders and global agriculture* [Online] Oxfam research reports - August 2012. Available from: <https://www.oxfam.org/sites/www.oxfam.org/files/rr-cereal-secrets-grain-traders-agriculture-30082012-en.pdf> (Accessed: 6th March 2016).

Mykhnenko, V. & Swain, A. (2010) 'Ukraine's diverging space-economy: the orange revolution, post-Soviet development models and regional trajectories', *European Urban and Regional Studies*, 17 (2), pp.141-165.

- National Investment Council of Ukraine (2018) *Agricultural sector of Ukraine: securing the global food supply* [Online] National Investment Council of Ukraine. Available from: file:///C:/Users/Alastair/Downloads/agro-small%20(2).pdf (Accessed: 20th September 2016).
- Niebuhr, D. (2016) *Making global value chains: geographies of market-orientated development in Ghana and Peru*. New York: Springer Gabler.
- Nimmo, R. (2011) 'Actor-network theory and methodology: social research in a more-than-human world', *Methodological Innovations Online*, 6 (3), pp.108-119.
- OECD (2003) *Glossary of statistical terms* [Online]. Available from: <http://stats.oecd.org/glossary/detail.asp?ID=1600> (Accessed: 8th June 2016).
- OECD (2011) 'Ukraine' [Online], in *Agricultural policy monitoring and evaluation 2011: OECD countries and emerging economies*. Paris: OECD Publishing, pp.261-273. Available from: http://www.keepeek.com/Digital-Asset-Management/oecd/agriculture-and-food/agricultural-policy-monitoring-and-evaluation-2011/ukraine_agr_pol-2011-26-en#page1. (Accessed: 13th June 2016).
- OECD (2012) *Private sector development policy handbook: Implementing credit guarantee schemes in Ukraine: The case of agribusiness* [Online] OECD Eurasia Competitiveness Programme. Available from: <https://www.oecd.org/countries/ukraine/UkraineCGSAgribusiness.pdf> (Accessed: 16th April 2017).
- OECD (2014) *Setting-up the Conditions to Establish a Credit Guarantee Scheme for Agribusiness SMEs in Ukraine* [Online] First Task Force Meeting, Task Force on Credit Guarantee Scheme Kyiv, 11 June 2014. Available from: http://www.oecd.org/global-relations/1st%20TF%20CGS_ENG_June%202014.pdf (Accessed: 16th April 2017)
- OECD (2015a) *Review of agricultural investment policies of Ukraine* [Online] Sector Competitiveness Strategy for Ukraine - Phase III, Project Report December 2015. Available from: http://www.oecd.org/eurasia/competitiveness-programme/eastern-partners/Agricultural_Investment_Policies_Ukraine_ENG.pdf (Accessed: 16th April 2017)
- OECD (2015b) 'Ukraine' [Online]. In: *Agricultural policy monitoring and evaluation 2015: OECD countries and emerging economies*. Paris: OECD Publishing, pp.271-281.
- OECD (2016) *Public-private partnerships for agricultural innovation* [Online] OECD Food, Agriculture and Fisheries Papers. Available from: https://www.oecd-ilibrary.org/agriculture-and-food/public-private-partnerships-for-agricultural-innovation_5jm55j9p9rmx-en (Accessed: 18th April 2017).
- Ouma, S. (2015) *Assembling export markets: the making and unmaking of global connections in West Africa*. Chichester: Wiley Blackwell.
- Ouma, S. (2016) 'From financialization to operations of capital: historicizing and disentangling the finance-farm-nexus', *Geoforum*, 72, pp.82-93.
- Pavlinek, P. (2003) 'Alternative theoretical approaches to post-communist transformations in Central and Eastern Europe', *Acta Slavica Iaponica*, 20, pp.85-108.
- Peck, J. (2013) 'For Polanyian economic geographies', *Environment and Planning A*, 45, pp.1545–1568.
- Peck, J. & Theodore, N. (2010) 'Mobilizing policy: Models, methods, and mutations', *Geoforum*, 41 (2), pp.169-174.
- Pile, S. (1991) 'Practising interpretive geography', *Transactions of the Institute of British Geographers*, 16, pp.458-469.
- Plank, C. (2013) 'Land grabs in the Black Earth: Ukrainian oligarchs and international investors' [Online]. In: Franco, J. & Borrás Jr., S. M. (ed.). *Land concentration, land grabbing and people's*

- struggles*. Transnational Institute (TNI) for European Coordination Via Campesina and Hands off the Land Network. Available from: http://www.tni.org/sites/www.tni.org/files/download/land_in_europe-jun2013.pdf (Accessed: 3rd February 2014).
- Plank, C. & Plank, L. (2014) 'The financialisation of farmland in Ukraine', *Journal für Entwicklungspolitik*, 30 (2), pp.46-68.
- Poon, M. (2007) 'Scorecards as devices for consumer credit: the case of Fair, Isaac and Company Incorporated', *Sociological Review*, 55, pp.284–306.
- Polanyi, K. (1971 [1957]) 'The economy as instituted process', in Polanyi, K., Arensberg, C. & Pearson, H. (ed.). *Trade and market in the early empires: economic in history and theory*. Chicago: Henry Regnery Co, pp. 243–70.
- Polanyi, K. (1980 [1944]) *The great transformation*. New York: Octagon.
- Preda, A. (2006) 'Socio-technical agency in financial markets: the case of the stock ticker', *Social Studies of Science*, 36, pp.753–82.
- Procredit Holding (2016) *First InnovFin SME deal in Ukraine as EIF and ProCredit Bank JSC sign agreement for innovative businesses* [Online] ProCredit Holdings Kyiv, 13th Sept 2016. Available from: <https://www.procredit-holding.com/2016/09/13/first-innovfin-sme-deal-ukraine-eif-procredit-bank-jsc-sign-agreement-innovative-businesses/> (Accessed: 15th January 2019).
- Procredit Holding (2017) *EIF Annual Report 2017*. Financing SMES in 2017 [Online] Available from: https://www.eif.org/news_centre/publications/eif_annual_report_2017.pdf (Accessed: 15th January 2019).
- ProCredit Holding (2019) *Annual Report, 2018* [Online] Procredit Holdings. Available from: https://www.procredit-holding.com/wp-content/uploads/2019/03/2018_EN_PCH_AR_L.pdf (Accessed: 15th January 2019).
- Roberts, J. M. (2012) 'Poststructuralism against poststructuralism: actor-network theory, organizations and economic markets', *European Journal of Social Theory*, 15 (1), pp.35-53.
- Rose-Ackerman, S. (1997) 'The political economy of corruption', in Elliot, K. A. (ed.). *Corruption and the global economy*. Washington DC: Institute of International Economics, pp.31-60.
- Rozelle, S. & Swinnen, J (2004) 'Success and failure of reform: insights from the transition of agriculture', *Journal of Economic Literature*, Vol. XLII, pp.404-456.
- Ruiz, C. (2014) *How can finance influence productivity of agricultural firms* [Online] World Bank Blogs. Available from: <http://blogs.worldbank.org/allaboutfinance/how-can-finance-influence-productivity-agricultural-firms> (Accessed 16th August 2017).
- Ruming, K. (2009). 'Following the actors: mobilising an actor-network theory methodology in geography', *Australian Geographer*, 40 (4), pp.451-469.
- Russi, L. (2013) *Hungry capital: the financialization of food*. Alresford, UK: Zero Books.
- Sabot, E.C. (1999) 'Dr. Jekyll, Mr H(i)de: the contrasting face of elites at interview', *Geoforum* 30, pp.329–335.
- Santos, A. C. & Rodrigues, J. (2009) 'Economics as social engineering? Questioning the performativity thesis', *Cambridge Journal of Economics*, 33 (5), pp.985-1000.
- Sampson, S. L. (1987) 'The second economy of the Soviet Union and Eastern Europe', *Annals of the American Academy of Political and Social Science*, 493, pp. 120-136.

- Sarna, A. (2014) *The transformation of agriculture in Ukraine: from collective farms to agroholdings* [Online] OSW Centre for Eastern Studies. Available from: https://www.osw.waw.pl/sites/default/files/commentary_127.pdf (Accessed: 15 May 2019).
- Schmidt R. H. & Moisa N. (2005) 'Public-private partnerships for financial development in Southeast Europe', in Matthäus-Maier, I. & Von Pischke, J. (ed.). *EU Accession — Financial Sector Opportunities and Challenges for Southeast Europe*. Berlin-Heidelberg: Springer, pp. 251-276.
- Schmidt, R. H. & Zeitinger, C. P. (1998) 'Critical issues in micro business finance and the role of donors', in Kimenyi, M. S., Wieland, R. C. & Von Pischke, J. D. (ed.). *Strategic issues in microfinance*. Brookfield VT: Ashgate Publishing. pp. 27-51.
- Schmidt, R. H. & Von Pischke, J. D. (2005) *Networks of Micro and Small Enterprise Banks: A Contribution to Financial Sector Development*. IPC Working Paper Nr. 126, March 2005. Available from: (Accessed: 15 May 2019).
- Schnepf, R. (2006) *Price determination in agricultural commodity markets: a primer* [Online] Congressional Research Service Report for Congress. Available from: <http://nationalaglawcenter.org/wp-content/uploads/assets/crs/RL33204.pdf> (Accessed: 3rd February 2016).
- Schroeder, G. E. (1994) 'Observations on economic reform in the successor states', *Post-Soviet Geography*, 1, pp.1-12.
- Schroeder, K. G. & Meyers, W. H. (2017) 'Credit and finance issues in the Eurasian wheat belt', in Paloma, S. G., Mary, S., Langrell, S. & Ciaian, P. (ed.). *The Eurasian wheat belt and food security: global and regional aspects*. Berlin: Springer International Publishing, pp.51-66.
- Sedik, D. (2003) *Rural finance without markets in Ukraine, 1991-2000* [Online] FAO ESA Working Paper No. 03-01. Available from: <http://www.fao.org/3/ae034e/ae034e00.htm> (Accessed: 26th May 2017).
- Sedik, D., Seperovich, N., Pugachev, N., Chapko, I., Kobuta, I., Noga, V. & Zhygadlo, V. (2000) *Farm debt in the CIS: a multi-country study of major causes and proposed solutions*. Environmentally and Socially Sustainable Development Working Paper 28. Washington, DC: World Bank.
- Simes, D. K. (1975) 'The Soviet parallel market', *Survey*, 21 (3), pp.42-52.
- Simis, K. (1982) *USSR: the corrupt society - the secret world of Soviet capitalism*. New York: Simon & Schuster.
- Spielman, D.J., Hartwich, F. & von Grebmer, K. (2010) 'Public-private partnerships and developing country agriculture: evidence from the international agricultural research system', *Public Administration and Development*, 30 (4) pp.261-276.
- Smith, K. E. (2006). 'Problematising power relations in 'elite' interviews'. *Geoforum*, 37 (4), pp.643-653.
- Stark, D. (1998) 'Recombinant property in Eastern European capitalism'. In: Callon, M. (ed.). *The Laws of the Markets*. Oxford: Blackwell, pp.116-146.
- Stark, D. & Bruszt, L. (1998) *Postsocialist pathways: transforming politics and property in East Central Europe*. Cambridge: Cambridge University Press.
- Stelmach, L. (2018) L. (2018) *відмінку сирого* [Online] The Ukrainian Farmer. Available from: <https://www.pressreader.com/ukraine/the-ukrainian-farmer/20180216/281590946034153> (Accessed: 14th October 2018).
- Swain, A. & Mykhnenko, V. (2007) 'The Ukrainian Donbas in 'transition'', in Swain, A. (ed.). *Re-constructing the post-Soviet industrial region: the Donbas in transition*. London: Routledge, pp.7-46.

- Swain, A., Mykhnenki, V. & French, S. (2010) 'The corruption industry and transition: neoliberalising post-Soviet space', in Birch, K & Mykhnenko, V. (ed.). *The rise and fall of neoliberalism: the collapse of an economic order?* London: Zed Books, pp.112-132.
- Swinnen, J. F. M. & Gow, H. R. (1999) 'Agricultural credit problems and policies during the transition to a market economy in Central and Eastern Europe', *Food Policy*, 24 (1), pp.21.-47.
- Tabak, E. (2015) *Information cosmopolitics: an actor-network theory approach to information practices*. Oxford: Chandos Publishing.
- Tarde, G. (1999 réédition) *Les lois sociales*. Paris: Les Empêcheurs de Penser en Rond.
- Thrift, N. (2006) 'David Harvey: a rock in a hard place'. In: Castree, N. & Gregory, D. (ed.). *David Harvey: A Critical Reader*. Malden MA: Blackwell pp. 223-233.
- UCAB (2011) UCAB to provide IFC's agri-finance project in Ukraine with expert advice [Online] Ukrainian Agribusiness Club. Available from: http://ucab.ua/en/pres_sluzhba/novosti/ucab_to_provide_ifcs_agrifinance_project_in_ukraine_with_expert_advice (Accessed: 16th May 2017).
- UCAB (2012) *Doing agribusiness in Ukraine* [Online]. Available from: <http://agribusiness.kiev.ua/en/service/studies/1342613902/> (Accessed: 1st July 2016).
- UkrAgroConsult (2014) Ukraine: trade guide for Norwegian importers [Online]. Available from: <https://nucc.no/wp-content/uploads/2014/12/Agriculture-in-Ukraine.-Trade-Guide-for-Norwegian-Importers..pdf> (Accessed: 23rd February 2017).
- USAID (2011) *Regulatory and institutional barriers for increasing access to finance for small and medium-scale producers* [Online] AgroInvest Project Contract No. AID-121-C-11-00001. Available from: https://pdf.usaid.gov/pdf_docs/PA00JK3K.pdf (Accessed: 3rd March 2017).
- USAID (2013) *Assessment of agrilending to small and medium-sized agriculture producers in the Ukrainian banking sector* [Online] USAID AgroInvest Project Contract No. AID-121-C-1100001. Available from http://pdf.usaid.gov/pdf_docs/PA00JK3S.pdf (Accessed: 3rd March 2017).
- USAID (2015) *Roadmap: commodity futures markets development in Ukraine 2015 onwards* [Online] USAID Financial Sector Development Project USAID FINREP-II. Available from: http://www.finrep.kiev.ua/download/roadmap_executive_summary_finrep2_june2015_en.pdf (Accessed: 3rd March 2017).
- US Central Intelligence Agency (2018) *Ukraine: the world factbook* [Online]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/up.html> (Accessed: 4th February 2019).
- Valiante, D. (2013) *Commodities price formation: financialisation and beyond* [Online] Report of the CEPS-ECMI Task Force, Centre for European Policy Studies, Brussels. Available from: <https://www.ceps.eu/system/files/commodtrfr.pdf> (Accessed: 7th March 2016).
- Viola, L. (1994) *Peasant rebels under Stalin: collectivization and the culture of peasant resistance*. Oxford: Oxford University Press.
- Visser, O. & Spoor, M. (2011) 'Land grabbing in post-Soviet Eurasia: the world's largest agricultural land reserves at stake', *The Journal of Peasant Studies*, 38 (2), pp.299-323.
- von Cramon Taubadel., S. & Zorya, S. (2001) *Policies and agricultural development in Ukraine*. Aachen: Shaker Verlag.
- von Cramon Taubadel, S. (2003) *The situation on Ukraine's grain market: crisis! What crisis*. Institute for Economic Research and Policy Consulting in Ukraine: Working Papers, no. T9. Available from:

- http://www.beratergruppe-ukraine.de/download/Beraterpapiere/2003/t9_en_Cramon_Ukr%20grain%20market%20Crisis.pdf (Accessed: 2nd April 2016).
- von Cramon-Taubadel, S., Demyanenko, S. & Kuhn, A. (2004) Ukrainian agriculture – crisis and recovery [Online]. Available from: http://www.ier.com.ua/files/Books/12_Agriculture_Crisis_and_Recovery/12_book_2004_Agrarbook_III_eng.pdf (Accessed: 22nd April 2016).
- Von Pischke, J. D. (1991) *Finance at the frontier: Debt capacity and the role of credit in the private economy*. EDI Development Studies. Washington DC: The World Bank.
- Vosselman, E. (2014) 'The 'performativity thesis' and its critics: towards a relational ontology of management accounting', *Accounting and Business Research*, 44 (2), pp.181-203.
- Von Pischke, J. D. (1991) *Finance at the Frontier. Debt Capacity and the Role of Credit in the Private Economy*, EDI Development Studies. Washington DC: The World Bank.
- Von Pischke, J. D., Adams, D. W. & Donald, G. (ed.). (1983) *Rural Financial Markets in Developing Countries: Their Use and Abuse*. Baltimore: Johns Hopkins University Press.
- Weber, M. (1978 [1922]). *Economy and society: an outline of interpretive sociology*. Berkeley: University of California Press.
- Wedel, J. R. (2004) 'Blurring the state-private divide: flex organisations and the decline of accountability', in Spoor, M. (ed.). *Globalisation, poverty and conflict*. Dordrecht: Springer, pp. 217-235.
- Weisser, F. (2014) 'Practices, politics, performativities: documents in the international negotiations on climate change', *Political Geography*, 40, pp.46-55.
- Westerkamp, C., Nouri, M. & Oertel, A. (2015) *Agricultural credit: assessing the use of interest rate subsidies* [Online] Agence Française de Développement. Available from: <https://www.afd.fr/sites/afd/files/imported-files/29-VA-A-Savoir.pdf>. (Accessed: 24th March 2017).
- White, H.C. (2005) *Markets from networks: socioeconomic models of production*. Princeton, N.J. Oxford: Princeton University Press.
- Whittle, A. & Spicer, A. (2008) 'Is actor network theory critique?', *Organization Studies*, 29 (4), pp.611-629.
- Williams, J. W. (2014) 'Feeding finance: a critical account of the shifting relationships between finance, food and farming', *Economy and Society*, 43 (3), pp. 401-431.
- Wilson, W. W. & Belozertsev, A. (1995) 'Russian grain trading and marketing: evolution and struggles', *Agribusiness*, 11 (1), pp.1-12.
- Wise, T. A. (2004) *The paradox of agricultural subsidies: measurement issues, agricultural dumping, and policy reform* [Online] Global Development and Environment Institute, Tufts University, Working paper N° 04-02. Available from: <http://www.ase.tufts.edu/gdae/pubs/wp/04-02agsubsidies.pdf> (Accessed: 23 November 2016).
- Woods, M. (1998) 'Rethinking elites: networks, space, and local politics', *Environment and Planning A*, 30, pp.2101–2119.
- World Bank (1994) *Ukraine: the agriculture sector in transition (English). A World Bank country study*. Washington DC: World Bank.

- World Bank (2004) *Achieving Ukraine's agricultural potential : stimulating agricultural growth and improving rural life (Vol. 2) (English)*. Washington, DC: World Bank.
- World Bank (2013) *Implementing agriculture for development: World Bank Group agriculture action plan (2013-2015) (English)*. Washington DC: World Bank.
- World Bank (2015) *World Bank Group, Switzerland, and Ukraine roll out crop receipts to expand access to finance for farmers* [Online] Press release. Available from: <https://www.worldbank.org/en/news/press-release/2015/10/15/wbg-switzerland-ukraine-expand-finance-for-farmers> (Accessed: 24th August 2017).
- Yonay, Y. P. (1994) 'When black boxes clash: competing ideas of what science is in economics', *Social Studies of Science*, 24 (1), pp.39-80
- Yang, J. & Leatham, D. J. (1999) 'Price discovery in wheat futures markets', *Journal of Agricultural and Applied Economics*, 31(2), pp.359–370.
- Zeitinger, C. P. (1996) 'Micro-lending in the Russian Federation', in Levitsky, J. (ed.) *Small Business in Transition Economies*. London: ITDG Publications. pp.85-94
- Zeitinger, C. P. (2002) 'Financial Institution-Building in Eastern Europe', in Winkler, A. (ed.). *Banking and Monetary Policy in Eastern Europe: The First Ten Years*. Basingstoke UK: Palgrave, pp. 183-204.
- Zinchuk, T., Kutsmus, N., Kovalchuk, O., Dankevych, V. & Usiuk, T. (2017) 'Institutional transformation of Ukraine's agricultural sector', *Review of Economic perspectives – NÁRODOHOSPODÁŘSKÝ OBZOR*, 7 (1), pp. 57–80.

Appendix A

Profiles of Interview Respondents

Interview Number	Date	Interviewee	Affiliation	Format
1	04.11.2016	CEO, AgroRegion	Domestic agroholding	Interview
2	17.11.2016	Market analyst, Ukraine Agribusiness Club	Think tank/business association.	Interview
3	20.11.2016	Commodity trader, Glencore	International trading house	Interview
4	21.11.2016	Market analyst, Ukraine Agribusiness Club	Think tank/business association	Interview
5	29.11.2016	CEO, Agricom	Domestic agroholding	Interview
6	11.12.2016	Independent grain trader	Independent grain trader	Interview
7	12.12.2016	General director, UkrAgroConsult	Agricultural market analysis and consultancy firm	Interview
8	12.12.2016	Commodities trader, Bunge	International trading house	Interview
9	12.12.2016	Commodities trader, Cargill	International trading	Interview
10	12.12.2016	Commodities trader, Delta Vilmar	International trading house	Interview
11	13.12.2016	Agribusiness researcher, Bunge	International trading house	Interview

12	17.12.2016	Commodities trader, CHS Ukraine	International trading house	Interview
13	18.12.2016	Farm Manager, Unnamed Agroholding	Domestic Agroholding	Interview
14	05.04.2017	Commodity trader, Baywa Marketing and Trading International	Foreign owned producer and exporter	Interview
15	13.04.2017	Policy analyst, German-Ukraine Policy Dialogue	Agricultural advisory group	Interview
16	11.04.2017	Economic advisor, World Bank	IFI	Interview
17	11.04.2017	Short-term consultant, World Bank	IFI	Interview
18	20.04.2017	Agricultural risk assistant manager, International Financial Corporation	IFI	Interview
19	04.05.2017	Agricultural development officer, USAID AgroInvest' Project.	Foreign government funded development agency	Interview
20	26.05.2017	Head of operations, International Financial Corporation	IFI	Interview
21	27.05.2017	Director, Banking department, University of Life and Environmental Science	University department	Interview
22	01.06.2017	Chairmen on the board, Swedish SEB Bank	Commercial Bank	Interview
23	June 2017	Agricultural finance expert and independent consultant,	IFI	Email correspondence

		International financial corporation		
24	June 2017	Agriculture, Trade and International Development Specialist, Owner of NIKA PROJECT	Private development and advisory agency	Email correspondence
25	09.06.2017	Deputy head, Project Monitoring Unit of National Bank of Ukraine, OECD Agrifinance Task Force	Department of National Bank	Interview
26	12.06.2017	Financial Services Manager, Bayer CropScience, IFC Partner on agricultural finance risk-sharing facility	International firm, agrochemical input supplier	Interview
27	13.06.2017	Assistant director, Department of Sustainable Economic Development, Swiss Agency for Development and Cooperation	Foreign government funded development agency	Interview
28	14.06.2017	Risk-manger, German-Ukraine Fund, working on credit-guarantee fund	Non-banking financial institution	Interview
29	14.06.2017	Deputy fund manager, German-Ukraine Fund, working on credit-guarantee fund	Non-banking financial institution	Interview
30	16.06.2017	Senior bank advisor, Internationale Project Consult, Partner on OECD agrifinance project	Private financial development agency	Interview
31	Scheduled	Project Manager, Ukraine Crop Receipts Project, International Financial Corporation	IFI	Interview

32	Scheduled	Agricultural consultant, Institute for Agribusiness and Rural Development , contributor to EU commission report on “Extension of the AGMEMOD model towards Ukraine”	Independent consultant	Interview
33	Scheduled	First Secretary/Programme Officer, Development Cooperation, Embassy of Sweden, Contributor to OECD agrifinance project	Foreign government funded development agency	Interview