

Trust: Economic Notions and its role in Money and Banking

A thesis submitted for the degree of

Doctor of Philosophy

Division of Economics

Stirling Management School

By

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September 2010

Declaration

In accordance with the Regulations for Higher Degrees by Research, I hereby declare that the whole thesis now submitted for the candidature of Doctor of Philosophy is a result of my own research and independent work except where reference is made to published literature. I also hereby certify that the work embodied in this thesis has not already been submitted in any substance for any degree and is not concurrently submitted in candidature for any degree from any other institute of higher learning. I am responsible for any errors and omissions present in the thesis.

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Abstract

This thesis has two aims; to explore the economic notions of trust to develop a coherent understanding of trust within economics and to apply this understanding to the operation of money and banking.

There has been a recent explosion of work about trust within economics but little consensus. This thesis explores this body of work by first developing a framework based on the different perceptions of the work of Adam Smith. The framework argues that the academic discipline of economics can be understood as mirroring the discussions of the work of Adam Smith. The Academic discipline of economics can be seen as comprising of approaches that only consider behaviour as relating to self-interested and those approaches that have adopted a stance that includes both self-interest and social, organic behaviour.

The beginning of this thesis explores the notions of trust offered by Behavioural Game Theory and Institutional Economics and argues that the notions of trust developed using the institutional framework offer a richer conceptualisation and are more widely applicable to other areas addressed by economics. This concludes by developing a theory of trust in the institutional tradition based on the work of Simmel and draws a distinction between trust as applied to agency and confidence applied to structure.

After drawing a distinction between trust and confidence based on agency and structure, this thesis then uses this theory to address the understanding of the operation of money and then banking. Money, or more specifically the operation of money as influencing behaviour, can be understood as being a complex institution with both agency and structural elements allowing a coherent understanding of money

and trust. The same can be said of trust and banking, but a very different model develops as banks are organisations rather than complex institutions.

This thesis concludes by considering the current financial crisis and the policy responses using the trust and confidence framework.

Trust has been an important concept for money and banking, but without a satisfactory framework for analysis. The contribution of this thesis is to have developed a coherent framework for analysing trust, and applying it to money and banking.

Acknowledgements

This thesis owes much to many people. First, I would like to thank my supervisor, Professor Sheila Dow. Sheila showed me limitless patience, encouragement and support far beyond what could have been expected and certainly beyond what I deserved. The existence of this thesis is a testament to her constant efforts.

I would also like to thank Dr. Alberto Montagnais for the comments and mostly for putting up with me for the last few hectic months of the thesis.

I owe much to all in my department who between them have managed to convince me that academia is a fine place to be. I am grateful to have spent time with Cathy, Ian, Elanor and Mirko throughout this process and it is they that made living in Stirling completely tolerable. Many thanks to Dana, who was a constant source of relief that those of us that do not tread the straightforward, mainstream path can succeed (this is probably the first and only time I will acknowledge this debt).

Particular thanks go to Alasdair Rutherford, a constant source of entertaining and enlightening debate. Many of my ideas about economics and much of the world beyond owe themselves to our discussions.

I am indebted to the ESRC for the financial support, without which I would not have been able to do this.

Many thanks to all my friends who supported me through this time. As a group they contributed so much to making this time something I will remember fondly. I am grateful for those who put up with me during the last few months of the thesis. Many of them had to deal with my excessive ‘grumpiness’. I have kept this

part specifically vague so that I don't forget anybody. And to save me from having to think too hard and too long. Again I'm writing against the clock. You're all special.

Finally, my eternal gratitude to my parents. Their unquestioning support, understanding and trust are too important to me to be able to express properly in this hastily written note.

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Trust: Economic Notions and its role in Money and Banking

– An Introduction

The purpose of the thesis is to explore and develop the understanding of trust in economics, applying it to the case study of money and banking.

I would first like to address what motivated this thesis. It was intended as a defence of economics, specifically the study of money (I acknowledge the limited role money often takes in mainstream academic economics). While those around me were cursing the evil and corrupting nature of money, I felt compelled to focus on the uniting, trusting relationships that develop and are in many ways determined by our use of money. So then, how was I to proceed? My mainstream education in economics left me ill prepared to consider inter-personal relationships within an academic framework.

During my mainstream economic education, I constantly struggled to understand the usefulness of these models. I have found that the route of many of my conflicts with my mainstream education arose from a simple, but profound disagreement with many of the ontological beliefs implied by my teachers (not with all of my teachers did I share so little). I wish to address here at the beginning of this thesis my beliefs concerning ontology and epistemology. These beliefs colour and shape all of the following work as it does with everybody's thoughts. By setting out my beliefs about the world at this early point, I hope to avoid misunderstanding as much as possible.

Much of my ontology has been shaped by the critical realists and the Post-Keynesians. Uncertainty, as understood by the post-Keynesians, is central to my

approach to economics and much besides. Here I will set out the ontological stance I hold, and from this stance continue with epistemology shaped by this ontology. There is a real world, that exists as a complex and open system. This open world is subject to uncertainty. The real world contains people that are limited in their ability to understand this open system that is the real world. Openness, pluralism, subjectivity and uncertainty are the major defining characteristics of my view of the world, both the real world and the social, human world. This introduction will address this view and justify it before setting out the structure of the thesis.

Realism

I believe in a real world and that I exist and can observe the world to some extent. I have been heavily influenced by the Post-Keynesian approach and this influence continues at the ontological level. As Dunn (2004) has argued, the post-Keynesians and critical realists share much at the ontological level. The critical realists have a much fuller developed ontology; it is the driving force behind the approach and has put critical realism at what Lewis (2004) has called the vanguard of the ontological turn in economics.¹ As the critical realists have the fuller ontological model, it is there that I have turned to develop the ontology that underpins this thesis.²

¹ This ontological turn refers to the increasing interest in economic methodology during the 1990's to questioning the assumptions made within economics about the nature of the world and the socio-economic world (Lewis 2004).

² This introduction chapter takes a much more personal approach than any other part of this work. My beliefs about ontology and epistemology are personal and subjective. While not unique, far from it, it is my belief and I do not wish to portray it as anything like the truth using distancing and depersonalising rhetoric.

The ontological beliefs of critical realism begin with the assertion that there is a real world independent of human perception. The world is real and this reality extends to the economy. As the subject of investigation for economics, the economy is real and has an existence independent of the discipline. The economy is not a construct of economics. This stance agrees with the case put by David Hume, who argued for the pragmatic stance of accepting the common sense (common-sense philosophy) belief of the existence of a real world (Chick & Dow 2001). The Cartesian point that we are unable to prove the existence of a real world is valid, but the pragmatic Scottish enlightenment puts this aside, so that we can continue with the scientific project.

The transcendental realism ontology of critical realism as set out by Lawson (1997) has three distinct layers which are out of phase with each other. The *empirical* layer of experience and impression, the *actual* layer of events and the *real* layer comprised of the tendencies and structures that make up the generative mechanisms that shape the higher layers. The importance of the real layer as the domain of generative forces is that the world is composed not only of events and experiences but also of underlying structures and mechanisms that govern the actual events, whether detected or not. These layers are seen as interacting but because they are out of phase, this interaction is complex and is unlikely to develop stable regularities. This lack of event regularities in this conceptualisation of the world introduces fundamental uncertainty, to which we will return later.

Lawson also argues that the hierarchical conceptualisation of reality is irreducible to a single layer. The world is more than the progression of events. The real layer of mechanisms is irreducible to the actual domain, which is in turn

irreducible to the empirical domain. The real domain of tendencies and mechanisms is important and we are required to consider it when we attempt to explain the world.

Open Systems and Closed systems

We can consider the world as a system. This then begs the question: what is a system? At its most basic, a system is a network of components and connections. The nature of the components and connections will vary for each system.

An important characteristic of our potential for understanding and predicting a system is its degree of openness. The discussion of the openness of a system has a tendency to fall into dualistic modes of thought and draw a hard distinction between open systems and closed systems. Dow and Chick avoid this dual by using a distinction between closed and open that permits degrees of openness. As a closed system is easier to define, it is better to start with the definition of a closed system. Table 1 below takes the conditions required for a closed system as set out by Dow and Chick (2005) building on the earlier work by Dow (2002).

Table 1 - Conditions for closed theoretical systems

- i.** All relevant variables can be identified.
 - ii.** The boundaries of the system are definite and immutable; it follows that it is clear which variables are exogenous and which are endogenous; these categories are fixed.
 - iii.** Only the specified exogenous variables affect the system, and they do this in a known way.
 - iv.** Relations between the included variables are either knowable or random.
 - v.** Economic agents (whether individuals or aggregates) are treated atomistically.
 - vi.** The nature of economic agents is treated as if constant.
 - vii.** The structure of the relationships between the components (variables, subsystems, agents) is treated as if it is either knowable or random.
 - viii.** The structural framework within which agents act is taken as given.
-

Given the precise definitions of a closed system, an open system is often defined negatively, as any system that does not meet all of these conditions. Chick and Dow continue with their open-system/closed system model by setting out the conditions that go beyond this simple negative definition, as set out below in table 2.

Table 2 - Conditions for open systems

Real-world systems

- ii. The system is not atomistic; therefore at least one of the following holds:
 - a. outcomes of actions cannot be inferred from individual actions (because of interactions)
 - b. agents and their interactions may change (for example agents may learn).
- ii. Structure and agency are interdependent.
- iii. Boundaries around and within the social or economic system are mutable; for at least one of the following reasons:
 - a. social structures may evolve;
 - b. connections between structures may change;
 - c. the structure-agent relation may change.
- iv. Identifiable social structures are embedded in larger structures; these may mutually interact, for the boundaries of a social system are in general partial or semi-permeable.

Implications for theoretical systems

- v. There may be important omitted variables or relations and/or their effects on the system may be uncertain
- vi. The classification into exogenous and endogenous variables may be neither fixed nor exhaustive.
- vii. Connections and/or boundaries between structures may be imperfectly known and/or may change.
- viii. There is imperfect knowledge of the relations between variables; relationships may not be stable.

A strong distinction between closed and open does have some justification as the perfectly closed system does permit other concepts to be used that require the precise and inflexible criteria for a closed system. The closure of the system requires all the conditions above to be satisfied. Therefore any system that does not satisfy all the conditions must be open. But this view of systems allows a spectrum of openness

(Mearman 2005). A system that satisfies all but one of the closure conditions would be less open than a system that satisfies fewer of the conditions.

At this point it is also helpful to consider the nature of systems again. A system, closed or open, is made of elements and connections. The elements and connections also help to determine whether the system is open or closed. The Dow framework focuses on boundaries, elements (which she calls variables when referring to closed systems) and connections. The boundary conditions are helpful for defining the openness of the system, but they are not enough. Loasby (2003) has made an argument, based on the work of Potts (2000), that the connections between the elements are crucial to the nature of the system.

In a system of elements and connections, there is only one way to connect every element to every other element. A system with elements that are completely connected can only exist in one form. Any system with this characteristic would be at the extreme closure end of the scale. However if connections are selective, as Loasby argues, then it opens up the possibility of many different potential connections. An open system has selective connections, and connections that may change, as the third condition for open-systems (table 2) states. It is the differing beliefs about the connections that can drive the differing opinions about systems and the conceptions of the world. It is so much easier to examine and describe static elements. It is when we look at these elements as a part of a system, the connections, that a much greater potential for disagreement arises.

I have highlighted this open-system vs. closed system distinction because this distinction has implications for understanding and our evaluation of theory. Mäki (2005) also considers models as closed systems, specifically models are substitute systems for the real world systems which are too complex. To reduce the complexity

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of the systems that people can investigate, we develop substitute systems that require closure. I would also suggest that Dow follows this conceptualisation of closed systems as models of the open system world. When setting out the conditions of closed systems, she refers to variables. Variables are never mentioned in the conditions for open-systems except when referring to theoretical systems.

By closing some aspects of the system, models become tractable representations of the real world systems we wish to investigate. (Maki uses the term isolation, suggesting models as closed systems operate, unsurprisingly, within other larger systems.) This perception of the use of closed systems to represent the too complex open systems of the real world echoes an observation made by Hayek in his impossibility theorem:

Any apparatus of classification must possess a structure of a higher degree of complexity than is possessed by the objects that it classifies; and that, therefore, the capacity of any explaining agent must be limited to objects with a structure possessing a degree of complexity lower than its own. (Hayek 1952 p. 185)

We are the explaining agents, the people who act as economists and social scientists. The social scientists address an economy that has real, actual and empirical domains. The economy contains people (people define the social world) so any attempt to explain the world must also explain people, with their subjective views (we know that we have subjective views because disagreement is so easy to come across, even when presented with the same world), a point made by the philosopher Thomas Nagel (1986).

Uncertainty vs. Risk

Lawson's (1988) paper addressing uncertainty begins with an observation that uncertainty is a term widely used within economics, but the understanding of uncertainty by different authors differs and often in unnoticed and unremarked ways. This divergence of understanding leads to an inconsistent and confused literature. Lawson points out that this is not a criticism of individual conceptualisations which can be fully consistent, just that the economic notion of uncertainty is inconsistent and confused.

Uncertainty is defined in the Oxford English Dictionary as "The state of not being definitely known or perfectly clear; doubtfulness or vagueness." This definition shows many characteristics of an open system. The conditions for open systems set out above mean that open systems are unpredictable and indeterminate. The conditions by which we define an open system in comparison to a closed system mean that it is unpredictability and indeterminacy that separate open systems and closed systems.

Within economics, and specifically my approach, the two most significant discussions of uncertainty are those by Knight and Keynes. Knight establishes the fundamental framework that identifies uncertainty, using the method of contrasting it with a similar term, risk.

It will appear that a measurable uncertainty, or 'risk' proper, as we shall use the term, is so far different from an unmeasurable one that it is not in effect an uncertainty at all. We shall accordingly restrict the term 'uncertainty' to cases of the non-quantitative type. (Knight 1933 p. 20)

Knight's distinction between measurable and unmeasurable probabilities is the most straightforward definition of uncertainty. Uncertainty refers to situations where we have no way of measuring the likelihood of an event. Risk refers to situations where that is possible. I would like to emphasise that it is the potential for calculative probability, in reference to the actual domain, that demarcates risk and uncertainty. When talking about uncertainty like this we can turn to physics, which offers the Heisenberg uncertainty principle: "the values of a pair of...observables such as position and momentum cannot both be precisely determined in any quantum state." (Folland & Sitaram 1997 p. 1)

Heisenberg's uncertainty principle is a principle of quantum mechanics. If we look at this definition from physics, we can see that this principle rules out full and certain knowledge. The uncertainty principle states that for certain pairs of observable characteristics we cannot define both, and there is a trade-off between precision between the two measurements. As we acquire more information about one, the other becomes more uncertain. Uncertainty is unavoidable because full knowledge is denied to us, even about the physical characteristics of non-thinking, non-subjective matter.³

Keynes also developed a sophisticated understanding of risk and uncertainty, but instead of the simple ontological basis drawn above, Keynes has a more epistemological nature, talking explicitly about uncertain 'knowledge', not simply uncertainty as Knight does.

³ Heisenberg's uncertainty is epistemological in nature as it refers to the inability for us to witness and measure the world without impacting on it. The way by which we determine the location of a particle is to bounce light off of it. This will result in a change in the speed of the particle.

By 'uncertain' knowledge, let me explain, I do not mean merely to distinguish what is known for certain from what is only probable. The game of roulette is not subject, in this sense, to uncertainty; nor is the prospect of a Victory bond being drawn. Or, again, the expectation of life is only slightly uncertain. Even the weather is only moderately uncertain. The sense in which I am using the term is that in which the prospect of a European war is uncertain, or the price of copper and the rate of interest twenty years hence, or the obsolescence of a new invention, or the position of private wealth owners in the social system in 1970. About these matters there is no scientific basis on which to form any calculable probability whatever. We simply do not know.

(Keynes 1937) p213-214

I make the statement that Keynes has a more epistemology view of uncertainty because Keynes always talks about what is known and knowable. But Keynes also draws on an open system ontology as he set out in his treatise on probability (1973). Lawson (1988) made a distinction between the concepts of uncertainty taken by Knight and Keynes based on the nature of probability. Lawson argues that probability, on which much of the concept of risk and uncertainty are based, for Knight is a property of the material reality and is itself an object of knowledge. We can have knowledge about probabilities. For Keynes probability was a property of knowledge. All knowledge was subject to probability of being true or not. Keynes had a relative and epistemological view of uncertainty. It was more of an open-system type of uncertainty where he took a view of all propositions and then attached a likelihood to them. He took confirmations and refutations and argued that the belief held by an

individual was a ratio of the confirmations to the total observations. See Fontana and Gerrard (2004) for discussion of Keynes' logical theory of probability

In a system without uncertainty we can use risk based decision behaviours. Now using the particular ontological stance on uncertainty we have an area of behaviour which people have to operate but which is conceptually beyond the mainstream approach.

Relationship between open/closed systems and risk and uncertainty

Dow works with an open-systems approach to ontology. The world is seen as a system, but a system without well defined boundaries. The system is large enough and complex enough that prediction is impossible. Predicting an open system is impossible, it is not just a case of limited knowledge. It is impossible to have complete knowledge of an open system, and it is even questioned if this is a meaningful statement. What does complete knowledge mean in a system of context specific understanding and context specific relationships?

Ok, so open system where it is impossible to gain knowledge. (Dow, Heisenberg) "It acknowledges the challenge of establishing a precise measure of uncertainty as well as a precise measure of stakes involved" (Aven & Renn 2009 p. 10) This conceptualisation of uncertainty seeks a precise definition of uncertainty within each model, a calculative definition of uncertainty. This is at odds with the above definition, where uncertainty loses its distinctiveness from risk.

Why Trust

Economics as a social science is concerned with human behaviour. As a discipline there is even an argument as to its nature and boundaries. Should it be the institutional

framework that defines economics ('economic activity' or 'the allocation of resources'), or should we place the boundary between economics and the other social sciences (particularly sociology which presents a particular difficulty in establishing a demarcation between it and economics) within the realm of behaviour, with economics studying rational behaviour?

A common theme is the explanation of behaviour. Trust has attracted a lot of attention from several different approaches within economics and from other academic disciplines. However, this high level of activity has led to the situation where the concept of trust has become confused and overly burdened with different meanings as each group of discussants adopts a particular understanding for the word 'trust'. For any meaningful debate to continue within economics and for economists to converse with other disciplines, we must begin to understand the significance of the different approaches to trust in economics which can allow us to refine the notion.

The purpose of this thesis is to explore the notion of trust within economics to develop a coherent understanding of trust and to apply this understanding to the social systems of money and banking.

This thesis begins by developing a framework based on the different perceptions of the work of Adam Smith. This framework will argue that economics can be understood as having approaches that consider only self-interest as a motive for action, and approaches that have adopted a stance that includes both self-interest and social motives for action.

This framework is then used to understand the discussions of trust within economics. There has been a recent explosion of work on the subject of trust but little consensus. Using the Smith framework, the discussions of trust within economics are

considered, focusing on the notions of trust developed by Behavioural Game Theory and Old Institutional Economics as representatives of the approaches arising from the Smith framework.

As the two approaches are explored, it is argued that the institutional approach offers a richer conceptualisation of trust. A model of trust is developed based on this institutional approach of self-interest and socially regarding individuals and the work of Luhmann. By considering the notions of trust offered by economics and developing a distinction based on agency and structure, this thesis hopes to contribute to the further development of the economic notion of trust, so that this concept can be incorporated more usefully into economics.

The final two chapters of the thesis explore the potential for understanding complex social systems using the notion of trust developed in this thesis. First the interaction between trust and money is considered and then the role of trust in the banking system.

Chapter 1 – The Adam Smith Problem and Economics

Introduction

Economics is a social science and as such we cannot forget that it should be fundamentally concerned with human behaviour. In order to understand this behaviour we need a good understanding of the underlying motivations and mechanisms that make up human nature. A question with particular importance to economics is to what degree we are self-interested and to what degree we are or social. With reference to economic behaviour, on what basis do we assume that economic behaviour is fundamentally different from the rest of human activity? Does the introduction of an explicit pricing mechanism (if we could even define the economy as such) lead to the abandonment of many of the behaviours and mechanisms that operate whilst in a non-economic environment?

The discussion of the Adam Smith Problem (ASP) has an important and overlooked value to economics. The ASP can be used to reveal a fundamental structure of the heterogeneous discipline of economics. The different schools of thought within economics each adopt a particular standpoint on either side of the Adam Smith dichotomy that influences how human behaviour is viewed. Economics is heavily weighted towards the selfish image of human nature emphasised in the *Wealth of Nations* (WN), while there are schools of economics that include the social or organic nature presented by Smith. Economics, as a heterogeneous discipline, can be seen as divided by the Adam Smith Problem.

This chapter will argue that the discussions of the Adam Smith problem offers a way to understand the different interpretations of trust offered by different

approaches within economics. This is not to say that Smith said a great deal explicitly relating to trust, but instead how different interpretations of the Adam Smith Problem used by different economic approaches have coloured their development of the notion of trust. This paper will argue that the Adam Smith problem affects the wider economic community because different approaches have adopted different interpretations of human behaviour offered by the Adam Smith problem. Where mainstream economics strongly emphasises the self-interested interpretation of Smith's man, heterodox economics, as a reaction and protest against the mainstream, has adopted the other interpretation of a social, organic individual.

This chapter will also argue that this form of thinking is an excessively dualistic interpretation of Smith's work and of human nature in general. The nature of this dualistic thinking must be examined so that we can avoid the problems associated with it.

First, we will consider the widely regarded nature of the Adam Smith Problem before considering two crucial concepts of Smith's organic, social individual, sympathy and the impartial spectator, before a brief examination of the self-interested behaviour portrayed by Smith. Then the different resolutions of the Adam Smith problem offered in the literature are considered and the implications for economics as a discipline are set out.

Nature of the Adam Smith Problem

What justification is there for turning to Smith to view the current divisions within academic economics? Recently interest in Smith's work has greatly increased with many different writers from very different approaches claiming some aspect of Smith's work as support for their own work.

Adam Smith wrote extensively on the nature of humanity in both his *Theory of Moral Sentiments* (TMS) and *The Wealth of Nations* (WN). When the two works of TMS and WN have been considered separately, an apparent dichotomy appears between the social and sympathetic individual of the Theory of Moral Sentiments and a selfish, atomistic individual of the Wealth of Nations. This dichotomy arising from the interpretations of Smith's work is the Adam Smith problem.

Progress has been made towards resolving the Adam Smith problem with Schumpeter (1954 p141) one of many writers claiming that both TMS and WN are derived from a single, consistent system. It is also common for Smithian scholars, such as Lamb (1974) and Raphael (Raphael 1985) to talk of the Theory of Moral Sentiments as a foundation for the Wealth of Nations. The Adam Smith problem as an issue of inconsistency in his writings can be dismissed as a 'pseudo-problem' as argued by Raphael and Macfie (Raphael 1985). The basis of the AS problem is the interpretation of Smith's view of humanity in a dualistic manner. Smith throughout his writings never argues that we are ultimately self-interested or social, but instead presents a complex view of humanity which incorporates both. This is different from the idea of a person that is self-interested at heart with a recently adopted veneer of social behaviour on top of this which acts as a limiting agent on behaviour.

Despite this movement towards a resolution of the Adam Smith problem, there has been little impact on the wider economic community. This is unsurprising given the nature of the AS problem. If any impact on the wider economic community is to be made, then those outside of the debate must be convinced that the Adam Smith problem is more than academically dry philosophising and 'hair-splitting'.

The discussions of the Adam Smith problem has an important and overlooked value to economics. The ASP can be used to reveal a fundamental structure of the

heterogeneous discipline of economics. The different schools of thought within economics each adopt a particular standpoint on either side of the Adam Smith dichotomy which influences how human behaviour is viewed. Economics is heavily weighted towards the selfish image of human nature emphasised in WN, there are schools of economics which include the social or organic nature presented by Smith. Economics, as a heterogeneous discipline, can be seen to be divided by the Adam Smith problem.

Origins of the Adam Smith Problem

Adam Smith did not establish an account of human nature in a single piece of work. His views are developed throughout both *The Theory of Moral Sentiments* (TMS) and *An Inquiry into the Nature and Causes of the Wealth of Nations* (WN) as well as his other works (including his *Lectures of Jurisprudence* and *History of Astronomy*), but were never fully brought together to create a fully comprehensive description. Therefore, in order to understand Smith's views of humanity both the TMS and WN need to be examined as they represent his two greatest attempts to develop an account of human nature. In the TMS Smith deals with human behaviour in great depth and is often seen as emphasising the social or organic aspect of human behaviour whereas in the Wealth of Nations Smith moves away from the exclusive discussions of behaviour found in the TMS and instead presents a *more* self-interested individual functioning within a capitalist market.

It is important to note that in neither book does Smith attempt to portray in single dimension of human behaviour and avoids the dualism of organic or self-interested human behaviour. Despite Smith's avoidance of this dual, the emphasis on social behaviour in the TMS and the emphasis on self-interested behaviour in the WN

created a lengthy debate as to how to reconcile these apparently dichotomous portrayals of human behaviour. This debate became known as the Adam Smith Problem.

His views are developed throughout both *The Theory of Moral Sentiments* (Smith 1976) first published in 1759 with a total of 6 editions with the last published in 1790 and *An Inquiry into the Nature and Causes of the Wealth of Nations* (WN) (Smith, Campbell, & Skinner 1976) first published in 1776 with 5 editions, the last published in 1789. The overlapping dates 1759-1790 for TMS and 1776-1789 for the WN, shows that Smith was working on both in parallel.

Sympathetic/Organic aspect of the individual

The main subject of the Moral Sentiments is the nature of moral judgement and the key concept is Sympathy. Smith begins the TMS with the discussion of Sympathy and as Raphael argues “The first chapter is a signal of what Smith thinks most fundamental” (Raphael 1985 p. 29). Sympathy in Smiths writing differs significantly from the commonly understood use of the term that conflates sympathy with compassion. Instead of the inherently positive notion as commonly understood, Smith talks about sympathy as follows:

Pity and compassion are words appropriated to signify our fellow-feeling with the sorrow of others. Sympathy, though its meaning was, perhaps, originally the same, may now, however, without much impropriety, be made use of to denote our fellow-feeling with any passion whatever. (TMS I.1.1.5).

Sympathy does not just encompass the sharing of sorrow or emotions connected to loss, but any shade of emotion that it is possible for two individuals to experience.

Smith expanded his concept of Sympathy beyond the simple concept of sharing emotions, what Macfie (1967 p. 85) calls “simply a ‘propensity’, a basic capacity, and as such it is neither moral nor immoral.”. Instead, he uses it to refer to the process and resulting emotions derived from the ability of an individual to create a mental representation of another individual’s situation i.e. placing yourself in another man’s shoes.

When considering a course of action, Smith argued that we mentally place ourselves (through imagination) in the position of another, with the discussion below referring to our witnessing ‘our brother on the rack’.

By the imagination we place ourselves in his situation, we conceive ourselves enduring all the same torments, we enter as it were into his body, and become in some measure the same person with him. (TMS I.I.i.2)

We attempt to create as full a mental picture of the situation faced by another individual as possible and from this, we can observe our own responses to this situation. Though this process is of course imperfect as we can never fully know and understand the situation of another it does allow a great level of common understanding between individuals.

Once we have established a representation of another’s situation we can imagine the impact of different courses of action on this other individual and to judge whether we agree or disagree with this any action taken by this other individual by

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comparing it to what we ourselves would do in the imaginary world we have just created. Smith describes the expanded notion of sympathy as to “not arise so much from the view of passion, as from that of the situation which excites it.” (TMS, I.i.I.IO). It is the full process of attempting to derive the emotions and motives we would face when presented with a particular set of circumstances, the resulting assessment of different courses of action and then the final judgement by comparison from our imagined response and the actual response of another that is Smith’s sympathy.

This process can also be turned inwards to assess our own behaviour by creating what Smith called an ‘impartial spectator’. This impartial spectator can observe our behaviour and actions while not being directly affected by them. Smith described the impartial spectator as indifferent in the sense of not being an interested party, and he expresses a universal point of being representative of any observer with normal human feelings. We can understand the impartial spectator as a fabricated being, created by the individual. This fabricated, fictional being is perceived as an idealised member of that society. As an idealised member of the society, the impartial spectator embodies all the morals and laudable characteristics.

The impartial spectator is far from a perfect being, even if it is an imagined creature. The impartial spectator is imaginary, but still imagined as human. An impartial spectator is still fallible and still contains the less admirable motives and characteristics. The impartial spectator would still succumb to treachery and theft; it would just be less likely to than an average, normal person in that society.

With the creation of an impartial spectator, it is then allowed to sympathise with our own conduct in the same manner as described above and makes an assessment. This leads us to judge our own behaviour by imagining whether the

impartial spectator would approve or disapprove. We take this approval or disapproval as either an approbation or disapprobation for our actions.

The impartial spectator is not imagined as a perfect being, and still has the potential to approve of less admirable courses of action. This was not a system of approval and disapproval based on some deist-like being, but a fallible human base system. An act, that perhaps by some absolute moral authority would be deemed unacceptable, could be acceptable to the impartial spectator. The impartial spectator is not the source of perfect moral judgement.

Smith's notions of the impartial spectator and sympathy has re-emerged in mainstream economics through the empathetic preferences work of Ken Binmore (2005) who uses much of the same concepts and intuition as Smith's sympathy. Binmore makes a distinction between what he calls sympathetic preferences, which are common in the mainstream literature, and his (more Smithian) empathetic preferences. Sympathetic preferences is a simple modification of the standard preferences modelling where the welfare of others is included as a discrete term within the self-interested preferences where the welfare of others directly translates into increased utility for the individual. Little discussion is made as to how the welfare of others is perceived by this self-interested individual, just that it can be perceived and measured in some manner.

Binmore's empathetic preferences requires a more complex process of the individual imagining themselves to be the other person which bears remarkable similarity to the process of Smith's sympathy as outlined above. (Binmore 2005)

Self-Interested Behaviour

Self-interested behaviour is a straightforward concept for an economist as it forms the central behavioural facet of so much of economics, and this has led to, in the words of Montes (Montes 2003) a 'general consensus'. So this section needs to only briefly outline one point, that Smith considered self-interest to be a very important aspect of humanity and he talked about it in both the TMS and the WN. The role of self-interest is quite clear in the WN, but self-interest is not banished entirely from TMS. People are other-regarding in the TMS, but self-interest is still a powerful driving force. The impartial spectator has the potential to approve of self-interested behaviour.

The following famous quote from the WN clearly shows the central place of self-interest in economics and due to its status as a famous quote, its continued influence is assured.

It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our necessities but of their advantages. (WN I,2,2)

Resolutions to the Adam Smith Problem

It has been claimed by many individuals that the Adam Smith problem has been overcome or more accurately, that it never existed. The most significant claim to this was made by Raphael and Macfie in the introduction to the 1976 Glasgow edition to the TMS. Raphael dismissed the apparent dichotomy between the two works as a 'pseudo-problem'. Raphael and others like as Lamb (1974) have argued that the TMS

is a foundation for the WN and as such no inconsistency between them can exist, with Raphael praising the writers who have attempted to analyse the WN who “naturally and rightly, turned to the Moral Sentiments”. Schumpeter (1954) and Macfie (1967) have both described the TMS and WN as being derived from a single, consistent system, with Schumpeter (1954 p. 141) claiming “Both the Moral Sentiments and the Wealth of Nations are cut out from a larger systematic whole.”

Raphael in his 1975 book was particularly aggressive when addressing those who still claimed the Adam Smith problem existed. He argued and was widely accepted when doing so, that the basis of the ‘pseudo-problem’ was not with the work of Smith, but with the faults of those interpreting them and a fundamental misunderstanding of the sympathy and self-interest. He claimed when economists who turned to the TMS for information directly relevant to Smith’s economics in the WN “skimmed over the rest of the book” and claimed they either didn’t care to understand the greater part of Smith’s TMS, or that they lacked the capacity (1975 p 87).

Raphael attempts to dispel the Adam Smith Problem by arguing that it is based on the “The basic error...that Adam Smith in the Moral Sentiments gives sympathy a central role as a motive action.” (1975 p89) Raphael dismisses this immediately, instead claiming that only self-interest is a motive for action, while sympathy only acts as a basis for moral judgment.

This solution to the Adam Smith problem is based on the concept of authorial integrity and the imagining of Smith as a ‘great’ thinker to guarantee the consistency between the two works. Macfie in particular stresses this point of Smith as a great thinker, declaring that “Adam Smith was a man of stable integrated character, not subject to deep intellectual doubts or fissures.” (Macfie 1967 p. 76) and that as there

“is no hint that Smith himself thought there was any conflict of doctrine between the two books”. Taking the points Macfie argues that we should not expect to find any disharmony between the two books and any that are perceived are the failings of the reader and not the great Adam Smith. Raphael summarised this authorial integrity argument quite well as “Adam Smith the economist does not leave at home Adam Smith the moral philosopher” (Raphael 1985 p. 57)

The argument of authorial integrity often recites the idea that each work was attempting to deal with a different subject; the TMS fully devoted to explaining moral behaviour while the WN focuses on the potential successful functioning of the capitalist system (which in Smith’s time was only at its earliest stages and as such a highly relevant and important issue).

Montes has attacked the particular interpretation of sympathy advocated by the editors of TMS, upon which their dismissal of the Adam Smith Problem rests. Montes argues that it is “a mistake to confine the broader sense of Smithian sympathy to moral judgement alone.” (Montes 2004 p. 46). Montes criticises Raphael for inconsistently stating that the vernacular sense of sympathy, as favourable agreement of feeling or compassion, is a motive for action and the broader Smithian definition of sympathy, as any shared feeling (positive or negative) is not a motive for action. Smith’s sympathy contains and expands beyond the vernacular sense of sympathy.

Others, in particular Vivienne Brown have stressed a different approach by not considering the problem as a question of “How could Smith have *written* two such works?” but instead recasting the Adam Smith problem as “How are these works to be *read*?” (Brown 1994 p. 24)

What is important for us to note is that there is a continued debate as to whether the argument backed by the editors of the TMS among many others, based on authorial integrity and upon their particular interpretation of Sympathy as a socialising agent but only self-interested behaviour acting as a motivation for action, is a valid conclusion. This stance is often claimed as a defence of the unrealistic nature of economic mainstream approaches. If we accept this argument then we, as economists, can continue to dismiss other-regarding behaviour and consider only the self-interested behaviour of humans, because it is only self-interest that generates actions.

What is also relevant is that many different approaches use Smith's work as an intellectual justification for their own work. This has progressed beyond the simple referencing of famous passages from the WN to drawing upon a wider interpretation of the WN and the TMS, taking its cue from the 'solution' of the Adam Smith problem discussed by Raphael and MacFie. By looking at the differences between these appeals to the authority of Smith we can examine some of the fundamental implicit difference between the different approaches.

Conclusion

This chapter has argued that the Adam Smith Problem and its resolutions offer a way to consider the academic discipline of economics. The solutions to the Adam Smith Problem offer incommensurate views on human nature and the areas of human behaviour worthy of study by economics. Those that do not accept the synthesis resolution to the Adam Smith problem continue to see a discontinuity with Smith's work and only address the self-interested behaviour based on the work from the *Wealth of Nations*. The synthesis resolution to the Adam Smith Problem offers the

potential to consider both self-interested behaviour and social behaviour as central to human nature.

The next two chapters will consider two approaches to trust that have adopted different stances to the Adam Smith Problem. Chapter 2 will consider Behavioural Game Theory as an approach that continues the Adam Smith problem, rejects the synthesis solution and develops a notion of trust considering only self-interested behaviour. Chapter 3 will consider institutional economics as an approach that has accepted the synthesis approach and attempts to construct a theory of trust embracing both self-interest and social behaviour.

Chapter 2 - Calculative Notion of Trust

Introduction

In chapter 1, I developed a framework for considering economic approaches using the approaches to the Adam Smith Problem. This framework argues that economics has approaches that have adopted the different solutions to the Adam Smith Problem. Some approaches within economics continue the Adam Smith problem and only consider self-interest as a motivation for behaviour whilst other approaches have adopted the synthesis solution and consider both self-interest and social motivations for behaviour.

This chapter will consider a notion of trust that reflects an emphasis on the self-interested solution to the Adam Smith problem. I have chosen Behavioural Game Theory as the approach that meets this aim because it maintains the mainstream assumptions of self-interested behaviour and atomistic individuals while also attempting to address social phenomena. It is not the only mainstream approach to trust but it does offer a unique and well-developed concept. The other mainstream approach to have a significant literature on trust is New Institutional Economics, but this approach is considered in the next chapter alongside the Old Institutional Economics.

This chapter will begin by setting out the Behavioural Game Theory approach to trust. Then a criticism of the rationality assumptions of Behavioural Game Theory will be offered arising from the problems these rationality assumptions force on the understanding of the behaviour of individuals in these models. Then further criticisms of this model will be put forward, including a discussion of the experiments

undertaken by the experimental game theorists and a discussion of the ontological and epistemological assumptions of this approach

Economics as a social science is concerned with human behaviour. We may argue over what the boundaries of economics are, but a common theme is the explanation or prediction of behaviour. Trust has recently attracted a lot of attention from several different approaches within economics and from other academic disciplines as a potentially fruitful concept that may further our understanding of humanity. However, this high level of activity has led to the situation where the concept of trust has become confused and overly burdened with different meanings as each group of discussants adopts a particular understanding for the word 'trust'. For any meaningful debate to continue within economics and for economists to converse with other disciplines, we must begin to understand the difference concepts of trust and their significance to economics which can allow us to refine the notion. This is not an argument for the development of single economic notion of trust (I feel this would be highly counter-productive) but simply to look for shared characteristics and perhaps reduce the multitude of conceptualisations.

The purpose of this chapter is to examine the notion of trust offered by game theory, specifically behavioural game theory which considers the nature of institutions such as trust. Behavioural game theorists have generated a large and lively discussion of trust at both a theoretical and an experimental level, but very little is said about what is meant by trust; instead the focus of their endeavours is to further refine the models (games) they use in order to explain empirically-derived results that did not meet the predictions of the previous generation of models.

Behavioural Game Theory: Methodological Approach

Because behavioural game theory evolved from an economic tradition which had both empiricism and logical positivism⁴ embedded within it, the perception of people held by those who extensively use behavioural game theory and find it convincing has been greatly influenced by these traditions. By only considering observed behaviour and using explicit and easily quantifiable motives for action, as prescribed by the empirical and logical positive approaches, the hope is to sidestep the issue of considering the mind. By using the traditions of empiricism and logical positivism they can only comment on observed behaviour, as was acknowledged by the influential group of philosophers in the Vienna Circle where the particular interpretation of positivism most often talked about in economics originated (in particular that of Rudolph Carnap). The use of experimental game theory can only detail the observed reaction to the apparently explicit and easily quantifiable incentives (EQ incentives). (Of course this brings in the question, to what extent can experimental game theory abstract from general behaviour so that it can be reasonably be thought that individuals are only reacting to these EQ incentives?) By supplying

⁴ As we are concerned with economics, it is the British Empiricism of the 17th century philosophers John Locke and David Hume which is relevant. The empiricism of Hume argued that the only knowledge available to humans is knowledge based on sense experience i.e. *a posteriori*. Empiricism is a general epistemological stance. Logical Positivism is a philosophy of science with the central assertion that the only meaningful scientific statement is a testable statement. So logical positivism is a stance on how scientific knowledge should be developed, which incorporates the logic of Bertrand Russell and the ideas of empiricism. See (Caldwell 1982) for a discussion of the development of logical positivism in economics and several criticisms of that approach.

these EQ incentives and considering the observed reactions as the only viable source of information and convincing rhetoric, how can anything be said about the very behavioural mental processes that so often are claimed to be uncovered by this approach?

The reasoning appears to be along the lines of considering how to programme a computer to replicate this behaviour. Can it be argued that the successful replication of externally visible behaviour is the same as an explanation of the process? Do we really believe that a computer, which can perform the same externally and verifiable tasks as a conscious being, is operating in a similar manner to an organic, conscious mind? Latsch (2003) has argued through his work on non-computational problems that people must deal with problems that are impossible to re-create in a computational manner, and so arguing that a computationally based system can never recreate all the problem solving abilities exhibited by humans.

If we are to accept this idea of recreation of human thought processes through the use of computational systems, does this then leave us with the possibility of Freidman's (1953) approach to positive economics: the only thing that matters is the prediction of human behaviour?

This approach is incommensurate with the open-systems realist stance set out in the introduction. The initial discussion will first address the Behavioural Game Theory notion of trust being sympathetic to its own ontology before returning to this point later in the chapter.

The Trust Game: To trust or not to Trust

The trust game, first suggested by Kreps (1990), is a simple game with two players, player A and player B. Player A is given the choice to trust player B or not to trust

them. If player A chooses to trust, then player B is given the choice to honour that trust or to betray it. If player A chooses to trust and player B honours this trust then both players receive \$10. If Player A chooses to trust and player B chooses to betray this trust then B receives \$15 and A loses \$5. The final possible outcome is if A chooses not to trust B and both players will receive nothing. These payoffs and the decisions faced by both players are shown in the diagram below.

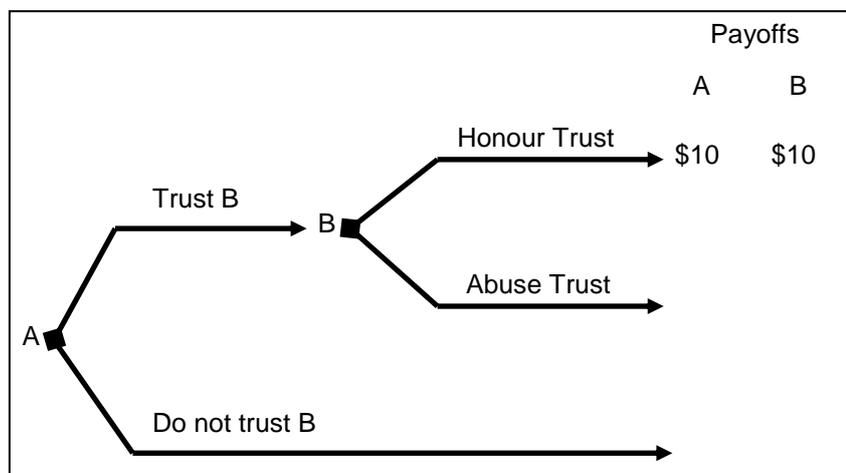


Figure 1

The trust game as outlined above resembles the famous prisoner’s dilemma game where two individuals are asked to make a decision to co-operate or to betray the other player. Both players must make their decision to co-operate or betray at the same time and so without any knowledge of the other player’s action. Where the trust game differs is that the decision to co-operate or to betray is no longer made simultaneously but in sequence. This results in an asymmetry in information where the second player can see what the first player has done, crucially before they must decide.

The trust game also has a dualistic character where both players are only offered a maximum of two courses of action (though player B will not have a choice to make if player A's choice is not to trust). The trust game presents both players with an all-or-nothing choice. The dualistic nature and the structure of the payoffs are shared with the prisoner's dilemma so the trust game can easily be seen as a two-stage prisoner's dilemma.

The standard prediction offered by game theory is the sub-game perfect Nash equilibrium:

- Full knowledge of the game and its payoffs is assumed
- Self-regarding preferences assumed
- Player B will choose to betray trust
- So Player A will choose not to trust

Importantly full knowledge also means that Player A is fully aware that Player B knows everything, including the fact that player A knows they know everything. Player B is fully aware that player A knows that they know everything, ad infinitum.

While game theory has developed much more sophisticated notions of assessing the outcomes of games, the sub-game perfect Nash-equilibrium is still important because it is still used as the benchmark for all discussions of the trust game and most other games. Other candidates for the prediction of behaviour have been offered, but there is no consistency in their use and little progress has been made towards choosing one candidate over another.

The Investment game

In experiments the investment game (Berg, Dickhaut, & McCabe 1995) is used to investigate trust rather than the trust game discussed above, because its greater sophistication allows for a wider range of possible choices for each player, but the two stage structure of risky investment is common to both games.

The investment game also has two players, player A who is called an *investor* (or trustor), and Player B, who is called an *allocator* (or trustee). Player A is given a sum of money (usually \$10) and then offered the choice to invest an amount of that money, usually in increments of \$1, or not. This decision corresponds to the trust/do not trust dual offered to player A in the trust game, but in the investment game the player has a range of choices. The amount invested by player A is then increased by some factor, usually three, and then given to player B, who then is given the choice of how much to return to the second player, with everything and nothing being valid choices.

When this game is used in practical experiments a procedure known as the double-blind procedure is used to maintain the anonymity of all the participants.⁵

The data offered from the use of the investment game experiment is fairly consistent with the data from the paper of Berg, Dickhaut and McCabe (1995) often being quoted as the benchmark. Using the basic game outlined above Berg et al. (

⁵ Double-blind experiments usually involve participants having no direct contact with the experimenters or most of the other participants. Participants are confined to different holding rooms and allowed into other experiment rooms one at a time. Instructions are given to the participants in written form. See Berg et al 1995, Hoffmann et al 1994 for a more detailed description.

1995) found that a large number of individuals choose to invest a positive amount with an average of \$5.16. They also found that a sum of money was usually returned by the second player with the average of \$4.66 being returned.

The use of the investment game over the trust game in collecting experimental behaviour is related to the ability of both players to choose from many options and not a dual. By having a game where different players can choose to invest and return different amounts, the experimenters hope to use this as a measure of how trusting each player is.

Trust is Player A's Action

We can see that the trust and investment games produce a two stage relationship between the two players; the initial act of investment of player A and the second act of returning some money by player B. The two acts are treated as quite different. The first action of the game made by player A is considered to be trust. It is the act of the first player to voluntarily hand over money to the other player that is considered trust. This prompts the crucial question of why player A would do such a thing. The motivation for this action of trust is always discussed in terms of the payoffs and how the decision to trust affects the expected payoffs of that individual. What is important is that trust is described as maximising these expected payoffs. Behavioural game theory always adopts a model of human behaviour of self-regarding preferences and assumes a significant level of rational thought, where rational thought is taken to mean the maximising utility, which in their games utility is transformed into payoffs. When trust, as an act of giving money over to the other player, is considered, it becomes part of the rational assessment of payoffs. The decision to trust or not is a rational choice to maximise the expected payoffs of player A.

Importantly we can see that it is the act of handing over the money that is considered to be trust, not the decision or the processes that have led to the action. The behavioural and cognitive processes that were required for the decision to trust are subsumed into rational optimising behaviour and as such are irrelevant (irrelevant to economics at least). Observed behaviour is always the focus and so behaviours such as trust always become action-based concepts. As observed behaviour is the only source of scientifically viable data, internal cognitive processes are consigned to a black box where the mind is considered a mass of undifferentiated computational matter which addresses any issue it faces in a rational manner.

By looking at the trust game we can see that, in experiments of behavioural game theory, trust is the act of the first player to hand over money to the second player. We end up with a definition of trust as follows: Trust is an individual actively choosing to enter a situation where their payoff from a game is determined by another's decision in the absence of an enforcement mechanism (where this other has the potential to make a choice).

Never is trust considered to be a motivation for action. Always in behavioural game theory, the only motive for action is the payoffs that the individual will receive. Trust, trustworthiness and the entire trusting co-operative relationship are merely means to achieving a desired payoff. It is not necessary to argue that this will lead to a situation of optimality, simply that only the payoffs are a motive for action. People never take their eyes off the prize, so to speak.

Trustworthiness

Before discussing reciprocity another important concept needs to be addressed. The behavioural game theory notion of trustworthiness is a characteristic of an individual.

This characteristic is a measurement of the probability that this person will honour trust and return some money to the first player. Every individual is assumed to have an intrinsic propensity to choose to honour trust in these games. This propensity to honour trust is transformed into a mathematical probability of the individual acting to honour the trust and returning money to the first player. This characteristic of trustworthiness is not directly observable by others, but we attempt to assess the trustworthiness of others using social indicators. Eckel and Wilson (2004) have suggested that the assessment of another's trustworthiness is affected by such things as gender, race and age. The importance of trustworthiness arises from its reflection of how likely that person is to honour trust, but it is also important because the first player, who is maximising their expected payoffs, will attempt to assess the trustworthiness of the second player and then use that to calculate their expected payoff if they choose to trust. This is why trustworthiness is so important to the functioning of this relationship, where individuals see trust as a “problem of judgement” (Eckel & Wilson 2004 p. 464)

Trust as a Risk

The decision to trust now includes a serious issue for the first player. Instead of facing the payoffs from diagram 1 which are certain and lead to very obvious conclusions for the rational maximising mind of these individuals so they would receive a certain payoff of \$10. They now face a choice between that certain payoff, and one which is now an expected payoff based on the probability that the player B will reciprocate i.e. the trustworthiness of that player. By trusting, they have replaced a certain payoff with a risky payoff. The importance is this risk is acknowledged by Eckel and Wilson who consider trust to be “similar to placing a risky bet on the trustworthiness of an

anonymous counterpart” (2004 p. 447) and Bohnet and Zeckhauser describe trust as “a chance outcome under the control of another party” (2004 p. 479)

If player A acts by giving player B money, they have exchanged a certain payoff of £10 for an uncertain payoff determined by the decisions of another individual, where crucially there are no explicit enforcement mechanisms to ensure a positive cooperative response from the second player.

These ideas of trustworthiness and the introduction of risk create the following conceptualisation of the trusting process. Player A initially assesses the trustworthiness of the other player. If the individual is not permitted to see the other player, then the actual process of assessment is open to debate; they may imagine another person but how they attribute characteristics such as trustworthiness to them is the domain of the other social sciences. But once player A has arrived at some conclusion as to the trustworthiness of the other individual, they can then derive their expected payoff from trusting and if this payoff is higher than the payoff from not trusting, then they will choose to trust. This process of assessment of trustworthiness and the resulting calculation of expected payoffs has the implication that the more risk averse an individual is, the less likely they are to trust. A person with a high risk aversion will incur a cost to facing the risk which is involved with trusting and so will choose not to trust an individual with a lower trustworthiness (and so a lower probability of reciprocating) than someone with a lower risk aversion.

Reciprocity

Where the act of player A giving money to the second player is called trust, the act of player B returning some money is considered to be reciprocity. Given the risky nature of the act of trusting, the first individual will only enter into the trust relationship if

they expect a positive outcome. The positive outcome can only be achieved if the trusted second player reciprocates by returning a greater than invested sum. Therefore, the decision to trust, which is based on an expectation of a positive outcome, will only be made when the trustor expects the second individual to reciprocate. The first action of placing trust is justified “in the belief that there would be reciprocity.” (Berg et al. 1995 p. 137). Berg et al. even go as far as saying not only that reciprocity is a justification and condition for trust but that trust is “a reliance on the reciprocity of others where a return is made for something done or given” (1995 p. 126).

The very same question asked of trust should also be asked of this reciprocal behaviour; why would player B do this? Here behavioural game theory has little to offer and is quite inconsistent with the behavioural assumptions made concerning player A. When discussing the motives for the reciprocity, claims such as social norms are invoked. Or appeals to other regarding preferences, either altruistic preferences where the individual gains utility from giving to others (many would not consider this to be true altruism because the individual who is giving is gaining from that act, so how can it be selfless?) or equality preferences where utility is derived from some measure of equality. By appealing to preferences behavioural game theory then dismisses any further need to explain this behaviour as no longer within the realm of economics. The rational maximiser that player A is assumed to be has no place in the behaviour of player B. The reciprocal behaviour of player B is not rational in that it does not maximise their payoffs. If player B was to be a rational maximiser then they would keep all of the money for themselves. However, they are allowed by the theory to behave in a non-maximising manner and reciprocate. Trustworthiness becomes a propensity to act irrationally and so the rational act of

trust becomes a reliance on the irrational behaviour of another. Trust remains a rational maximising act because other players do behave irrationally and so the expected payoffs can be maximised trusting.

Much discussion is made concerning the trust game, but it is not trust but the successfulness of the experiments that are most often the subject and the attempts to abstract it from other behaviours. The issue of the success of the experiments arises from the practical nature of most of the work discussed above. A significant proportion of these papers is devoted to the detailing of the actual experimentation process in order to highlight the potential success for abstraction in this experiment. An example of such attempts would be the fact that often both players are given a separate payment for doing the experiment in an attempt to improve the level of abstraction achieved by the experiment. What I mean to say by this is related to the very nature of experimenting. Any experiment, and we can consider theoretical models to be experiments as argued by Larry Samuelson (2005), Guala (2005) and Mäki (2003; 2005), will fail to capture the entirety of whatever is being studied. The very purpose of models and experiments is to dispense with much of the features of the subject of investigation which will then allow us to say something about it. Models are an attempt to abstract from the 'real' world reducing the number of variables we have to deal with to a manageable number. Theoretical models can achieve any level of abstraction they require, dispensing with all the influences but the ones they wish to investigate. Practical experiments cannot hope to achieve this level of abstraction. An easy example presents itself every time people are used as the subject of an experiment. If we attempt to isolate a single behavioural or response to a certain stimulus, the individual we are testing is unable to similarly isolate this single

behaviour and any decision or act will arise from an extremely complicated tangle of different goals and motives and personal experiences.

This is not all negative. Whilst accepting that we can never create an experiment where we can abstract to the same extent as the purely theoretical models, we can attempt to improve the level and quality of abstraction we achieve with the design of the experiment. The example I began with was the separate payment for participation offered to the participants. This is an attempt to reduce the influence of certain loss-aversion behaviours (i.e. going home empty handed) behavioural game theorists believe exist from a parallel set of experiments looking into this matter (Tversky & Kahneman 1991).

These discussions are often made, not to highlight trust, but the situations in which the experimenters can be confident they have witnessed trusting behaviour. What distinguishes a trusting cooperative relationship from other cooperative relationships are three criteria which will be examined in turn: the introduction of risk to the first player, a cost of some sort to the second player and an overall positive gain for both players directly resulting from entering into the cooperative relationship. Each is important, for without each of the criteria it is possible that trust is being overwhelmed by other behaviours, or may not even exist. The first condition arises from the second, but both are required to distinguishing trusting behaviour from other forms of co-operation.

The introduction of risk to the trustor arises from the first stage to the trust relationship. Eckel and Wilson (2004) talk about the initial decision to trust as “similar to placing a risky bet on the trustworthiness of an anonymous counterpart”. The trustor starts the game with an initial sum of money, £10 for example. They can choose to keep all of this and invest nothing, thus giving themselves a certain payoff

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of £10. If the trustor decides to invest, they are placing themselves in a position where their final payoff is no longer certain. The decisions and actions of the second player will now have a direct impact on the final payoff of the first player. The trustor who invests has exchanged a certain payoff of £10 for an uncertain payoff determined by the decisions of another individual, where crucially there are no explicit enforcement mechanisms to ensure a positive cooperative response from the second player of the game theory cooperative trust.

For the second criterion, the trustee suffers a loss from the relationship. This is not to say that the trustee experiences an overall negative impact on their final payoff because of the cooperative relationship, but instead that they could have had a larger final payoff if they chose not to honour the trust placed in them.

If the first player had decided to invest their full allocation of £10, it would then be increased by some factor, let us say three, and then given to the second player. The second player, who has been trusted by the first player has a decision to make; they can return nothing to the first player and keep the full sum of £30, they could return up to £10 to the first player and keep at least £20 or they can return greater than £10 to the first player and keep less than £20 for themselves.

In all but the first case where nothing would be returned, the trustee is not receiving the highest possible payoff that they could achieve. It is this decision to receive a lower payoff than the individually maximum possible at that stage of the game that the second criterion refers to.

The final criterion is that both players must gain from the cooperative relationship. This allows a distinction to be made between the second and third choices available to the second player. The first case where nothing is returned is

obviously a breach of the trust and so the trust relationship cannot be said to exist. The third case, where the first individual receives more than their initial allocation and the second individual also receives more than they would if the cooperative relationship did not exist, can be easily seen as a positive outcome for both individuals. The second case, where the second player continues to make a gain from the relationship, but the first player has actually received a lower final payoff, is not considered to be a trusting relationship between the two players.

Only when the first player invests a sum of money and the second player returns a higher sum of money than originally invested, so that both individuals gain from the cooperative relationship, would the game theory definition of trust be said to be fulfilled.

A further aspect exists to this notion of trust; the motivation for this behaviour. The most prevalent argument within game theory to explain the motivation for trusting behaviour is the notion of reciprocity.

Given the risky nature of the act of trusting, the first individual will only enter into the trust relationship if they expect a positive outcome. The positive outcome can only be achieved if the trusted second player reciprocates by returning a greater than invested sum. Therefore the decision to trust, which is based on an expectation of a positive outcome, will only be made when the trustor expects the second individual to reciprocate. The first action of placing trust is justified “in the belief that there would be reciprocity.” (Berg et al. 1995 p. 137). Berg et al. even go as far as saying not only that reciprocity is a justification and condition for trust but that trust is “a reliance on the reciprocity of others where a return is made for something done or given” (Berg et al. 1995 p. 126).

Others have attempted to develop this calculative approach to trust by adding additional layers of complexity to the payoffs, such as the example of Bohnet & Zeckhauser below.

individuals are much more willing to take risks when the outcome is due to chance than when it depends on whether another player proves trustworthy. Taking a chance on the latter risks incurring betrayal costs, costs shown to be above and beyond monetary losses. (Bohnet & Zeckhauser 2004 p. 479)

This addition does not change the nature of the trust relationship, but simply adds a loss aversion preference to augment the payoffs of the trust relationship which Bohnet and Zeckhauser have called betrayal costs. Engle-Warnick and Slonim (2004) have attempted to develop this notion of trust by examining the importance of repeatedly playing the trust game and including the concept of reputation into the decision to trust. Gächter, Herrmann and Thöni (2004) have argued that individual socioeconomic factors affect trust attitudes but not the observed actions and so argue in favour of a universal applicability of the behavioural game theory notion of trust. But others have identified systematic differences in trust behaviour. Buchan and Croson (2004) for example have argued that trust is higher in China than in the USA.

Never is trust considered to be a motivation for action. Always in behavioural game theory the only motive for action is the payoffs that individual will receive. Trust, trustworthiness and the entire trusting co-operative relationship are merely means to achieving a desired payoff. It is not necessary to argue that this will lead to

a situation of optimality, simply that only the payoffs are a motive for action. People never take their eyes off the prize so to speak.

This process of minor developments and progressions becomes clear once Thomas Kuhn's (1970) notion of normal science is considered. Normal science is the 'puzzle solving' process of people operating within an approach who slowly develop the notions and models of that approach. As trust has only recently started to be addressed by the behavioural game theorists, it makes sense within this Kuhnian framework that the initial concept of trust is incomplete and that the other members of this approach continue to develop it. This also explains why at this stage the concept of trust is confused with many different modifications which often overlap, some of which are pointed out above, simply because there has not been enough time for the different ideas to be compared and for a single coherent notion to develop.

Despite the confusion and diverse modifications, the calculative notion of trust from behavioural game theory has two characteristics I wish to highlight. The first is the implicit benchmark of perfection in human decision-making and rationality. Discussions in behavioural game begin with a careful analysis of the game and an explicit statement of the optimal strategy for each player. (The use of optimal in all this literature nicely avoids any pejorative words like perfect, though perfection does appear within game theory as 'sub-game perfection', so game theorists are not so afraid of using such terms.) The games are very simple situations in that there is an easily identifiable and computationally possible solution. This formulation of the game as having a best outcome and best choices and the statement of these sets the benchmark to which individuals are assessed. If people in experiments do not make these choices, then barriers and boundaries are then theorised to explain how individuals fail to reach this perfect benchmark.

The second characteristic I wish to highlight is the basis of a rational assessment of potential payoffs. But the nature of this trust relationship requires some risk from these payoffs, and as trust can only exist between individuals where one can affect the other, a rational assessment of the other individual is required. This introduces a distinction often made in this literature between trust and trustworthiness. Trust, as explained above is the risky relationship an individual chooses to enter with another, “Trust involves a chance outcome under the control of another party” (Bohnet & Zeckhauser 2004 p479). Trustworthiness however has been argued by Eckel and Wilson (2004) as the key to the trust relationship. Trustworthiness is seen as a characteristic of an individual, one that cannot be easily assessed by others. Owing to the formal mathematical nature of game theory, trustworthiness which is an individual and intrinsic characteristic of any one person is expressed as a unique probability that this individual will reciprocate in the trust relationship. This is why trustworthiness is so crucial in the work of Eckel and Wilson. “subjects do not see trust as a problem of risk, but rather as a problem of judgement” (Eckel et al. 2004 p. 464)

Despite the great care taken with the experiment design and the criteria set out by Berg et al. as to define the experimental situations such that we can be confident that it is trust that the experimenters are abstracting, there persists a problem with the experimental nature of most of this work. The successful abstraction of trusting behaviour in these works is in doubt if the following point holds. People are used to assessing trustworthiness of other people based on a significant amount of information, which in this experimental situation they have been deprived of. This is compared to the risk of the game where they do not have any sensation of being deprived of information; they are more comfortable with the situation. They have

over-estimated the risk of trusting people (estimating the trustworthiness of others) because they must make this assessment in a situation with less information than in other situations of assessing trustworthiness that they are comparing the current situation with.

Conclusion

The notion of trust offered by Behavioural Game Theory judging by the volume and complexity of the literature, appears at first glance to be well developed and sophisticated. However, much of the work is focused on improving the experimental design in an attempt to better isolate the fundamental behavioural primitive, which for now trust appears to be a respected candidate, which will explain the behaviour they find from their experiments. The actual notion of trust that they identify in their games and is rarely mentioned is a simple action by one player where they act without an enforcement mechanism. A distinction is made between Trust as this act and trustworthiness, a characteristic of individuals.

Trust in behavioural game theory is akin to taking a risky bet. It is a rational calculative maximising behaviour. The individual makes an assessment of the trustworthiness of another individual. This assessment of trustworthiness is used to generate an expected probability of having their trust reciprocated, i.e. the risk attached to trusting. From this, the individual will now have an expected payoff from trusting the other individual which they can now compare to the expected payoff from not trusting and simply choose the higher expected payoff. As the payoff from trusting involves an element of risk, the expected payoff is influenced by how risk-averse that individual is. The more risk averse a person is, the less likely they are to

trust another. Conversely, a more risk loving person will choose to trust a much less trustworthy individual.

When we consider the Behavioural Game Theory approach to trust using the Adam Smith problem, we see that they retain the self-interest interpretation. Even when considering trust, there is no scope for the organic behaviour Smith discussed in his moral sentiments. The Behavioural Game theorists continue the Adam Smith Problem by maintaining a dualistic approach to human behaviour that Smith attempted to overcome.

In the next chapter, I will consider the notions of trust offered by an Institutional Economics. I will argue that this approach has adopted the synthesis solution to the Adam Smith Problem by considering both self-interest and social influences as motivation for behaviour.

Chapter 3 - Institutional Economics and a Notion of Trust and Confidence

Introduction

The preceding chapter considered the Behavioural Game Theory approach to trust. Behavioural game theory was chosen because the assumptions this approach makes about human behaviour are consistent with the self-interested solution to the Adam Smith Problem. This chapter will address a notion of trust developed by an economic approach that has adopted the synthesis solution to the Adam Smith problem. This approach is Old Institutional Economics that incorporates both the self-interested and social aspects seen in Adam Smith.

trust has a very important pragmatic value, if nothing else.

Trust is an important lubricant of a social system. It is extremely efficient; it saves a lot of trouble to have a fair degree of reliance on other people's word (Arrow 1974 p. 23)

As the uncertainty, complexity, and duration of economic transactions within and between firms increase, it becomes increasingly important for scholars and managers to understand developmental processes of how equity, trust, conflict-resolution and procedures and internal governance emerge, evolve, and dissolve over time. (Ring & Van De Ven 1994 p. 113)

The two quotes above show how trust has been argued to be extremely important to society in general and that trust has an important and widespread impact on economic systems. When trust is spoken of within economics, it is often considered to fall under the umbrella-concept of *social capital*, the vague term adopted by economists, sociologists, political scientists and others to cover the tacit, diffuse relations between people within a society. These discussions of trust within economics can usually be seen as institutional in nature (with the significant exception of Game Theory) and usually include discussions of the source of trust. The source of trust is most often talked of as the propensities innate to humans, combined with a set of conditions to engineer this behaviour.

Instead of just considering the sources of trust, the purpose of this chapter is to identify and further develop an institutional notion of trust by considering some of the distinctions used within institutional economics to define trust and the consequences these distinctions have. It will be argued that a common notion of trust that includes a distinction between competency trust and intentional trust is misleading and a greater conceptual rigour for the concept of trust can be achieved by reconsidering this distinction and the relationship between trust and confidence.

The argument will begin with a discussion of the concept of social capital and if it has any value to the development of trust in economics. Then the methodology of original institutional economics (which I will refer to from this point on as OIE) is considered and in what way this methodology has influenced the definitions of trust offered by OIE and the continuing attempts to develop these definitions. This will be followed by a consideration of the distinction between competency trust and intentional trust and an argument against a particular interpretation of this distinction will be put forward. An alternative is then offered that does not partition trust along

the lines of competency and intentions, but instead argues that trust applies to intentions and confidence applies to competence.

Social Capital

Within economics trust is often related to the notion of social capital (the precise relationship is contested). Because of this connection between the two terms, and the general consensus that social capital is the broader term, we need to consider the idea of social capital as it has the potential to influence the perception of trust by economists not working in this area.

Social Capital is an important and currently very active area of academic research, with particularly large and prolonged discussions taking place within sociology, political science and economics. Huge amounts of intellectual resources have been expended on social capital, but the level of parallel activity (where many different approaches have been taken, but unfortunately little exchange takes place between them) and the lack of clear concepts has hindered the development of the notion of social capital.

Within economics (as well as the other social sciences) there has recently been great interest and excitement over the potential for ‘cross-disciplinary’ work. There was much hope for this in the realm of social capital, where a perceived lacking in economic theory has provided the motivation and energy for this project from the economics side of the exchange. Sociology was regarded as being a rich source of potential information as sociologists already had a well-developed notion of social capital. If not a complete adoption of these ideas into economics (which would have established a sociological ‘colony’ within economics), it was hoped that economics could quickly establish a notion of social capital through the work of sociology.

Sociologists appear to be proud of “one of the most successful exports from sociology to other social sciences” (Portes 2000 p. 1) but it is questionable as to how much the conceptualisations offered by sociology have been adopted by economics. Despite groups set up explicitly to work in economic-sociology (Dolfsma, Hodgson), economics, as an academic discipline, appears to have set itself along the path of retaining its integrity by developing a unique conceptualisation of social capital. This process is still at an early stage and the economic concept of social capital is developing rapidly but still remains confused. Fine and Green (2000) hold the view that social capital is not an import into economics from sociology, but rather an attempt by economics to establish colonies in the other social sciences, economic imperialism using the assumption of economic rationality.

It is widely regarded that Putnam (1993) introduced social capital into economics, using the term to describe civic traditions which impacted upon the efficiency of regional governments. Putnam defined social capital as “the features of social organization, such as trust, norms and networks that can improve the efficiency of society by facilitating coordinated actions” (Putnam, Leonardi, & Nanetti 1993 p. 167). This type of definition requires me to discuss social capital. To the mind of many economists and social scientists, trust is a significant part of social capital. This idea of trust as social capital crosses many economic approaches, including the groups I consider, particularly Behavioural Game Theory and Institutional Economics. I will address social capital in this introduction and conclude that the term is not useful for my discussion.

What ideas economics has developed on social capital, while remaining distinctive, have still been influenced by the thinking of the other social sciences. It has become apparent from the continuing controversy that social capital is a difficult

concept to define, or rather to define in a manner that is satisfying to the many disperse groups that talk about it. This problem stems from the attempts to apply social capital to a wide range of contexts and to incorporate it into very different methodologies. This makes a single, coherent understanding of social capital difficult even within a single discipline.

While a single definition would probably be nothing other than a vague and uninteresting term, it is useful to consider some commonalities. Any shared characteristics will not provide a useful definition by themselves, but will help in the understanding of the other more specific definitions offered.

The economic concepts of social capital are fairly well captured by both Solow (2000) who tries to define social capital as the way a society's institutions and shared attitudes interact with the way its economy works, and the more specific definition offered by Adler and Kwon below:

Social Capital is the goodwill available to individuals or groups. Its source lies in the structure and context of the actor's social relations. Its effects flow from the information, influence, and solidarity it makes available to the actor. (Adler & Kwon 2002 p. 23)

There are those such as Arrow (2000) and Solow (2000), who have taken issue with the concept of social capital. Both Arrow and Solow are against the use of the word capital, which they have both argued is a well-defined notion within economics. Arrow has stated that (within economics) capital has three key characteristics: a) extension in time, b) deliberate sacrifice in the present for future benefit, c) alienability. Social capital can claim to have characteristics a and b, but

alienability would seem to be impossible with the current concept of social capital. Arrow and Solow have not ruled out the usefulness of the concept, they have just argued for the abandonment of the attempt to treat it as capital. Sirven (2008) describes this approach to social capital as the ‘oxymoron’ approach, where social capital is an ‘awkward metaphor’.

Sirven also takes a pessimistic view of social capital, claiming that a significant amount of the work within economic social capital is a pseudonym for an institutional approach. They do however offer hope that the adoption of a non-institutional approach to social capital that uses the rights-based approach can offer something to economics. The rights-based approach defines social capital as “a set of effective or potential resources associated with the possession of a network or more or less institutionalised durable relationships” (Bourdieu 1980 p. 2). Social capital in this approach has individuals defined by a set of rights and obligations, shaped by belonging to a society with norms.

As Sirven (2008) concluded, social capital is of little use if just seen as a more vague term for institutions and only develops into a useful concept when considered in terms of rights and obligations. As this thesis does not share that approach of rights, I have decided to treat the usage of social capital as an awkward metaphor. I will not go as far as Arrow, who in his paper commenting on social capital (Arrow 2000 p. 4) urged for the “abandonment of the metaphor of capital and the term ‘social capital’.” Instead of treating trust, norms and other social institutions as a singular, nebulous unit of analysis, we should treat each institution as an identifiable element of the economic system.

If we accept that economics is retaining its coherence in this area, we do not have to abandon all concepts of differentiation within the discipline. In fact,

economics is a very heterogeneous discipline at this time, even compared to twenty to thirty years ago. This heterogeneity is not without structure and we can use the work of Adam Smith to provide a framework and a point of reference to allow us to begin to understand these divisions.

Nature of Institutional Economics

There are several principal facets and inclinations to original institutional economics which many have discussed at length, including Samuels (1995) and Rutherford (1995). I refer to facets and inclinations because OIE is so wide and heterogeneous it is impossible to capture everything that goes on within the approach. The aspects I have highlighted below have all had a significant impact on the development of the notions of trust within institutional economics and this particular combination of inclinations separates OIE from New Institutional Economics and why I refer only to OIE throughout this discussion. This is not to say that OIE is the only approach to show any of these inclinations (it shares many with Old Behavioural Economics), just that they are important to OIE.

New institutional economics differs from original institutional economics because it does not reject the methodological individualism and assumption of self-interested behaviour of mainstream economics (Hodgson 1993). Rutherford (1995) argues that they have commonalities that allows the two approaches to be seen as existing on a continuum. The institutional aspect of the New Institutional approach includes socially constructed limits or constraints on the basic assumptions of atomistic behaviour and market interaction. The inclusion of bounded rationality or transaction costs into a model of individual choice would be a new institutional approach.

Because of the acceptance of self-interested and atomistic individuals, the offerings of Trust by New Institutional Economics are little different from the mainstream, game-theory notions.

The first key aspect of OIE is an emphasis on the role of fallible and changeable man-made institutions rather than mechanisms and laws. These institutions are subject to evolutionary changes from both deliberative and non-deliberative sources. This is not an outright rejection of the existence and influence of these mechanisms rather the view that they exist more as tendencies, or exist only as a consequence of the institutional framework in which they operate.

This reluctance to reject concepts and approaches outright is another significant aspect of institutional economics and is a reflection of a willingness to adopt a form of pluralism, such as that offered by (Dow 2004). This form of structured pluralism includes a willingness to accept other approaches and to consider their applicability. As Samuels (1988) has argued, OIE has historically been influenced by American pragmatism and has an orientation towards problem-solving, and as such is willing to adopt different approaches for different problems. This does have the consequence that OIE appears to be less of a coherent approach when considered by those from other economic approaches, and often makes the latter dismissive of this approach.

Instead of adopting a focus on the search for stable, static solutions to all situations, systems are seen as fundamentally evolutionary and often path-dependent. With the adoption of an ontological view (a metaphysic stance concerning the nature of reality) of evolutionary processes and path dependency as the norm, an historical approach is often taken which allows for a better understanding of the evolution of these processes.

One of the most important aspects to OIE is the prevalence of a holistic approach. The holistic approach is more than a consideration that the economic system is evolutionary. It is a belief that the economic system is a complex system, possibly an open system as defined by Chick and Dow (2005), where each component of this system is affected and defined by its relations within this system and as such the only way to understand any particular aspect of the system is to consider its relationships to other components. This also means that OIE is very unlikely to make general statements applicable to many or even all situations. Context becomes very important in a holistic approach and examples become a prevalent and powerful device for explanation.

Context Sensitive Concepts of Trust

If we now consider how these fractures have affected the development of trust within OIE, a significant characteristic of the discussions is the vast number of categories that trust has been divided into. Beyond the meta-division of micro/macro (and even then there is work at the meso-level (Walter Powel in (Kramer & Tyler 1996)) a small sample of the different types of trust are listed here to show the types of distinction being drawn within the literature:

Knowledge-based Trust – trust based on behavioural predictability, a judgement on the part of the trustor as to the probability of other's behaviour. When one has enough information about another that can be used to accurately predict behaviour.

Deterrence-based trust – trust based on the consistency of the behaviour of the other party, sustained by the threat of punishment.

Identification-based trust – trust based on a complete empathy with another’s desires and intentions, where each understands and agrees with the other’s values because of an emotional attachment.

Calculus-based trust – an assessment of the relative costs and benefits from either maintaining a trust relationship or from breaking the relationship. This notion is closely linked to mainstream attempts to define trust, including the notion of trust offered by game theory.

Cognition-based Vs affect-based – Cognition-based trust is what situations and to what extent we decide to enter a trust relationship based on evidence of trustworthiness, contrasted with affect-based trust which rest on the emotional attachment between each party. (McAllister 1995)

Moralistic trust - “a value that we learn early in life and that is largely resistant to bad experiences – or good ones” (Uslaner 2008 p. 290)

Knowledge, deterrence, identification and calculus discussed by Lewicki & Bunker in *Trust in Organizations* (Kramer et al. 1996) and Sheppard & Tuchinsky in the same collection.

The division of a concept into many related but subtly different variations is a common theme within OIE and is a consequence of that approaches methodological stance on both ontology and epistemology. It is the importance of context and holism and that has encouraged this development of a categorisation of trust, because each situation in the above list has unique characteristics and as such requires separate consideration. For example, knowledge-based trust, deterrence-based trust and identification-based trust are all differentiated by the nature of the relationship between the two parties.

However, this process of categorisation has passed beyond the point where it is useful to developing a consistent notion of trust. The development of the institutional notion of trust has relied on a slow evolutionary process where many different people have offered their own particular categorisation or individual type of trust and then letting the new and popular interpretations become incorporated into the increasing large number of standard types of trust.

This evolutionary development in itself is an attractive process for the development of these concepts, but it has been allowed to go on too long. Discussions of trust within institutional economics have become fragmented as the common notion of trust within the approach has become overly large and cumbersome. New additions are made to the categories of trust, but very rarely are old ones discarded. There are so many categories which overlap to such an extent that it can no longer be considered has a structured pluralistic approach and instead is descending into a post-modern jumble.

If we can begin to construct a more coherent understanding of trust, a robust enough account can be developed that allows a more meaningful discussion within institutional economics and with other approaches without losing the useful pluralistic character of OIE.

Trust within Original Institutional Economics

Trust has long been defined as similar to this statement by Khalil: Trust is “the expectation that the other party, even if circumstances change, would stick to an agreement.” (Khalil 1994 p. 339). This definition is rather vague and applied to so many different situations its usefulness is questionable. Attempts were made early to distinguish OIE trust as significantly different from the mainstream approach and

reciprocity was dismissed quite explicitly as the motivation for this trust. Both Williamson (1993) and March & Olsen (1989) both argue explicitly that reciprocation is not the motivation for trust as the following from March and Olsen shows:

[t]he core idea of trust is that it is not based on an expectation of its justification. When trust is justified by expectations of positive reciprocal consequences, it is simply another version of economic exchange (March & Olsen 1989)

The categories of trust mentioned above: knowledge-based, deterrence-based, identification-based, calculus-based etc have all been an attempt to further refine the broad notion. It is a refining process that has happened to the OIE notion of trust more than anything else. The categories have arisen from a consideration of the different sources of trust, rather than any significant consideration as to the concept itself.

The fragmented OIE discussions about trust currently have two high profile interpretations, the first includes the work of Luhmann (1979), Kramer & Tyler (1996), Uslaner (2002; 2008), and Beugelsdijk (2006) and incorporates a micro/macro distinction. Briefly, this discussion considers the sources of trust at the micro level; a relationship between specific individuals (I wish to point out that this used exclusively to mean people; Homo sapiens) based on either an emotional relationship or a rational calculative relationship. The second approach is to consider trust at the macro level, where the discussions of trust have developed a more abstract concept which has evolved the name *generalised trust* and refers to how people generally relate to another agent, be it another person, a firm, a government or any

other object you would like to consider as an agent. The nature of this agent becomes important when we consider trust in relation to the concepts of confidence and belief.

The second incorporates a distinction between trust in *intentions* and trust in *capabilities* and it is this interpretation that I wish to focus on.

Trust in Intentions, Confidence in Capabilities

Consider an agreement entered into by two individuals. Various reasons preclude us from ever knowing with certainty what another will do. The open nature of the world, limits to human cognition and many other ontological and epistemological considerations prevent complete and certain knowledge. (Chick & Dow 2005) When another party acts in a certain way that differs from our belief, then we can consider three reasons for that incorrect belief: our belief about their intentions was wrong, our belief about the abilities/competence of that party was wrong or our belief about the state of the world, external to the other party, was wrong. Even though the external world impacts and defines the other two components, we can safely drop the external state of the world from this argument because distinctions need to be drawn at some point between the individual and institutions and the rest of the world.

Already a distinction has been drawn between trusting in competency and trusting in intentions (Woolthuis, Hillebrand, & Nooteboom 2005) and this is a meaningful distinction. Very different behaviours and assessments are at work when considering competence and considering intentions and a failure of either requires very different responses. As Nooteboom has said “If something goes wrong due to a lack of competence, we react differently than when something goes wrong due to cheating. In the first case we may invest in better competence training for example,

with training or advice. In the latter case we might set up a tighter contract.”
(Handbook of economics & ethics, Forthcoming)

If a failure of competency trust requires a very different response to a failure of intention trust, are we justified in referring to both as trust? What commonality do they share that we can identify as trust?

When an attempt is made to define trust, it is common to see the use of a comparison to the related concept of confidence, using the comparison to identify both the shared characteristics between the two concepts and the unique characteristics of trust. While they are related, they have important differences and several attempts have been made to identify them. Nooteboom (1996) following the work of Luhmann (1979), highlights a particular aspect of confidence, “if there is no choice, and one simply has to surrender to the powers that be, the belief that no harm will occur is a matter of confidence, not trust.” (Nooteboom 1996 p. 991) Beugelsdijk, also inspired by Luhmann, writes that “Confidence relates to bigger or wider systems or entities that we can hardly influence and that are more or less inevitable, such as God, the Law, police government and so on.” (Beugelsdijk 2006 p. 375)

Nooteboom uses another concept of belief to define both confidence and trust. It appears that confidence and trust are both measures of belief, where belief is considered to be similar to an expectation. This expectation can apply to anything including the behaviour of another and the state of the world at any particular moment. This reflects the definition of trust offered by Khalil, but this definition is applied to belief and is a more general concept. Belief can refer to anything, whereas trust and confidence are embedded within an active relationship.

To distinguish between trust and confidence Beugelsdijk emphasises the perceived inability of the individual to influence certain phenomena and the resulting impression of inevitability. Nooteboom also states this lack of control or influence as a defining characteristic of confidence and explicitly states that trust applies to situations where the ability to choose exists, where Beugelsdijk has merely implied this. At what level does choice enter into the definition of trust offered by Luhmann, and the interpretations of Nooteboom and Beugelsdijk? They appear to define trust, in comparison to confidence, by the ability of the trusting individual to choose to enter the relationship. Where a person does not have the capacity to choose to enter a relationship, such as an individual choosing if the legal system of the country they are living in applies to them or not, then this interpretation states that the individual cannot have trust in the legal system, but instead has a level of confidence (or not) in the legal system.

At this point it is useful to refer to an example. Table 1 below shows a simple list of objects categorised in very broad terms. The broad categories is an attempt to reflect the arbitrary nature of categorisation in an open, complex system like the world. Each category is given an example and also defined as to the applicability of confidence or trust by the definition that is developed below.

Table 3

Category	Example	Behaviour
Inanimate Object	Rock/Earth/Weather	Confidence
Man-Made Inanimate Object	Building	Confidence
Simple Animal with Simple/no decision making ability	Bacteria	Confidence
Animal with basic decision making ability	Snake	Trust/Confidence
Animal with good decision making ability	Ape	Trust/Confidence
Humans		Trust/Confidence
Human Institutions	Government, Law, Markets	Trust/Confidence

The amount of ambiguity (in the Ellsberg (1961) sense of the quality of information available to the individual) increases as we progress down the table. This has a negative impact on knowledge (after the distinction between information and knowledge made by Loasby (1999) and so the level of understanding about each phenomenon decreases. Thus the level of uncertainty we have about each item on the above list increases and with it our ability to anticipate outcomes, and the importance of trust/confidence rises in turn. The distinction between what confidence applies to and what trust applies to is the existence of intentions. A person can have intentions, a

weather system does not. So at what point do we draw the line between trust and confidence. Does a snake have intentions? This of course introduces two questions; do people falsely ascribe intentions to animals, and do people falsely ascribe moral codes to them?

If we combine the requirement of choice on the part of the trustor and a requirement for intentions on the part of the trustee we arrive at a definition of trust. Trust is a belief, like confidence, but is only applicable to relationships where the potential for an effective choice to enter the relationship on the trustor's part exists, and when the trusted party has intentions. If either of these two things is missing, then the belief we form about expectations is confidence.

This distinction between trust and confidence means that in situations where a trust exists, confidence can also exist. Due to the complex nature of decision making in humans and institutions, they can have both intentional and non-intentional components and it depends on the context as the relative prevalence of each changes with the situation faced by the agent.

If we accept that trust only applies with the existence of intentions, then competence no longer has any relevance to trust. Competence is defined as having suitable or sufficient skill, knowledge, experience, etc., for some purpose. If skills and experience cannot be directly influenced at the time of the relationship, then we merely have confidence in them, much like we have confidence in the ability of nutcracker to open a nut for us. Similarly, an economic example would be that you can trust that a firm will honour its (unenforceable) commitment to supply an agreed product, despite a new, more profitable, option being available to them due to rise in prices. However, trust does not apply to your expectation of their ability to deliver on

time or to meet the agreed quality level. This expectation of ability is confidence, not trust.

This definition of trust also allows for a differentiation between a scope for trust and a degree of trust. A scope for trust applies to the potential and influence of intentions in that particular circumstance. If the trusting relationship refers to an action where most of the cognitive processes are habitual rather than intentional, the scope for trust is reduced at the expense of confidence. The degree of trust is more of a measure as to how much trust has been placed in the other agent.

Conclusion

This chapter began by considering the concept of social capital. Very often the concept of social capital is associated with trust, and many discussions of social capital include trust as one of the key concepts of social capital. However, I have argued that the notion of social capital is a misleading metaphor that inappropriately subsumes many different and important social institutions under a single term. It is conceptually better to consider the different social institutions as separate as each is quite different. The use of the term capital was also criticised as another misleading aspect of this concept, as social capital does not fit with the economic understanding of capital.

Original Institutional Economics is an approach that emphasises evolutionary processes and path dependency. The world is seen as an open and non-determinant system which has encouraged a holistic approach. Context and specific examples are powerful devices for OIE to face the problems of analysing such open systems and as such, there is a very strong tendency for OIE to sub-divide different phenomena into different categories. In the case of trust, most categorisation is based on differing

sources of trust. The great number of these categories of trust offered by OIE has little chance to be examined as a whole to form a consistent framework and more fully formed definition of trust. Instead OIE, as a disperse and heterogeneous approach, has relied on a slow evolutionary process of many people offering their own particular categorisation or individual type of trust and then letting the new and popular interpretations become incorporated into the increasing large number of standard types of trust.

However, these new types of trust do not explicitly answer what OIE considers trust to be. They do help by pointing out greater and greater number of situations where trust applies. Discussions of what trust itself are far fewer and follow the standard OIE approach of categorisation. The standard definition considers trust either in a micro/macro division, or a more fruitful approach of a division between competence based trust and intentions based trust. Trust within OIE, when an attempt is made to explicitly define it, is usually defined as something similar to ‘a belief that the other party, even if circumstances change, would stick to an agreement.’

I have argued that this division between competence based trust and intentions based trust is flawed given the definitions of trust and confidence offered by the same writers who use this distinction. Instead of this division of trust, I have suggested that we should only consider trust to operate at the level of intentions, while confidence applies to any other situation where a belief about behaviour is formed and no intentions play a role.

Because of this distinction and concluding that trust operates only at the level of intentions we can define trust as a belief that we have correctly identified the intentions of another and therefore that the other party will attempt to honour any previous agreement, explicit or otherwise.

With respect to the Adam Smith Problem, Old Institutional Economics attempts to follow the solution of recognising Smith's work as a complete and coherent picture of human behaviour. It attempts to include both the self-interested behaviour of *The Wealth of Nations* and the social behaviour of the moral sentiments. Their notion of trust would be considered as a social behaviour, but always behind this analysis of social motivation, is the awareness that self-interest is still a powerful and constant motivation for human action.

In the next chapter, I will draw conclusions about the approaches to trust considered in this chapter and in chapter 2 and consider which conceptualisation offers the greatest potential to economics and the understanding of trust and social systems.

Chapter 4 - Why Old Institutional Economics and not Behavioural Game Theory.

Introduction

The preceding chapters have considered notions of trust offered by economics. Using the Adam Smith Problem as a framework to view the academic discipline of economics, the approaches in economics that discuss trust can be seen as emphasising the self-interested interpretation of Smith's work, or using the synthesis solution to consider both self-interest and social, organic motives of behaviour. In the previous chapters I have considered Behavioural Game Theory as an example of an economic approach that stresses the self-interested interpretation and Old Institutional Economics as an economic approach that adopts the synthesis solution.

This chapter hopes to draw a number of conclusions about trust from the previous two chapters and to put forward an argument as to why I consider the notion of trust from the Institutional Economics approach to be of more use for the application of trust to social systems. I will also explore the notion of institutions.

The purpose of this chapter is to set out a definition of trust (based on the Old Institutional Economics approach) to be applied to social systems. This chapter will therefore continue with the institutional notion of trust developing from the work of Luhman (Luhmann 1979) by developing a theory of agency-based trust and structure-based confidence which can be applied to organisations and institutions. Greater examination of trust, confidence, agency and structure will be required to fully develop this model of trust.

Do Behavioural Game Theory and Original Institutional Economics offer different theories of trust?

The decision to focus on economics has a problem because it ignores the developments of the other social sciences which have their own notions. In most cases the notions of trust in the other social sciences are more developed, particularly in the case of sociology. This problem is in some way addressed by considering the Old Institutional Economics approach, which has taken much of its inspiration on trust from sociology.

Behavioural Game Theory and Old Institutional Economics offer a broadly similar definition to trust (similar because both can still be seen as economic notions, with an important role for self-interest in behaviour). Trust, to both approaches, is a behaviour where one party relies on another where the trusting party has limited information about the trusted party and without an explicit enforcement mechanism. The easiest way to consider trust is to see it as similar to an expectation or belief. For a person to trust someone else, they must have a lack of knowledge as to the future actions of the other, trusted person. They then form a belief about this person's future behaviour and then act on this.

Where the two approaches differ (and this is not related to discussions of trust, it is an important defining difference between the approaches) is what constitutes uncertainty, what motivates both parties in this trusting relationship and what each approach is willing (and able) to consider a party in this trusting relationship.

Behavioural Game Theory continues the mainstream tradition of full information/knowledge (at least as a benchmark) and rational self-interested individuals. The conceptualisation of trust is based on the interaction of two

individuals within a self-contained game (closed system). While some attempts are made to consider non-human agents like organisations, they're conceptualisation of these organisations is to reduce them to a homogenous single unit, exactly like their conceptualisation of an individual.

Old Institutional Economics is a more diffuse approach and so it is harder and less accurate to draw generalisations and, given the pragmatic leanings of the approach the assumptions drawn are even more flexible. But it is still useful to draw generalisations particularly when contrasted with another approach within economics. Old Institutional Economics has an assumption of fundamental uncertainty, where the world is considered an open system. The view of humans taken by Old Institutional Economics falls on the social side of the Adam Smith Problem (not rejecting the self-interested side though). And the approach of Old Institutional Economics is much broader in what agents it considers. While Behavioural Game Theory only considers individuals, Old Institutional Economics considers humans, and organisations and institutions as very different things which operate in very different manners (Veblen 1898).

Risk and uncertainty

Behavioural Game Theory generally incorporates an assumption that full information is potentially attainable and this is not too unreasonable if you accept the closed nature of the models used. This adherence to the assumption of full knowledge (as full representations of the economic system) means that their conceptualisation of all situations where an individual does not have full knowledge is still seen in terms of potentially-obtainable full knowledge. The support for this position rests on the idea that humans think in such a way that probabilities are assigned to all situations where

information is limited in some way. As people operate in situations where full information is possible, and that they are *fully aware of how limited their own knowledge is*, they can operate in a world of risk.

Under the approach of Old Institutional Economics an open system approach is usually taken so full knowledge is rarely a meaningful concept for discussion about human understanding. As people exist in an open system, they face fundamental uncertainty inherent to an open system. Therefore risk is not an accurate way to portray the way in which people perceive these open systems and so people do not apply probabilities and instead use other coping mechanisms to deal with limited knowledge. Trust is one of these behaviours that allow individuals to cope with an unknowable, changeable system which they are fundamentally unable to fully predict and understand.

Motivation of the agents

Under the Behavioural Game Theory approach, the only motivation for action that is considered is self-interest. What is termed rational is behaviour that is consistent with self-interest. This is derived from the closed system that these individuals operate in and, with the information available to these people (which includes information concerning how much information they have relative to the potential of full information), they will operate in such a manner as to maximise the payoffs that they will receive from the game. However for the trust game to work, the trusted party has to behave in such a way that would not be considered rational by their own rules of rational self-interest.

Trust under this system of rational self-interest becomes nothing more than another maximising behaviour with little novel value to economics, beyond the use of irrationality when they require it to make the models function..

The motivations of individuals in the OIE approach are much more complex (which also means that models and discussions of human motivation are susceptible to becoming vague). Instead of just assuming self-interested behaviour, social motivations, habits and evolved non-individual rational maximising behaviours are also considered. This allows for introduction of behaviour that in any particular situation can be seen as wasteful, harmful to the individual and can sometimes lead unpredictable behaviour to develop because it is not based on a simple rule (or even several mechanistic rules)

Trust also operates only at the level of intentions. We can define trust as a belief that we have correctly identified the intentions of another and therefore that the other party will attempt to honour any previous agreement, explicit or otherwise.

Type of Agents

Because of the microeconomic focus of Behavioural Game Theory, all discussions are based around the modelling of two agents interacting. Attempts to increase the scale still rest on modelling two players in isolation from the others in what are called matching models. A matching model is where large groups of agents are assigned to another agent by some sorting mechanism and then made to interact with the other agent (see Okuno-Fujiwara & Postlewaite 1995). This can then be repeated with the same or a different agent, but each time they do not consider the other agents who are simultaneously interacting in pairs. To include an institution like a central bank into

the interaction they simply treat the organisation like an individual with superior bargaining power or a greater level of information.

OIE is a less unified approach and accommodates a wider focus including microeconomic and macroeconomic work. It does not limit itself to dealing with humans but also complex organisations, institutions and interaction between all three. It also attempts to develop a much richer view of modelling humans by adopting both the self-interested behaviour and the social behaviour as seen in Smith's work.

Usefulness of each approach to the Application to Social Systems

By explicitly asking the question of how useful each approach is to the understanding of complex social systems, this thesis acknowledges that it does not attempt to argue that one approach is correct while the other is incorrect. That argument needs to take place at the level of the ontological and epistemological stances adopted by both approaches. My open-system ontological stance is discussed in the introduction, but I do not wish to argue that my ontological beliefs are true whilst others are wrong (it would be at odds with my ontology to adopt such ontological monism). Instead a more pragmatic approach is taken that asks as objectively as possible which approach offers a conceptualisation of trust that will be most useful in considering how trust operates in the functioning of both money and banking (though they may rely on trust in different ways). But inevitably this discussion cannot be independent of my own ontology.

As both approaches offer similar definitions of trust and differ only where each can be applied, the answer to this question depends on the characteristics of the social systems we wish to explore. If we consider social institutions to operate in uncertain complex open systems, that it is not reducible to closed, two player

interactions, as similar for the conceptualisation of banks and the interaction between people and such organisations. As such, the game theoretic notion cannot apply.

A Theory of Trust and Confidence

At this point I would like to set out my own theory of trust which comes from an open system ontology. But before we need to consider some of the terminology that will be crucial to understanding trust and confidence. As my thinking is heavily influenced by Institutional Economics, my conceptualisation of trust will adopt much of the thinking of that approach. Institutions are central to the defining of the social sphere and critical to its continuing functioning. If we think of institutions as interacting with people and helping to define the concept of society, then the conceptualisation of institution is going to be very sensitive to ontological beliefs. We can see this in the many definitions of an institution offered.

Institutions

The definition of an institution is difficult because much depends on the ontological stance. An ontology of atomistic individuals motivated only by self-interested view will generate a very different perception of institutions (if any at all) than a view shaped by the synthetic, organic approach. But now within economics, those that consider institutions agree that institutions are not the result of intentional design. As Hayek argues against this intentionality view:

This 'rationalist' approach, however, meant in effect a relapse into earlier, anthropomorphic models of thinking. It produced a renewed propensity to ascribe the origin of all institutions of culture to invention or design. Morals, religion and law, language and writing, money and the market, were thought of as having been deliberately constructed by somebody, or at least as owing whatever perfection they possessed to such design. This intentionalist or pragmatic account of history found its fullest expression in the conception of the formation of society by a social contract, first in Hobbes and then in Rousseau, who in many respects was a direct follower of Descartes. (Hayek 1973 p. 10)

Beyond this wide rejection of the intentionalist stance, there are large disagreements as to how to define institutions, from *unplanned* interaction between individuals to structures that determine individual behaviour. One view is that institutions are nothing more than behaviour, as argued by Rothbard:

Societies or groups have no independent existence aside from the actions of their individual members...only individuals can desire and act. The existence of an institution such as government becomes meaningful only through influencing the actions of those individuals who are and those who are not considered members. (Rothbard 1993 p. 3)

Rothbard's initial point is that only an individual has a mind and only an individual can act. What does it mean to 'act'? In Rothbard's approach to act is to

have a purpose and to behave in a way that you believe will achieve that purpose. This stance continues with a rational, calculative individual, who has desires and acts to achieve them. This view of institutions, as mental constructs with no ontological status beyond the influencing of behaviour is also taken by Nelson and Sampat (Nelson & Sampat 2001) and Neale (Neale 1987) who argues that “components of an institution may be observed, but an institution itself cannot be observed as a whole. Rather, what one can observe are the activities of people in situations.” (Neale 1987 p. 1184)

While it is true that we cannot point to a physical embodiment for every social institutions, we do not have to accept this limited physical view of the world⁶. Social institutions have real consequences that can be identified. Rothbard acknowledges this by stating that institutions become meaningful through influencing the actions of people. Institutions impact the real world (which is Rothbard’s criterion for meaningful) by both constraining and enabling behaviour, contradicting Rothbard’s claim that only individuals impact on the real world.⁷

Observed behaviour is not the entire subject worthy of study. The unobserved beliefs and motivations are what lie behind these actions and it is these beliefs and motivations that provide understanding of the acts of the individual. This is the place

⁶ Language, as one of the most important institutions, has a physical aspect to it. In its written form it can be easily identified in a physical manner. This doesn’t capture the most important aspect of the institution of language, the potential to motivate and change behaviour, but it does have some physical presence.

⁷ This is not the *real* world as I or the critical realists understand it. This is a less subtle and thought out position, that the real world is what people experience and study.

that social institutions operate, through their interaction with the behaviours of people. They change the beliefs and the resulting behaviours of individuals. The discussions of institutions are only at the level of metaphor, but the metaphors reflect the very real influences that change how people behave.

If we return to the layered ontology as discussed in the introduction, we can argue that institutions operate at the real level of motivating forces. This contributes to making institutions so hard to define as they are mostly beyond our ability to see and understand. What we see of the institutions is how they impact on the actual and empirical layers of the real world.

Veblen established a more complex view of institutions by using the ideas of habits and principles:

As a matter of course, men order their lives by these principles and, practically, entertain no question of their stability and finality. That is what is meant by calling them institutions; they are the settled habits of thought of the generality of men.

(Veblen 1909) 239

Searle (2005), Hodgson (1988), Dolfsma (2009) and linguists such as Keller and Nerlich (1994) all identify language as a significant and powerful institution. It shapes, constrains and very effectively enables behaviour. Can we say that language only exists as human behaviour? If we take the example of the native Egyptian language, it stopped being used as a language in the 17th century as it was replaced by Arabic (Bard & Shubert 1999) and ceased to influence behaviour. But later work rediscovered the ability to read the remaining texts and the language was again able to influence behaviour (to what extent the writings of this ancient culture will impact

upon the behaviour of people today is debateable). In the time period between the extinction of the language and its later rediscovery, something of the institution of the language existed. In a much lesser form than a working language, but still enough that it could again have a meaningful impact on the world.

Concluding that institutions are irreducible to behaviour is not a positive definition, just the rejection of a definition. Hodgson's (2006) paper 'what are institutions?' considers attempts to clarify the definition of institutions by developing Veblen's habitual view and considering the understanding from several different academic disciplines (maintaining his cross-discipline principles) of *conventions*, *rules*, *norms*, *habits* and *institutions*. Below I will take Hodgson's theory and briefly outline a general definition for each of the above terms before using these definitions to develop my own conceptualisation of trust and confidence.

Taking Hodgson's definition of "systems of established and prevalent social rules that structure social interactions" (Hodgson 2006 p. 2) we can see that it is a rather broad term, flexible enough to accommodate many things. What is important to see for the following discussion is the view that institutions are *systems*. Institutions are not a singular, well defined whole, but a system of different elements with selective connections (Loasby 1999). What are these elements? Hodgson talks of a system of rules, where rules would be considered as the elements of the system that is a particular institutional.

The broadest definition of a rule is a "socially transmitted and customary normative injunction or immanently normative disposition, that in circumstances X do Y." (Hodgson 2006). If we consider the work of Tuomela (1995; 1997) as Hodgson does, we can also define a rule by comparing it to a norm. A norm is the behaviour of acting because we believe that others share the same aims that we do. This relies on a

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notion of collective intentionality, that a group can be said to have a single (or set of) aim(s). Davis (2003) and Dolfsma suggests that society guides the individual's aims and interpretations through the use of "social, perhaps codified, means of representation" (Dolfsma 2009 p. 27). This would encourage the development of collective intentions, what Davis refers to as 'we-intentions' as society encourages the adoption of the same intentions.

A norm, then, is acting on the belief that others share our aim. This is not a motivating force, it just permits us to act on our motivating aim. A rule differs because it can be a motivating force. The rule prompts action Y when faced with X.

A convention is a less crucial term for the following discussion, but important to clarify the nature of rules. A convention is a particular instance of an institutional rule. The example is the convention in the United Kingdom to drive on the left side of the road, where the rule would have been for cars travelling in one direction to travel only on a single side of the road.

Habits

Habit plays a key role in the development and persistence of institutions in Hodgson's thinking (as it does for Veblen), where habit takes a similar appearance to a propensity in this theory. A habit is not an innate biological behaviour, it is acquired. It is a learned behaviour (Dewey 2002). As Hodgson defines it, "A habit is a disposition...." and "submerged repertoires of potential thought or behaviour; they can be triggered or reinforced by an appropriate stimulus or context" (Hodgson 2006 p. 6). This definition includes a time dimension and a capacity for individuals to have a large stock of behaviours which are relatively cognitively untaxing. Once they have been formed, when faced with a situation one merely selects from the stock of

responses rather than formulate a new behaviour at every instance. Habits have ontological primacy over intentions and reason. All action and reason is predicated on habits in this system, they frame and generate much of our behaviour and take the place as our source of initial behavioural responses. When faced with a situation, if habitual behaviour is triggered, then it will take precedence over reasoned behaviour. It is only when habits fail or are not triggered that we use intention driven reason.

This is not a static system though. With people constantly faced with novel situations, habits must be modified and so develop over time. Importantly a habit is not always acted upon. Persistent and shared habits are the basis of customs. Habit then is different from the concepts of rules and norms, it is more of a psychological mechanism by which rules and norms (especially less explicit norms) are perpetuated throughout a society and which allow rules and norms to develop.

Social Norms differ from other, related phenomena

Elster (1989) also considers rules and norms, and his model is similar to the Hodgsons definitions. Elster develops a system of rules and norms that also divide into source-specific groups similar to the proliferation of context-specific types of trust from institutional economics discussed in chapter 3.

Moral Norms - Some (derived from utilitarian ethics) are consequentialist.

Legal Norms - Enforced by specialists who do so out of self-interest (they will lose their jobs if they do not).

Social norms - are enforced by members of the general community and not always out of self-interest.

Private Norms - Private norms are the self-imposed rules that people construct to overcome a weakness of will. They are similar to social norms in that they

are non-outcome-oriented and sustained by feelings of guilt and anxiety, but differ because they are not sustained by the approval/disapproval of others because they are private norms and largely not shared with others.

Norm-Guided Behaviour, Habits and Compulsive Neuroses - What in one culture looks like a compulsive neuroses, can in another look like an established social norm (e.g. compulsive revenge behaviour) Habits are private and their violation does not induce guilt or self-blame. They are not compulsive. *Compulsive Neuroses* are highly idiosyncratic and so cannot be regarded as social phenomena.

Convention Equilibria - Sugden (1989) suggests that conventions are guided to equilibria by the criteria of better outcomes. A convention will arise and be adopted if it leads to a substantially better outcome for society. However, this falls into the trap of applying competitive forces to all social phenomena. This equilibria approach would require a competitive force that acts to change rules and habits faster than the society is changing. The equilibrium point, if such a thing exists, would be moving faster than the ability of habits and norms to change. (Simon 1982)

What can we usefully conclude about institutions? Whilst institutions are not reducible to behaviour, they find expression in the actual and empirical levels through behaviour, but operate at a deeper level. Institutions are systems of different complexity and size comprising of habits that have been established through rules and norms. Institutions can persist even without any human behaviour, though without behaviour to influence institutions lose much of their relevance.

Observable behaviour is the result of an interaction between many different motivations and structural (culture, habits) influences.

Trust and Confidence

From the preceding chapters we can see trust and confidence as simply a relationship between two entities. I use entity here because it offers the broadest possible understanding of what can enter into this trust/confidence relationship. This relationship can be between two people, a person and an institution, inanimate object, rule or anything else a person can care to hold a belief about the future behaviour of as I explored in Chapter 3. This is an asymmetric relationship though. As in the examples I have given, the trusting party always has to be a person. An institution, as a system of rules, conventions and norms, is incapable of holding the mental construct aspects of trust, which will be discussed below. (Broadly anything capable of forming a belief about future behaviour and holding the mental construct of trust/confidence can invoke the trusting relationship, but the question of the ability of animals to do this is a question for others to answer.)

A trust and confidence relationship is concerned with the future behaviour, motives and outcomes of the other entity. Because of this forward-looking nature of trust and confidence, they are heavily involved with uncertainty. As discussed in the introduction, this uncertainty arises from the open-system nature of the social world where we are constantly faced with novel situations which we are unable to predict with anything like the levels of perfection required for these unknown qualities to be described as risk (Chick et al. 2005) (Mearman 2005).

A clarification is required at this point to avoid confusion. Trust and confidence are concerned with the future behaviour and motives of another, but each

term also refers to two distinct functions. Trust is both the observable behaviour of trusting another and the mental construct, a belief, of trust (this also applies to confidence).

The belief of trust is a mental construct, where we hold a belief about the future behaviour and the current and future intentions about the other individual. Habituation, as the psychological drive behind rules and norms, is entirely a mental construct. It becomes evident through the selection and enacting of rules and norms. The habits of a person are a large repository of potential of the rule-following type of behaviour which does not have to be enacted to exist. In this way rules and norms exist as mental constructs, existing in potential. Trust as a rule or norm can also exist as potential behaviour through this mechanism.

The explicit behaviour of entering the trust relationship, which Behavioural Game Theory continues to examine in great detail is different from the belief. The interaction between *trust as a belief*, and *trusting as the behaviour* will be further developed below once we have considered the theories of rules and norms in relation to trust and trusting.

If trust and confidence are both a belief about the uncertain future behaviour of another entity, why do we require two terms? In what way does trust differ from confidence? I would like to elaborate on the theory emerging from chapter 3, building on the work of Luhmann (Luhmann 1979; 1988), where trust refers to intentions and confidence refers to ability.

Trust, by referring to intentions, is the belief that the trusted party is interacting without deceit. They intend to do what they say they will do. So trust is a belief about the consistency (or otherwise) of the intentions of the other party. Trust

as the belief is distinguished from the act of trusting. Trusting is the choice to act on the belief. It does not require the explicit acknowledgement of the other party to initiate the trust process; it can be an informal shared belief similar to a norm. Here the interaction between trust and uncertainty takes place. We cannot know the motives of another beforehand; therefore we face a fundamental uncertainty as to the motives of the other person.

Confidence is a belief about the capabilities of an entity and how they impact on that entity's ability to achieve a future outcome. Again uncertainty enters because of the time dimension, but the uncertainty here is of a different nature. An understanding of the abilities of an entity is much more possible than knowing the intentions of another. It is still uncertainty and not risk because we can never fully understand the nature of another entity.⁸

⁸ This statement is based on the critical realist ontological belief, established in the introduction, that humans do not have access to anything like an independent, fundamental reality. Everything we perceive is coloured by our own predispositions and history which influenced how we interpret everything. Everyone who perceives an entity interprets it differently and different aspects of the entity come to the fore as the context changes. If this is the case in what way is it useful to talk about fully understanding another entity?

Trust and Confidence as Rules, Norms and Habits

If we take trust and confidence as a belief about either the intentions or ability of another entity, we can then consider how they would be interpreted within the Rule/Norm/Habit framework above.

Initially we can dismiss the idea that trust and confidence fit the definition of an institution. Here we consider institutions to be a *system* of related rules and norms. As a system, an institution will contain different components with selective connections. Both trust and confidence, as a belief about the future behaviour and motives of another, are not a system of related components. I am also not going to consider trust and confidence as a convention because convention is a lesser class than the other concepts within this framework. A convention is simply the expression of a rule.

But can we decide if trust and confidence fit the definition of a rule, norm or convention? A norm is a behaviour or thought based around shared intentions which is socially transmitted, while a rule is a more robust explicit agreement with different enforcement and punishment mechanisms. Rules and norms themselves are difficult to maintain as separate identities within the social environment. As Hodgson points out, one can rapidly transform into the other by the smallest of actions and actually he does not use the distinction in his framework.

Trust and confidence are broad concepts within the theory developed here and throughout economics and social sciences in general.⁹ Trust and confidence operate at many different levels and in many different contexts as explored in Chapter 3. Within the framework of social norms and rules, trust and confidence do not have to be confined to any one category.

As people form relationships between many different types of entity (other people, institutions) and in many different contexts, any trust or confidence within these relationships can be considered either a rule or a norm based on the particular convention that has arisen for that context. If the situation is relatively informal or novel enough, then trust/confidence can be considered a norm. If however the situation is similar enough to others situations that have occurred with enough frequency that a social rule has developed or that the situation is embedded within a institutional system that has rules to govern the relationship, then trust/confidence can be considered a rule *in that situation*.

Can we also consider trust and confidence to be habits? In this framework a habit is an acquired propensity to engage in previously adopted behaviour. A habit is a particular behaviour which drives the rule-following and norm-following behaviour of people. So habituation as a particular psychological propensity cannot incorporate other behaviours like trust and confidence.

⁹ We have seen in Chapter 3 that this broadness of the terms has allowed multiple interpretations and contributes to the general difficulty in precisely defining them. However, this breadth does not have to be such a disadvantage.

Trust and confidence also display the enabling characteristics of norms, rules and habits. As Searle has argued institutions have a very important role to play in enabling individuals to act. In fact Searle goes as far to say that it is their most crucial purpose:

The essential role of human institutions and the purpose of having institutions is not to constrain people as such, but, rather to create new sorts of power relationships. Human institutions are above all enabling because they create power... (Searle 2005 p. 10)

If we are faced with fundamental uncertainty as to the behaviour of other entities, we can use trust and confidence to enable us to act where in their absence we would either be unable to act or would have to spend vast resources developing understanding of others past behaviour and projecting it into the future, while assuming the inevitable future novel situations would not lead to greatly different future behaviour.

Agency and Structure as defining the Trust/confidence distinction

Defining confidence as a belief about ability and trust as a belief about intentions means that confidence can apply to a much wider range of possibilities than trust. Trust requires the capability to have intentions while confidence just requires the entity in question to be able to influence the world in some manner and not necessarily directly. This interpretation of trust and confidence can be further developed by considering the agency/structure debate.

Dolfsma (2009) develops an agency and structure theory based on the perception of the individual as agency, and institutions as structure and both agency and structure capable of inducing change. This straightforward distinction of individuals as agency and institutions as structure lacks some of the subtlety that would be required to accommodate the view of institutions developed above.

To re-state the definition of institutions from above, institutions are systems of habits established through rules and norms. They find expression through behaviour, but are not reducible to behaviour. Individuals are complex and operate using the influences of both self-interested motivation and socially generated motivations through the formation of habits. My conceptualisation draws a distinction that agency is not related to the individual as a whole, but the aspect of the individual that can choose. Agency is rooted in the ability to choose. This concept of agency as choice continues my discussion from chapter 3 about the Old Institutional Economics notions of trust offered by Luhmann (Luhmann 1988), Beugelsdijk (Beugelsdijk 2008) and Nooteboom (Nooteboom 1996) The ability to make a choice and to have intentions as motivation for action that is agency.

This conceptualisation still leaves structure as institutions, just that some aspects of institutions are embedded within the individual. Using the synthesis approach to the Adam Smith Problem, we cannot separate the self-interested and social motivations for behaviour from the individual. Both are embedded within the individual. This distinction, that agency refers not to the whole of the individual, but just a part, is a reflection of how I view institutions, as operating through individuals. Dolfsma keeps institutions ontologically distinct from people and so draws this definition of agency as the individual.

I am not subsuming institutions into behaviour, they have ontological presence beyond the individual, but this does not mean that they are completely separated from the individual and agency. Walton Hamilton (Hamilton 1932 p. 84) described institutions as "a way of thought or action of some prevalence and permanence, which is embedded in the habits of a group or the customs of a people." Habits motivate the behaviour of individuals, and it is at this level that the institutions work.

Lawson also argues for an interactive view of agency and structure "individual agency and social structure and context are equally relevant for analysis – each presupposes each other. Thus any reductionist account stressing analytical primacy for either individual agents or for social ‘wholes’ must be inadequate" (Lawson 1997) 87 p 969.

Neither agency nor structure are ever truly independent. The synthesis approach establishes that both act as motivation and both interact with each other, as Hodgson (1998 p. 20) states, "Institutions mold, and are molded by, human action".

Taking agency as holding intentions and the ability to choose, and structure to be institutions that mould human action, the distinction drawn between trust and confidence by Luhmann and others becomes easy to apply to the agency/structure framework.

As trust is related to intentions and choice, trust can be said to apply to agency. Whilst confidence, as referring to capabilities, would apply to structure. The link between capability and institutional structure requires us to think of institutions in the sense that they enable and constrain our ability to choose and the potential to achieve our intentions. This enabling and constraining characteristic of institutional structure defines our capabilities.

If we accept that agency and structure are never truly independent (Giddens 1984) then trust and confidence are also similarly never truly independent. We can safely drop the dualistic framework for these concepts and treat them as a duality.

If trust and confidence can never be truly independent from each other. If this is the case, then what is the value in making a distinction between trust and confidence? It is for the same reason that we bother with the distinction between agency and structure. The co-dependence and inseparable nature of some things does not eliminate the usefulness of distinguishing between them. Agency and structure are intertwined, but each has different characteristics and will have different relevance in different contexts. This is admittedly a pragmatic view, but if we hold the ontological position of fundamental uncertainty and a belief that social systems are open systems, then we have little option but to pragmatic at times.

Whilst trust/confidence and agency/structure are co-dependent and inseparable, but they are different. The characteristics of agency and structure reflect on the characteristics of trust and confidence. Agency is a concept related to human intentions and the ability to make a choice. This makes agency very unstable and will vary across different people even within the same structural framework.

If we now consider structure and the confidence it inspires (or not), structure is capable of being more stable in the short-run than agency, but much more likely to suffer great changes than agency. Agency is still limited by the nature of humans and so has quite restrictive boundaries to the extreme potentials for agency. Structural institutions are much less flexible than agency, so in situations where the institution is stable, the structure-inspired confidence will also be stable. However, structural institutions can suddenly become unsuitable and damaging as the open nature of social world is prone to changing the connections between the elements. A well

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functioning structural system will generate high levels of confidence, but if the other things change that make the structures unsuitable, then confidence will collapse.

Even in the changeable social world, agency is not liable to such great changes, it is still bounded by human limitations and trust beliefs are formed using an understanding of human limitations.

Agency varies on a person-by-person basis, and the large number of people within a social system produces a large potential for varying levels of trust between individuals. Structure is less volatile than agency and is more consistent across the system so confidence is more stable than trust. However, confidence is subject to greater potential for large scale collapses (or rises). As single structural institutions have large roles to play in the system, the impact of one failing is widespread. This is combined with the potential for beliefs about structures to be very wrong. Institutional structures are harder to understand and conceptualise than the behaviour of people, so when a structural institution fails, confidence drastically collapses as there is nothing else to replace it.

It is also worth noting that it is not just important to consider the actual potential for agency in a system to define the potential for trust, but the perceived level of agency. A perceived lack of agency i.e. a reliance on structure, will not allow trust to develop to any significant level and instead a confidence belief dominates. This allows for the rapid collapse from confidence to trust if a systemic failure prompts an awareness of the agency figures/components of an institution i.e. board members of a firm or government.

There also seems to be a psychological propensity towards personifying when faced with failure, just consider the concept of the scapegoat and the current example

of the public anger directed towards a single individual for the current banking crisis. This propensity encourages the switch towards considerations of agency (as embodied by individuals) within institutions and therefore a move from confidence towards trust.

Conclusion

This chapter argued that Institutional Economic notions of trust are better suited to addressing the question of money and trust and banking and trust. Institutional economics also better addresses my ontological stance as set out in the introduction of this thesis.

My conceptualisation of trust is based heavily on the framework offered by Luhmann as discussed in the previous chapter. This chapter took Luhmann's notion of intention-based trust and competence-based confidence and developed it using other frameworks offered by institutional economics. By applying an agency/structure duality to the intention/competence duality my notion of trust and confidence is developed into an agency-based trust and a structure-based confidence. By having this agency/structure basis for trust and confidence, this theory can now have applications for institutions and organisations that also share the agency/structure nature.

The next chapter will explore the concept of money as a social institution and discuss the interaction between money and the beliefs of trust and confidence as developed in this chapter.

Chapter 5 - The role of trust in the operation of money.

In chapter 4 a model of trust and confidence was developed based on the work of Luhmann. The model defined trust as being a belief about the intentions of another and the role of agency in social systems. Confidence was distinguished from trust by defining confidence as a belief about capabilities and the role played by structural institutions in social systems. This chapter will consider the social institution of money and apply the theory of trust and confidence developed in the previous chapter.

Trust is often associated with money and particularly the modern forms of fiat money. However the problem that has plagued this area has been the limited attention paid to defining trust and consequently how to incorporate theories of trust and money. Most often the relationship between trust and money is given perfunctory treatment merely stating that 'trust is important to the functioning of money' (Ganssmann 1988). Ingham (Ingham 2000) has referred to the obvious importance of trust and confidence, whilst calling for a satisfactory explanation of this process. This problem has persisted for two reasons; a lack of a fully developed and coherent theory of trust to apply and the fact that the theories of money within economics do not easily lend themselves to the incorporation of other behavioural theories.

Those that do discuss the matter further, such as Herbert Frankel, highlight the importance of the social aspect of trust and money:

The entire economic system functions on the basis and belief that otherwise near-worthless pieces of paper or metal will retain their acceptability and consequently their value. In holding money we do not put our trust in individuals but implicitly in the system and the state... (Frankel 1977 p. 165).

This chapter will start by briefly revisiting two central elements of the analysis as built up to this point: fundamental, non-calculative uncertainty and social institutions that find expression through the influence on human behaviour and agency. I will then argue that the fundamental uncertainty faced by people is altered by the interaction between of money and trust. The most important aspect of this theory is the change in relevance over time of the behaviours of trust and confidence. Using social money allows people to use a confidence-dominated relationship with society instead of using trust-dominated interpersonal relationships.

Uncertainty

As Chick and Dow (Chick et al. 2005) have argued, the world is best viewed as an open system. People inhabit a reality that is non-ergodic and transmutable (Davidson 2002). In this view of the world, individuals experience fundamental non-calculable uncertainty. The limits and nature of the system (the world) that people inhabit is fundamentally unknowable. This is not a constraint on information, where uncertainty only exists because certain individuals lack crucial information and the potential exists for complete understanding of the system. With an open system the components and selective connections between these components are mutable and of almost limitless number. Risk and the mathematical tools and behaviours that concern risk require an understanding of the limits of possible outcomes. Before the risk of a

certain action can be understood, a complete delineation of the outcomes must be established. Only then can the relative risk of each action with its associated potential outcome be established. An individual can hold whatever beliefs they wish about the relative risks and outcomes, but without an awareness of all the possible outcomes, risk is impossible to calculate. With open systems it is impossible to always know the full range of possible outcomes. Uncertainty is pervasive and unavoidable.

Functional view of Money

The nature of money has been addressed not just by economics but widely throughout the social sciences. Money is a complex and multi-faceted concept and allows for different approaches, but this work will focus on how economics conceptualises money. Money is an institution. (Hodgson 1994) (Dolfsma 2009) An institution as discussed in chapter 4.

But most commonly within economics a functional view of money has been adopted. By this I mean that when money is discussed within economics it is defined using its functions, “money is what money does” (Hicks 1979 p. 8). Within the discipline of economics the functions nearly always structure the debate.

Schumpeter (1954), as highlighted by Meikle (2000), has argued that the functional approach to money can be traced to Aristotle. Meikle examines in some detail Aristotle’s approach to money, and concludes that Aristotle included an ethical element to his analysis that led to a dual concept of money as both a *means* and an *end*. This dual is still present in economic thinking today as I will discuss later.

The original functions used by Aristotle are still used today and are referred to as the ‘textbook three’, though they are not widely regarded as being Aristotle’s framework. The textbook three functions are (in no particular order), a unit of

account, a store of value and a medium of exchange. Economics has since added a further function, a means of payment.

I will briefly define the four functions as they become important later. The Unit of account is the function that allows products to be denominated in a single unit and permits the writing of contracts. The store of value function means that the money asset maintains some potential for exchange/payment over time.

The difference between the medium of exchange and the means of payment functions is subtle and this is why many within economics subsume the means of payment function into the medium of exchange. I will argue that the means of payment function has a crucial role to play in the operation of the interaction between trust and money and therefore needs to be considered as a separate function in this theory. The medium of exchange function allows an *exchange* to take place at an instance in time. A means of payment allows the dissolution of financial relationships between two parties. This is the definition of *payment*; the dissolution of continuing financial relationships between the two parties (Goodhart 1989). This definition of means of payment, as ending all financial relationships can also be considered as operating as deferred payment. This implies that the medium of exchange, which allows trade or exchange to occur, can also be considered as establishing a requirement for deferred payment, because trade can now take place that establishes a continuing financial relationship between the trading parties i.e. credit.

There are many debates within economics the use the functions, but there are also debates about the functions. A significant point of contention is the most important function and I will return to this later when we consider the different approaches to money. Walsh (2003) and Hoover (1996) both provide overviews of the argument about the relative importance of each function. Related to this is the

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investigations into separating the functions into different assets (Cowen & Kroszner 1994), (Selgin & White 1994). Smithin (2000) has called for a movement away from this single and rigid structure. Smithin argues that this framework is limiting and unable to reflect the innovative financial system.

Commodity View of Money

The two main approaches to money within economics continue the framework arising from chapter 1, the differing approaches to people as either only motivated by self-interest and regards people as atomistic, or adopting the synthesis of self-interest and socially-regarding people. The approach that embodies the self-interested approach is the commodity view of money, while the credit view of money embodies the synthesis, organic approach.

As money is defined in part by its functions, and in some understandings of money its social nature, the conceptualisation of money is sensitive to ontology. The importance and specific nature of the functions is very dependent upon the system in which they operate. The perfect knowledge systems of general equilibrium theory have no role for money because the functions have no role to play. In a world with no uncertainty, there is no need for a store of value as everything can be contracted in advance. Full knowledge also eliminates the requirement for the other functions. As the perception of money is so sensitive to ontological beliefs, the two distinct approaches offer very different views of money, with incompatible differences existing between their explanations of the origins, development and nature of money.

The commodity view of money initially advocated by Menger (1892), perceives money as spontaneously emerging from the process of market exchange. Before the development of money, trade in the form of barter is widespread with

many different goods bartered and trading takes place with reasonably high volumes. The high number of goods, the large volume and geographical reach leads to increasing transaction costs arising from barter.

Each of the (large number) of commodities possesses various characteristics and those characteristics determine their suitability for barter. The suitability for barter is viewed in terms of transaction costs and the functions are often used as a basis for approaching transaction costs. Some commodities will possess a high potential for retaining value (durable products), while others will offer greater potential for mediating exchange (lightweight, easily divisible). The evolution to a monetary system is a competitive process where the commodities ‘compete’, and the continuing trading selects¹⁰ the commodity with the most efficient collection of attributes. Eventually a single commodity with low transaction costs (its durable and easy to carry and divide) will begin to acquire a high level of general demand as all traders become willing to accept this commodity as a medium of exchange. General acceptability arises because this commodity develops the widest and most stable level of demand from the bartering traders. The work of (Ostroy & Starr 1990) is an example of a more recent attempt to treat money using this transaction cost approach. Some mathematical modelling of this competitive process does allow for ‘non-optimal outcomes’, where the commodity with the best (ie the lowest cost) collection

¹⁰ In much of the mainstream literature the term “selects for” is used rather than selects. This is a rhetorical attempt to allow for the potential in the discussion of ‘non-optimal’ outcomes, in a reference to the observed world. This is almost meaningless as the discussions continue along the basis of optimal outcomes.

of attributes is not the commodity that develops into the money of that economy, but this is based on limiting information to the market (Klein & Selgin 2000)

Often the unit of account function is disregarded as this approach only has a trivial role for it to play. As the value of the good is individual and expressed only by how much that individual is willing to pay, the denomination of prices becomes only a measure of mismatching between the individuals tastes and the aggregation of other individuals tastes.

The focus for the commodity view is the medium of exchange function. Money arises from barter exchange and, given the atomistic nature of individuals within these approaches, exchange is the only economic interaction that takes place between these individuals and so is the only interaction worth the consideration of economists. This is also the reason why the means of payment function is so often subsumed into the medium of exchange function. When the only relationships are directly related to exchange, the exact system of debts and credits becomes nothing more than an accounting exercise. The limited role for money in this conceptualisation reflects the means aspect of Aristotle's dual. Money has no real impact under this system, it is only a means. Money operates as a way of reducing transaction costs in systems, but doesn't influence the real world more than that.

The functions described above are a significant part of the definition of money in many approaches, and in the mainstream account they often are the definition of money. Any asset that can embody these assets *is* money. Many different objects and social institutions can have one or several of these functions, but only something with all of these functions could be considered as true money. The absence of any one of the functions would produce only a partial money. While partial money remains

useful and allows more efficient economic systems, its usefulness is limited compared to a money that holds all of these functions.

Related to this conceptualisation of money is the developing Game Theory notions, based on the emergence of money through the private interaction of individuals, where commitment is an issue for the players ((Freeman /12;Kiyotaki & Moore 2002). For the use of matching models to attempt to model large groups of people see (Williamson 1999) and (Cavalcanti, Erosa, & Temzelides /10).

Social View of Money

Not all accounts stop at defining money as only its functions. This returns us to the discussion from chapter 4 about the nature of institutions. The credit approach to money offers a very different understanding of money. Continuing with the Smith framework of economics developed in chapter 1, the organic socially-orientated views of money do not offer a single theory but instead a collection of context-specific and flexible theories. These theories reflect the context-specific and flexible view of humanity, institutions and social systems from those approaches that have adopted the synthesis view of people. Many of the social theories of money do share enough characteristics to make it useful to consider them together.

Ingham (2000) has identified several shared characteristics of the social views of money¹¹. The first of these is the existence of a money system that is relatively independent from the sphere of exchange. Money operates by a system that does not entirely rely on exchange relationships. More than this, the most important aspect to

¹¹ These shared characteristics are often expressed in opposition to the mainstream. This is a common characteristic of the organic, social side of the dualism as I have argued earlier.

the operation of money is the social conditions and the role of authority in this community. Money operates beyond the narrow confines of the economy and is intertwined with the hierarchies and social relationships in the wider community. The social view of money also sees money as an abstract claim, a credit. Who this is a claim against changes but generally it is to the community as a whole, or the state.

The social theories also display a tendency towards an historical perspective and to emphasise the unit of account function (Ingham 2000). Because of their place as non-mainstream theories, they often include an explanation for many of the mainstream characteristics. Ingham addresses the commodity nature of money in today's system as "Money is traded as a commodity, but only once it has been constituted as money" (Ingham 2000 p. 261).

The mainstream commodity theory of money, based on the assumption of spontaneous market emergence and only self-interest as motivation for behaviour, is not suitable for working with the theory of trust used here. As argued in chapter 4, where the two most significant theories of trust are considered, where people are only self-interested, trust has no role to play. This chapter will continue to use the theories that are based on the combination of self-interest and organic, socially-regarding view of individuals, i.e. the credit theories of money.

The approach to trust and money that is set out below does not require a specific credit theory of money. The development, origins and nature of the social relationship are important to the interaction between trust and money, but the flexible nature of trust (based on the understanding of trust used in this thesis) is able to accommodate different understandings of the precise nature of money and its development.

Uncertainty and trust/confidence

In order to develop a theory about a relationship between money and trust we need a theory of trust that is compatible with the social view of money. The institutional notion of trust and confidence developed in chapter 4 of this thesis shares the organic and socially-regarding view of individuals. Starting from my ontology, it offers the best approach to providing a description of how trust and money interact. The theory of trust and confidence developed earlier is briefly set out again.

The easiest way to consider trust is to see it as similar to an expectation. Where trust differs from an expectation is that trust operates where the calculative rational assessment of probabilities is at the least very difficult and costly, where cost can also be considered as cognitive costs (following the ideas of limited cognitive resources offered by Simon (1982)). Trust is a behaviour that differs from rational assessment and, if we accept the concept of trust, then we should not consider the argument that people behave *as if* they have developed probabilities as valid in all cases.

Trust is similar to an expectation, but works as a behavioural mechanism to deal with non-calculative uncertainty. We form expectations about future behaviour , but where the future is uncertain (and it always is) we do not form expectations using the rational calculative process of mainstream economics. Instead people make non-calculative expectations which we call trust.

Trust operates only at the level of intentions and (human) agency. We can define trust as a belief that we have correctly identified the intentions of another and therefore that the other party will attempt to honour any previous agreement, explicit or otherwise. Trust also contains an element of choice, the trusting person must be

able to choose to enter the relationship, otherwise the definition of a trusting belief loses its relevance as it is overwhelmed by the circumstances that forced the person into the position where they must rely on the intentions of another.

Where trust refers to human agency and intentions, confidence is the parallel belief about the structural influences on the individual. Structure here refers to the social institutions that influence behaviour. Both trust and confidence are the same form of belief, the two terms are used to describe the belief about different aspects of the relationship with others. The differences between trust and confidence arise from the differences in agency and structure.

Money as social institution, Trust as the influenced behaviour.

Under the social view, money is an abstract claim that places the burden of the credit on community. Often the state is the key player in this system, providing either asset backing or, in the Neo-Chartalist approach, providing the basis of generalised demand through the imposition of tax obligations (Wray 1998).

Money operates as a social institution by changing the behaviour and relationships between people. “Money, which is entirely a social institution and quite meaningless if restricted to one individual, can bring about a change in general conditions only by changing the relations between individuals” (Simmel 1990 p. 162)

One of the ways that money changes behaviour and expresses its institutional aspects is by influencing the beliefs and behaviours of trust and confidence. (It is this very modification of behaviour that makes money an institution.) Money influences behaviour by allowing people to hold trust and confidence in community and avoid inter-personal trust and confidence.

Instead of being concerned about the trustworthiness and particular characteristics of the other contracting party, people instead become concerned about the community honouring your abstract claim. Throughout this discussion the operation of trust in a non-social exchange system will be used as a comparison case, to highlight how the trust system benefits and complements social money. Unlike the commodity view of money, at no point will I argue that the money system and the trust system I develop evolved from a barter-like system of singular inter-personal trades.

Under a system without a generally accepted money, trading must take place on a trade-by-trade basis between individuals. In this case, the characteristics of the other individual and their offered payment are of great importance. Each exchange is subject to a difficult and lengthy evaluation of the other persons intentions and capabilities, establishing a certain level of trust and confidence about the interaction. This process is very uncertain and has a prominent role for trust as intentions and agency are very important in this particular relationship.

If instead there is a system of generalised acceptance of a money, the relationship of concern becomes the social institutions that promote the general acceptability and general credit.

What allows individuals to operate with the social and general credit is the means of payment function. The means of payment function does not provide the support for social obligation of credit. This is a role usually given to the state by the social theories of money. What the payment function allows is a change in the relationship when they exchange using money. Instead of being concerned with other individuals, they enter into a relationship with the community that accepts the money. What is important is the transfer from individual relationships to a relationship

between the individual and community (community as a collection of other individuals but all sharing the characteristic of being willing to honour your credit).

This use of the relationship with the community takes place because the means of payment function ends the continuing financial relationship between two individuals. The payment function ends the obligations between particular individuals but does not dissolve the obligation completely. “the liquidation of the individual’s liability may still involve an obligation for the community.” (Simmel 1990 p. 177).

By entering into a relationship with the community and not just with the other individual, money also changes the nature of trust and confidence that the individual has. By having a money as a means of payment, individuals can avoid the uncertainty of dealing with the unique agency of another individual. The relationship is changed to one of agency and structure relating to the community as a whole. By having the ability to end the financial relationship, the two parties no longer have to be concerned about the specific characteristics of the other party. Now each is concerned with the acceptability of the money as payment for debts to the state or general acceptability.

If we take the simple Chartalist view, then all that matters is the acceptability of the money to the state and from this acceptability to the state money acquires general acceptability. We can develop this idea by considering the beliefs held by others about the continued acceptability of the money to the authority. If everyone else believes that that they can end their debt obligations to the state with this asset they will be willing to accept it as payment. I need not be concerned directly with my obligations to the state.

This transfer from inter-personal relationships to a relationship to the community does not totally dispel the uncertainty for the individual. The means of payment allows us to avoid trusting in another individual and instead have confidence in the state – and the widespread confidence in the community allows for general acceptability. The degree to which the relationships between the two are ended by payment determines the extent to which trust is replaced by confidence.

In this transfer we have avoided a system where we have a trust and confidence relationship with another person and instead have two trust and confidence relationships, one with the other individual and a greater trust and confidence relationship with either the state or the wider community. We can never dispense with the relationship with the other individuals because we are interacting with them. Because they can refuse the means of payment offered (legal tender can still be rejected at a particular instance and the process of forcing them to accept legal tender is lengthy and usually not worth enforcing) we still must rely on trust/confidence that they will accept the offered payment

This different relationship is a structural confidence system with money as an institution which transfers obligations from individuals to the community, specifically to the state in modern financial systems. This is based on a previous argument that the trust relationship between two individuals is significantly different than the trust relationship between an individual and either the state or the community within which they are embedded.

The nature of the community also has an impact on the change between trust and confidence. The change between trust and confidence is determined by the change in the roles of agency and structure between the inter-personal relationship and the relationship with the community. In a community with a greater role for

structural institutions, the change in the trust and confidence will be more heavily weighted towards structure-based confidence.

In a Local Exchange Trading Scheme (or system) LETS, the emphasis is much more on inter-personal relationships. The LETS schemes are often built on a centralised accounting system which keeps track of trading between the individuals within the LETS community. This structural support can be seen as providing confidence to the system. But in a LETS, the emphasis is on inter-personal relations, using trust in the intentions and agency of the members to maintain the validity of the currency.

Conclusion

This Chapter began by exploring the concept of money within economics. The two main approaches of commodity money and the social view were considered for their potential to be incorporated with a theory of trust developed in chapter 4. The commodity view of money was rejected as its view of people only included the self-interested motive for action.

Then the nature of money and trust was discussed. It was argued that money allowed individuals to avoid the difficult and costly inter-personal trust and confidence relationships and instead rely on the trust and confidence relationship with the community. The inter-personal relations are dominated by agency-based and intention focused trust whilst the community relationships emphasised the structural institution based confidence.

In the next chapter, the interaction between trust and another social system is considered. This social system is the banking system, which is the source of the money in modern economies.

Chapter 6 – Banks and Trust

In the chapter 5 we have seen that money is a social institution that relies on trust and confidence to operate. We have also seen that the use of money in a community changes the balance between trust and confidence in economic transactions. By using money people are able to avoid agency-based trust relationships and use more stable structure-based confidence. The role of the issuer of money was also highlighted as important in the previous chapter and within modern economies most money is supplied by banks.

As banking has developed, it has become increasingly regulated. In the early stages of banking, inter-personal relationships were important. As banking evolved, the banking system developed an increasing number of structural institutions. These institutions structure the actions of the bank and their relationships with the other banks, their customers and the central bank

The purpose of this chapter is to explore a relationship between trust and the development of the banking system. This exploration will be done in three parts. The first will ask why are banks special and why do we need to consider the role of trust and confidence with regards to banks. Part two will discuss Chick's stages view of banking development and then develop this view using an agency/structure approach. Part three will discuss a role of trust and confidence in the banking system and the interaction between the state and the central bank.

Why banks are special

Banks are special in the modern capitalist economies because of their valuable and central role and unique weaknesses that requires special responses. Before examining

these we first need to define a bank. Typically the legislation which defines a bank is incredibly vague and allows for a wide range of different approaches and activities. Under the UK legislative system a bank, as defined by the Banking Act 2009, is an “institution which has permission ... to carry out the regulated activity of accepting deposits”¹² and explicitly ruling out building societies and credit unions which are defined under other legislation.

Banks and the banking system provide several very important and some distinctive services to the wider economy, making banks worthy of special theoretical and political treatment. Banks are the principal source of finance to a very large part of the economy. (Diamond & Rajan 2001), including households (Arestis & Howells 1996) and small and medium sized enterprises.

The importance of banks to financing is even more significant in the German banking system than the Anglo-Saxon system. It has been argued that the finance system of Germany has a greater role for banks, compared to the market-based systems of the UK and US (Rybczynski 2009). Certain types of German banks, ‘house-banks’, developed very close relationships with individual firms, though (Baums 1994) has argued that this type of relationship is fading.

¹² The Banking Act 2009 does not define bank but offers, in their words, an interpretation of ‘bank’. The Banking Act immediately refers to the Financial Services Act 2000 when defining a bank as “an institution that takes deposits with permission under the Financial Services and Markets Act 2000.” The FSM Act 2000 does not attempt to define or interpret ‘bank’, just the steps required to gain permission and only offering criteria to refuse permission. The legal definition is self-referential, vague and labyrinth in nature.

More importantly in modern economies, banks act as the economy's store of liquidity and operate at the core of the payment system (once their deposit liabilities become adopted as money). Bank deposits are the money of the modern economies, supplying the means of payment, store of value and medium of exchange to the economy and through this supports the unit of account function of bank deposits. (Benston & Kaufman 1996). If the banking system fails, the payment system for the whole economy will collapse. Even a banking crisis that stops short of a complete collapse will have serious effects on liquidity in the economy.

If we return to the legal statement above that defines a bank as an organisation that accepts deposits. This acceptance of deposits is crucial to understanding the unique weakness of banks. The banking system has developed in such a way that the deposits of customers are general capital-certain sight deposits. They are a liability of the bank with a certain nominal value that can be called in at a moment's notice. The establishment of bank deposits being capital-certain was not an inevitable development in the banking system and some free bankers and new monetary economists argue that bank deposits shouldn't be capital certain. However, the role of capital-certain deposits is important for bank deposits to act as money (Dow 1996).

Bank liabilities (in the form of deposits) are capital-certain and are redeemable at a moment's notice. The assets of the banks are uncertain in value and indeterminate maturity. Dow explains the uncertainty of bank assets values as "not that assets values can never be predicted, but that these valuation are contingent on a range of unknowns. There is accordingly no sense in which one can talk in general of the 'true value of a bank's assets'" (Dow 1996 p. 701). This is based on the Keynesian approach to uncertainty, in that there is no scientific basis on which to form any calculable probability (as discussed in the introduction).

The assets of the bank are uncertain in both value and maturity, whilst the bank liabilities have certain nominal value and perfectly liquid. This is the basis of the unique liquidity problem faced by all banks. It is unique to banks because it arises from the unique bank liability of deposits (the holding of these deposits as a liability is what defines a bank).

The central liquidity problem is that these sight deposits, liabilities of the bank, are matched by assets of indeterminate maturity and of uncertain value. This is combined with a fractional reserve system, where banks increase their lending in order to make greater profits. As banks expand their loans, they are left with fractional reserves so that not all depositors can withdraw all their money at short notice, even if the bank is solvent (Benston et al. 1996). This is not normally a problem as banks do hold liquid assets to be able to cover the withdrawal of a small fraction of their deposit liabilities, but this becomes an issue if trust and confidence is lost in the bank and its customers attempt to withdraw their assets with the banks.

Banks are special because their liabilities have become accepted as money, so the re-deposit ratio is much higher for banks than other institutions. A re-deposit is when a withdrawal is made to make a payment (where the customer does not wish to use the now widely accepted paper claims), and the claim is deposited back into the same bank. The bank sees no reduction in its assets as the liability has essentially not been exercised, just moved between different accounts at the same bank. For the banking system as a whole, the re-deposit ratio is much higher as the deposits rarely find a way into other financial systems.

All banks face a balancing act between the achieving greater profits by allocating their resources to less-certain and less-liquid assets offering higher returns

and reducing the possibility of an illiquidity problem by using low-yield, liquid and less uncertain assets to cover withdrawals.

A liquidity crisis occurs when the liquid assets maintained by the bank is not enough to cover the immediate requests to withdraw money, which can then develop into a solvency issue as the value of the remaining bank assets cannot be fully realised as they attempt to liquidate them quickly.

As a significant amount of the banks liabilities are capital-certain deposits, this becomes a source of a very important weakness in the banks. The liquidity problem is one of the most significant characteristics of banks and is their greatest weakness. Much of the development of the banking system is focused on addressing the liquidity problem whilst under the pressure for higher returns. If the liquidity problem is not addressed, it becomes an insolvency problem and the bank fails.

This problem is not the only significant weakness of the banks. The possibility of contagion is another important characteristic of the banking system. The difficulties of an individual bank do not remain the concern of only that bank and its customers. The suggestion that a single bank is exposed to a liquidity constraint or even a problem of insolvency can induce the customers of other banks to withdraw funds from other banks, threatening the liquidity of those banks as well.

The source of contagion is the inability of bank customers to distinguish between solvent and insolvent banks (Goodhart 1989 p. 114) “Bank depositors are not generally in a position to monitor or assess the financial condition of their bank, so that any suggestion that a particular bank may or not be in a position to meet its liabilities is likely to lead to the panic withdrawal of its deposits”.

There are those that advocate free banking (Dowd 1993) (Selgin et al. 1994), a laissez-faire approach to the banking system where a competitive free market system is established. Dowd (1996) argues that this produces a banking system with a few banks driven to large sizes by economies of scale (whilst avoiding becoming a 'natural monopoly) who issue currency perfectly determined by the demand to hold it. (if the system moves out of equilibrium market forces driven by the public ensure that it returns quickly). The level of stability of the banking system is determined and ensured by competition between the banks for bank deposits.

The main driving force behind the success of this system is the public who are able to assess individual banks and make choices according to competitive forces and banks that are fully rational profit maximisers that are able to assess the uncertainty of their assets (loans). If a bank considers other banks to be expanding too aggressively, to increase short-term profits at the expense of reduced quality of loans and so decreasing its long term financial stability, then it will distance itself from them by strengthen its position in anticipation when the other banks suffer losses. However, if customers are unable to monitor the banks as discussed above, then the prudent banks will be outcompeted by the more reckless banks who can offer higher interest rates because they can reduce costs by reducing their capital ratio.

This view of competition also assumes that some banks will make the correct, rational choice and will be able to ensure the survival of the banking system, even as other banks behave in a non-rational manner, without any thought for the continuing viability for bank deposits as money. If banks are prone to failure, as they would be under a competitive system, then great uncertainty surrounds the security of deposits. This does not take into consideration system wide instability as advocated by Minsky (Minsky 1977), where no bank would have the ability to remain liquid and solvent.

If the weaknesses of banking, are combined with the crucial role played by banks in the economy and the consequences of the banking system failing, banks become very special. Even without a major threat to the wider economy, the implications of contagion would warrant intervention and considering banks as special. If the actions of a single organisation can have consequences for many others within the banking system, the state may feel that it would have to intervene. This is the entire principle for regulating the system in the first place. The consequences of failure of the banking system for those outside the system are big and uncertainly big and this guides much of policy and the development of the regulation.

The banking system has several important uncertainties. There is uncertainty between the bank and depositor and between the bank and the borrower. The depositor does not know (and is incapable of knowing because it is fundamental uncertainty) about the security of their deposit. The bank is uncertain about the security and value of its loans. These relationships with fundamental uncertainty give trust and confidence a role to play.

The Change from Trust to Confidence as the Banking System Develops

The crucially important roles played by the banks have developed over time and show their modern importance. Banks were not always so crucial to the payment system and their development has shaped the economy to take advantage of their services. We need to consider the development of the banks and the banking system and the roles of trust and confidence in this process. When talking of the banking system I mean to focus on traditional banking, using the definition of banks above a deposit taking institutions that make loans. The banking system though will include the regulators and institutions that shape the functioning of the banks in that economy.

Chick (1992; 1993) has developed a model of banking development where the banking system as a whole is seen to develop through several stages. The stages will be examined in greater detail below, but it is worth establishing the general nature of the model and the argument I wish to make. The focus of the model is a macro view that considers the nature of the banking system as a whole and puts considerable emphasis on the development of the role of the central bank. While it does use a framework of stages, the stages themselves are not easily distinct and even Chick refers to the model as ‘impressionistic’.

As the banking system has developed through the stages identified by Chick, the institutions that shape (i.e. constrain and enable) behaviour have increased in importance. The structural institutions have increased in number and apply to an increasing scope of interactions. The structural institutions have come to heavily influence bank to bank interaction, and interactions between the banks, public and the central bank. The new behaviours have become widespread and common enough to have changed the operation of the banking system. Meaningful institutions find expression through changes in behaviour. The behaviours that these institutions are changing is the behaviour of those operating within the banks. Banks are not single, unified agents (agent as defined as something with the potential for agency) but complex, organisational systems of people and institutions.

The institutional changes are often prompted by previous changes in behaviour and we can see behavioural changes either directly as institutional change or as the consequence of other institutional changes. Institutional change begets institutional change. To briefly clarify institutions as discussed in chapter 4; structural institutions are not limited to formal or explicit rules (most often laws) or state-sanctioned regulatory systems. Structural institutions include these formal rules, explicit rules

and the organisations of the authority but also all the repeated behaviours, habits, informal rules and conventions that are widespread enough in the system that they define the scope of behaviour within the banking system and with the banking system.

Returning to Chick's stages model, the (formal and informal) structural institutions have increased in importance as the banking system passed through the stages. There have always been high levels of these structural institutions within the banking system, guiding the behaviour of those people interacting with the system. What is changing through the stages is the power of the structural institutions as the balance between formal and informal institutions changes. As time has gone by the banking system has developed more and more explicit institutions and rules at the expense of informal habits and conventions.

Explicit formal rules impact behaviour in a different way to the informal conventions. A system which emphasises explicit rules leaves a lower potential for human agency (the ability for humans to choose (Rothbard 1993)) when compared to a system that emphasises informal conventions. Formal rules generally are more inflexible, less likely to change over time (Hodgson 1999). This is not denying that informal conventions can be incredibly inflexible and prescriptive.

I wish to argue that the banking system has developed from a system of interpersonal relationships governed by informal conventions to a system heavily structured by both formal and informal institutions. As the structural institutions have developed (either conventions evolving in response to experience or formal rule changes established to address experience or other motives) the potential for agency has diminished.

As the potential for agency has diminished, the potential for trust has also diminished and changed. Note that this is the *diminishment* of a *potential* not the elimination of trust. Trust is a behaviour and belief that relates to agency. With the increasing structural nature of the banking system, the role played by agency in the system decreases. There is less opportunity for choice when prescribed responses are increasingly established. This is less opportunity, not no opportunity. The potential for choices (and therefore agency) still exists so the potential for trust still exists.

The repeated use of potential is because this is not an approach that requires equilibrium thinking or prescribed behaviour from the people operating in the system. Each person will make their own minds up about the level of trust they will put in the agency of the banking system at each time according to their own beliefs and the situations they find themselves in. A potential for trust does not guarantee the existence of trust.

As the potential for trust is falling as the banking system develops through the stages, the potential for confidence is rising and replacing the role of trust. Where trust is the uninformed (or more accurately less informed) belief or expectation concerning human agency in the face of uncertainty, confidence is the belief formed about structural institutions. The structural institutions that develop in the banking system define the limits of behaviour within the system to a greater and greater extent. Their greater role and prominence mean that people are faced with greater and greater potential for dealing with structural limits and structural responses, so they acquire greater and greater potential to develop confidence (and confidence based on increasing knowledge.)

While trust is losing its relevance as the banking system develops and confidence is increasing in importance, both are always present. The banking system

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always displays characteristics of agency and structure. In the same way that agency and structure are intertwined but separate ((Giddens 1984), trust and confidence are intertwined but separate.

Both trust and confidence have the potential to be relevant at any particular time. As the banking system has developed, the balance between trust and confidence shifts towards confidence. Agency does not disappear from the banking system, it just becomes less powerful as the banking system imposes ever more structural institutions which limit the role of agency. As agency has not disappeared, trust does not disappear.

If we return to Chick's banking stages, I will argue in each stage how there is a greater role for structural institutions and a greater interaction between external users and structural responses and the expense of inter-personal relationships.

In stage one, money is deposited with the banks as a safe means of saving. The form of money here appears to be specie, or at least a physical token that requires a safe place to deposit. Banks exist as nothing more than intermediaries between savers and borrowers. At this stage banks have progressed little beyond the metaphor of people placing their gold with the local blacksmith.

The existence of trust and confidence at this stage is heavily weighted towards trust. Inter-personal experience is the dominant form in interacting at this stage. Banks are operating using inter-personal networks. In 18th century Scotland to open an account with the bank, new customers required the support of two other individuals of standing (Graham 1911). This is more of a question of the bank trusting the new customer. Was the new customer trustworthy enough to be given an account. Placing assets with the blacksmith is another example of the operation of trust, now trust in

the safe-keeper. The inter-personal relationships and reputation of the blacksmith generates the trust required to place your assets in their hands. The agency of the safe-keeper is important to the continued safety of the assets. Capability and other structural issues, which generate confidence, are still important. But agency and the large potential for choice, choice between where and if to store your assets, and the inter-personal nature of this relationship emphasise the trusting aspects.

The development to stage two was extremely significant and the progression from stage one to stage two probably took the longest of the progressions. The first important development of stage two is the wide adoption of claims on deposits in the form of notes as a means of exchange and payment. The belief that safe-keepers will maintain a large enough stock of coin to exchange for coins if need be has developed trust that they will through continued success and habit forming. Adam Smith spoke of this trust (he says confidence) in the banker as the route by which deposit claims become money:

when the people of any particular country have such confidence in the fortune, probity and prudence of a particular banker, as to believe that he is always ready to pay upon demand such of his promissory notes as are likely to be at any time presented to him; those notes come to have the same currency as gold and silver money... (Smith 1776 p. 277)

It is important to note that Smith talks in terms of the personal characteristics of the banker. He places the focus on the fortune, probity and prudence of the agent in the bank. This is a clear measurement of trustworthiness. The acceptance of deposit

claims as payment is based on the personal evaluation of the safe-keeper and the resulting trust belief.

This process is still in evidence today as George (1997 p. 113) discusses “The attraction of these deposits and payments services depends upon the depositors generally having a high degree of confidence that their funds will in fact be available on demand”. They need ‘confidence’ because there is (non-calculable) uncertainty about the availability of their funds.

Re-deposits become common at this stage. Banks begin to expand credit significantly beyond reserves as they pursue greater profits. Reserves are still the constraint on lending, but banks operate with low reserve ratios compared to stage one. Banks now become vulnerable to the liquidity problem. The second important development is the evolution of the central bank, which may act as a support for the banking system. In response to the increasing vulnerability to liquidity crises, the central bank can act as a lender in times of crisis, but this is an exceptional move and generally not undertaken by the central bank.

By stage three, the banks have been expanding credit far beyond their reserves. Individual banks can also experience losses of reserves as borrowers spend their loans in areas where their notes are not accepted as payment. The unacceptability of the individual banks note as payment (which means that it would not be money as discussed in chapter 5) means that the issuing bank loses reserves as either the borrower must withdraw coins, or if the loan was paid into another bank who requires payment in coin from the issuing bank. This exposes the banks to liquidity crises and solvency crises.

Inter-bank lending between the non-central banks arises in response to this problem, allowing banks to respond to changes in reserves and keep the bank liquid. This sets up a situation where the banks are competing and co-operating, creating tension in the system, but further develops the coherence of the banking system as a whole. Individual banks then begin to increase lending far beyond any initial increase in reserves on the expectation of being able to acquire reserves from other banks (non-central banks at this stage). The banks' excess liquidity is reduced throughout the whole system as each individual bank now has access to new reserves through the inter-bank system.

The significant change that defines stage four is the change in the central bank to adopt the lender of last resort function. In stage two the central bank acted as a central bank only in circumstances where it believed the banking system was about to collapse and always in an ad-hoc manner. The inter-bank lending that defined stage three was able to support individual banks, but would be unable to offer any solution to a system-wide crisis. By stage four, the central bank is willing to extend a more general commitment, in the hope that this policy would make a banking crisis less likely. The full lender of last resort function was a guarantee that the central bank would provide loans in a crisis situation.

With the central bank willing to lend in situations that where the banking system was about to collapse, the reserves become endogenous to the banking system. Banks therefore can expand credit without the risk of being caught short of reserves because the central bank *reliably* supplies liquidity. Other sources of liquidity in the form of cash and other liquid assets fall in response to the central bank policy, as bank reserves become more secure and better able to act as the safe, liquid asset demanded by the economy..

By stage five banks have adopted liability management. This is an active stance of attracting wholesale deposits to support the expansion of the bank. Reserves in the system are endogenous for a different reason by this stage. The demand for loans is initially met by the banks, who then look to acquire deposits to support it by bidding using interest rates.

The stages model of banking development can be viewed in the light of increasing structural components at the expense of the role of agency. With this framework, the actions of banks are taken by individuals working in the banks. But these individuals are people with complex influences on their behaviour. Agency is the ability of a person to make a decision and act on that decision. But people are also influenced, and in many cases within organisations forced to act according to rules and policies established before. This existing framework of rules, conventions and policies are the structural aspects of the banking system. (see chapter 4 for the discussion of agency and structure.)

In the early part of the banking in the UK in stage one, the state did play a role in banking, but it was limited compared to the later stages. The state's interest in the banking system was in part motivated by a demand for funds and a reliable, safe asset. (Ferguson 2009). The problems of liquidity crises was assumed to be the concern of the bankers who would respond with prudence. The institutional structural components are very limited at this stage.

As the constraint on lending becomes less of an issue about the reserves of an individual bank and more about the systemic reserves, more confidence in the system.

The increasing state intervention has progressed to the point where now the very definition of banking within the UK includes a reference to regulation where a bank is an institution which has *permission*.

The depositors with the banks have limited and uncertain knowledge about each component of the banking system and how they are linked. (George 1997) Because of this uncertainty and ambiguity, they form trust and confidence beliefs with only partial knowledge (as all trust and confidence beliefs are formed). They hold trust and confidence in the individual components, such as individual banks, and they hold trust in the system of institutions that defines the scope of behaviour for these components.

The trust and confidence in individual banks is based on very little information. The exact organisation of the individual banks is not available to depositors and depositors are generally unable to assess the financial records and the viability of the bank. Because of the nature of individual organisations and the agency-based interactions depositors have with their bank, the role of agency is perceived to be of greater importance (though this is decreasing). Because of the greater role for agency, trust has a greater role to play when forming beliefs about individual banks.

The trust and confidence held in the regulatory system is non-specific and applied to all banks. While depositors are unaware of most of the specifics of the regulatory system, they do have access to more information than that about individual banks. The regulatory system also benefits from the halo affect from the involvement of the state. Beliefs about the state from other experiences and areas are attributed to this aspect of state operation. If the state is perceived in a positive manner and regarded as competent, then this belief will be transferred to the regulatory system.

The regulatory system also emphasises the role of structural institutions at the expense of agency. This leads to a greater emphasis on confidence in the regulatory system and a reduced role for trust.

The perception of the Central Bank and the State

The discussion above has taken a simple and uncomplicated view of the banking system regulator. Throughout we have talked of the central bank as the only regulator, treating it as an organisation that sits at the top of the banking system and comes to conclusions about what is best for the banking system. The central bank is given the central role in Chick's model of banking development, with early stages defined by the accumulation of powers and responsibilities by the central bank (accumulated in response to innovation from the commercial parts of the system and responses to crises).

Particularly when we talk of trust, the central bank does not operate in isolation and it certainly is not perceived in that manner by the people within and out-with the banking system. The central bank operates with the express permission of the state. The adoption or establishment of the central bank by the state is often the first step to the central bank developing as regulator.¹³

¹³ State sanction is not required to operate as a central bank as the Scottish experience of the Bank of Scotland and the Royal Bank of Scotland acting as a central bank (offering credit and disciplining the other banks when the two older banks thought their behaviour threatened the system) shows (Graham 1911).

We need to consider the motives of the state. The state wants a stable banking system and has the ability to exercise its powers. We can see the central bank as operating as the state's regulator of the system. This perception is valuable to the central bank because it helps with the development of trust and confidence in the banking system and trust and confidence in the central bank itself. When the users of the banking system consider this relationship between the state and the central bank, they perceive the state as having a direct hand in its stability.

If we turn to the existence of trust and confidence in the central bank, we must also consider trust and confidence in the state. Trust and confidence exist in parallel for both these organisations. Both the state and the central bank contain elements of structural institutions and the potential for agency to have an impact. So both trust and confidence are potentially relevant, depending on the relevance of agency or structure to the situation.

The explicit support and links between the state and the central bank establish a perception that links the two organisations. Perception does not imply falsehood, but does allow it. What is important is that people, without full knowledge and understanding, attribute expectations of the state to the central bank and attribute expectations of the central bank to the state.

It is useful to think of the banking system as a hierarchical three-tiered system made up of the three components of the state, the central bank (as regulator) and the individual, commercial banks. At the top is the state and people have a level of trust and confidence in the state. This trust in the state feeds into the trust and confidence in the central bank (as regulator) in the next tier. There is also feedback from trust in the central bank to trust in the state. If the central bank performs well and the trust in it is rewarded, then trust in both the central bank and the state increases. The third tier of

the individual banks derives trust in part from the trust in the central bank. Again there is a feedback mechanism where continued success of the individual banks reflects well on the central bank and upwards to the state.

The perceptions that permit this upwards and downwards transfer of trust arise from a lack of knowledge about the individual components of the system. People have limited direct experience and knowledge of each component and how each component is linked. This is asserting that the banking system, renowned for its ability to innovate, is an open system. It is a system of selective connections which are not stable, therefore uncertainty is very prevalent in the banking system. This extends to the valuation of the individual bank assets as discussed above.

As individuals, we have experience of the workings of the state, which generates trust (or not if the experience is not positive). Individuals then apply this trust to areas of operation in which they have no or limited experience and knowledge (this is the nature of trust as expectations formed on limited or no knowledge).

Independence of the Central Bank

The establishment of independent central bank attempts to reverse the process of the increasing links between the state and the central bank through the stages of banking development. This certainly has an impact on the trust and confidence in the central bank, but the exact change is very sensitive to context and the method of independence.

With the experience of the Bank of England independence, confidence in the central bank would have been increased and the *role* and potential for trust for the central bank was also increased. The increase in the potential for trust in the regulator is accomplished by a much greater awareness of the role of agency in the central

bank. The high profile meetings of the MPC and requirement to publish the minutes of these meetings provides much information on the agency in the central bank. And it is agency as the many different members of the MPC hold different opinions and vote in different ways. This is not a simple deterministic system where each individual is completely guided by the institutional framework of the central bank.

Confidence can increase during the process of the central bank independence, but this depends on the structural framework that shapes the independence. With the Bank of England, the stability of the banking system was reduced in importance. The Bank of England was set an explicit, structural target an inflation target that has changed from a target rate to a maximum desired level of inflation and given explicit tool, the ability to set the base rate and so influence the interest rates throughout the economy, to achieve this. This target, the only structural target and criteria for judgement (at least systematic assessment of success) and policy tool has no place for banking system stability. This leads to a reduction in confidence in the capability of the Bank of England to maintain the stability of the banking system.

This reduction in the structural importance has further increased the role of agency in the central bank's continuing role in maintaining the stability of the banking system. The Bank of England can continue to ensure the stability of the banking system, but this requires agency to overcome the frictions the structural inflation target creates with the stability target. The two targets are not in direct competition, inflation is difficult to control when the banking system is in crisis, but if only the inflation target incentive to agency was acted upon, stability would certainly be less.

The different roles and perceptions of the individual banks, the central bank and the state mean that the trust and confidence beliefs held by the public for each are quite different.

The trust and confidence in individual banks are based on very little information. The exact organisation of the individual banks is not available to depositors and depositors are generally unable to assess the financial records and the viability of the bank. Because of the nature of individual organisations and the agency-based interactions depositors have with their bank, the role of agency is perceived to be of greater importance (though this is decreasing). Because of the greater role for agency, trust has a greater role to play when forming beliefs about individual banks.

The trust and confidence held in the regulatory system are non-specific and applied to all banks. While depositors are unaware of most of the specifics of the regulatory system, they do have access to more information than that about individual banks. The regulatory system also benefits from the halo affect from the involvement of the state. Beliefs about the state from other experiences and areas are attributed to this aspect of state operation. If the state is perceived in a positive manner and regarded as competent, then this belief will be transferred to the regulatory system. The regulatory system also emphasises the role of structural institutions at the expense of agency. This leads to a greater emphasis on confidence in the regulatory system and a reduced role for trust.

Conclusion

This chapter began by asking why banks were special. The unique combinations of assets and liabilities make banks susceptible to liquidity and solvency crisis. Because of this weakness, banks rely on their depositors having trust and confidence in their ability to continue operating in order to operate.

Chick's stages development of banking was explored as an historically sensitive method of considering the changes in the nature of the banking system. I have argued that as the banking system developed in response to the transaction and money needs of the economy, it became a system with an increasing role for structure and a decreasing role for agency.

The agency nature of the early banking system has been progressively dominated by a structural approach. Within the UK, banks have become much bigger organisations and as they have grown they have adopted a structural emphasis. This has been encouraged by the state, which has taken a greater supervisory role in the banking system as the banks developed a more important role in the economy.

This changing relationship between structure and agency in the development of the banking system has consequences for the beliefs of trust and confidence. As agency diminishes in importance, the role for trust also diminishes. But this is replaced by an increasing role for the structure-based confidence. This has consequences because the stability and potential for trust and confidence are not the same. Trust in agency, trustworthiness, is more unstable than confidence.

The nature of the trust relationship between the central bank and the government was also considered. The trust and confidence beliefs of the state and the central bank are linked. Trust in the state is transferred to trust in the central bank, and trust in the central bank feeds back to trust in the state in a virtuous circle, assuming that the central bank is successful. If the central bank fails, this can become a vicious circle, where falling trust in the central bank leads to falling trust in the state, which further weakens the central bank.

In the next chapter, the potential is considered for the agency and structure framework used in this chapter for understanding trust and social institutions to provide useful and novel understanding of the current financial crisis.

Chapter 7 - Implications for understanding the current

Banking Crisis

Chapter 6 began to explore the development of the banking system using Chick's stages framework. The development of the banking system can be seen in terms of a change in the balance between agency and structure in the banking system. This understanding of the banking system has implications for understanding how trust and confidence influence the banking system. As the banking system developed, it became increasingly more reliant on structural institutions to shape the interactions within the system and relations with the public outside of the system. The role for agency was greatly reduced.

This change towards a system that emphasises structure and increasingly seeks to limit the role of agency has implications for the relationship between the banks and the public. As agency is diminished, trust diminishes with it. This fall in trust is replaced by a structure-based confidence system.

This chapter briefly argues that the understanding of trust and confidence developed in this thesis is useful for the understanding of complex social institutional systems, where before the conceptualisation of trust was of little use in this area. By considering the social systems and trust in a single, agency and structure framework, useful and novel understandings of the workings of these social systems can be developed. This chapter offers an understanding of how this might be achieved with reference to the current banking crisis. This framework is also useful for understanding the responses offered to this crisis.

This chapter builds directly from the previous chapter using the framework of structure-based confidence and agency-based trust and the stages view of banking. Where the previous chapter considered the slow development of confidence and the diminishing role for trust, this chapter will argue that this framework may be able to explain some of the public's response to the crisis.

This chapter will argue that in a crisis situation confidence fails and trust in agency re-establishes its importance as people become aware of the role of agency in the banking system. It is argued that this collapse in confidence and change to trust is a defining characteristic of a crisis.

The previous chapter examined how the banking system evolved mechanisms to deal with the vulnerability of banks to liquidity crises and the potential for contagion between banks. By increasing the structural nature of the institutions operating within the banking system, the public and state can have greater confidence in the banking system. The increase in structural institutions reduces the role of human agency and by reducing the role of agency, the importance of trust to the banking system diminishes. The increase in the structural institutions increases the role for confidence. As confidence is generally more stable than trust (reflecting the more stable nature of structural institutions compared to agency) the beliefs in the banking system's viability increases in stability. The increased stability of uncertain beliefs in the banking system allows greater risk-taking and greater returns (Haldane 2009).

Trust and Confidence Framework

I will briefly re-state the trust and confidence model of the banking system from the previous chapter. The banking system is comprised of a three-tier hierarchy, with the

state at the highest level, the central bank/regulator at the second level and the individual banks at the third level. Each of these levels is linked with a complex web of institutions. These institutions define the relationships between the different components of the system (the state, central bank and banks) and define the way that the components operate within the banking system.

The depositors with the banks have limited and uncertain knowledge about each component and how they are linked. Because of this uncertainty and ambiguity, they form trust and confidence beliefs with only partial knowledge. They hold trust and confidence in the individual components, such as individual banks, and they hold confidence in the system of institutions that define the scope of behaviour for these components.

The following discussion assumes that the banking system has progressed to the later stages of Chicks stages view of banking development. These stages can be seen as an increasing role for confidence as structural institutions and particularly the regulatory structural institutions begin to dominate the banking system. The increasing dominance of structural institutions and confidence mean a lesser role for agency and trust (but does not imply that trust is any lower, just increasingly marginal compared to confidence).

The importance of trust and confidence lies in the reliance of banks on these beliefs to continue operating. Banks are vulnerable to liquidity crises and depositors have the potential for uninformed 'panic' withdrawals. Individual banks are vulnerable and combined with the potential of contagion; this can potentially threaten the entire banking system. Even in the later stages of banking development, banks are still subject to uncertainty about their loan assets.

Collapse of Confidence

We can imagine a situation where a single bank is subjected to an idiosyncratic shock. This shock is severe enough to threaten the continued liquidity of that bank. If depositors become aware of this threat to the viability of the bank they may demand their deposits back and initiate a liquidity crisis

What is particularly concerning is that this threat to the liquidity of the bank does not need to have any justifiable basis. Because depositors have such little knowledge about the individual banks, their beliefs exist under a high level of uncertainty. Because of this high uncertainty and lack of verified knowledge, any new information (verified or not) has the potential to shift the beliefs of depositors rapidly and to a great extent.

Now that the bank is experiencing a liquidity crisis, it faces a very real chance of failure if the withdrawals by the depositors are high enough. Even if the bank does not fail, the possibility of contagion and new liquidity crises is now high.

Because one bank failed (or nearly failed), the confidence in the structure-emphasising regulatory system is damaged by the perceived failure of the system. The regulatory system is general in nature and applies to all banks. Confidence in non-specific structural institutions normally permits banks to operate, because an individual bank, in isolation, cannot have a high level of trust in its ability to avoid and survive a liquidity crisis. So little knowledge is available to the public about individual banks about those banks. System wide structural institutions arose to reduce this uncertainty and provide greater confidence.

If one bank fails for idiosyncratic reasons, the failure impacts on all beliefs. The greatest belief, generated by the greatest and least ambiguous knowledge lies not

with the bank but is the confidence in the system-emphasising regulatory system. This is the biggest belief and the one most impacted by the failure. The public have limited knowledge of individual banks and so have limited beliefs attached to the banks. They attribute the failure to the non-specific structural institutions where they have the greatest belief.

If the shock to the banks is a system problem then this problem of collapse in confidence in the systems structural institutions is much worse. The structural regulatory system has been established to protect the stability of the banking system. If the banking system is in danger of collapse, the confidence in the structural institutions falls rapidly and falls far, as confidence in difficult to understand institutions is liable.

Contagion operates in this model through the impact on the confidence in the regulatory system. The greatest and normally most stable belief is the confidence in the structure of the system. If this is damaged, then this impacts on every bank. The less knowledge depositors have about the individual banks, the greater the reliance on confidence in the regulatory structures and the greater the impact if these structures are perceived to have failed.

As argued by Eddie George, the “suggestion that one bank is in trouble may be taken – perhaps unjustifiably – as evidence that other banks are likely to be facing similar problems” (George 1997 pg114). It is worth considering the 'unjustifiable decisions this statement mentions. Because bank depositors are unable to monitor or assess the financial condition of their bank (George 1997), they rely on forming beliefs about the structural institutions. The depositors justify their beliefs about the different banks not because they are considering the individual banks, but by considering the structural institutions that impact on all the banks.

The development of the banking system encouraged the confidence in the regulatory structures. The continuing success of these structures encouraged greater confidence, which encouraged a decrease in the monitoring of the individuals of the banks by the depositors. As long as confidence existed in the structural institutions of the system, there was little need for trust or confidence in the individual banks.

The brief importance of Trust

The role of agency and the institutions directly restricting and enabling agency diminished as the banking system progressed through Chicks stages of banking. Therefore, the relevance of trust also diminished. The impact of banking failure on trust would be less severe than the impact on the confidence in the structural institutions. As there is no role for trust, the belief of trust does not attract much initial scrutiny associated with the crisis in confidence caused by the bank failure. The impact on trust is much less severe than the impact on confidence.

Trust still falls during a crisis, but falls less than confidence. As the previously strong confidence in the structural institutions fails, depositors will become aware of the role of agency within the banking system. Once the panic has subsided and the once trusted individuals have succeeded in stabilising the system, trust will often be damaged as a scapegoat is sought. In the current crisis, once the initial panic had subsided and the immediate perception of banking failure had receded, attention turned to individuals working within the system. Rather than blaming a structural failing, the limited role of agency is greatly inflated in the minds of depositors. The attributing of blame to the chief executive of RBS Frederick Goodwin far outweighed the potential role he played in the crisis.

Confidence collapses initially because of its greater perceived role in the banking system. Because trust had such a limited role in the beliefs of depositors and because depositors were generally unaware of the role of agency in the banks, it remains intact during the collapse of confidence. Trust becomes of greater importance than confidence.

At this time, the depositors consider the potential for agency and the individuals operating within the system. Where before the crisis the rhetoric was ‘banks’, now it becomes ‘bankers’ (ref). Despite the limited role of agency and the structural institutions proscribing an increasing amount of behaviour within the banking system, agency is considered to be at fault.

Understanding the Responses to the Current Crisis

Much of the responses to the current crisis can be understood as attempts to correct the structural institutions of the banking system, return agency to its previous limited role and thus restore confidence to the level where it can again eclipse the trust. Kay (2009) has suggested the adoption of narrow banking, the current banks being broken up into core ‘utility’ banks and ‘casino’ banks.¹⁴ The utility banks would provide the services that are of extreme importance to the wider economy and their failure would create huge costs and problems for the economy i.e. the payment system and the system of deposits that will permit the payment system to function. These Utility banks would be forced to adhere to much stricter controls on capital and liquidity to reduce the chances of failure and the associated cost. The casino banks would be able

¹⁴ The rhetoric of labelling the two components he wishes to divide the banks into is aggressive. Utility vs. casino is overly evocative.

to innovate and operate with fewer restrictions than currently in place, but would be permitted to fail.

The narrow banking approach is a continuation of the increasing structural response to crises that was identified in the previous chapter. Some aspects of the narrow banking system would reduce the potential for agency, particularly within the utility section, while others may potential increase it. However, the establishment of the distinction between the different banking activities creates a large and rigid structural institution providing a powerful source of confidence. Within the utility sector, confidence would be much higher because of the much greater influence the structural institutions would play.

Kay 2010 “It is almost always better to try to regulate structure than behaviour; that is, to put in place structures that give firms roughly the incentives to do the kind of things you want, rather than engage in detailed monitoring of the activities they engage in.” (Goodhart & Kay 2010 Q16)

Goodhart highlights the problems with changing the institutions that structure a system when talking about the consequences of introducing narrow banking, living wills or changing capital requirements: “When you are changing the structure it is very hard to work out exactly what is likely to happen. The unexpected consequences of a structural change can be fairly profound.” (Goodhart et al. 2010 Q5)

In comments made to the treasury select committee, the current governor of the Bank of England Mervyn King described the idea of the regulator eliminating risk from the UK banking system in its current form as “a hopeless venture” (King, Tucker, & Haldane 2010 Q82). He goes further by arguing that the total elimination of risk of bank failure is undesirable: “unless we allow failure, we will not get

innovation, we will not get efficient service and the market economy will not work”
(King et al. 2010 Q104)

King hopes to eliminate contagion from the banking system, which would then allow individual banks to fail and open the banking system to the pressures of market competition. Contagion happens because of uninformed action, action based on uncertain knowledge and with uncertain consequences. Because depositors have very little knowledge about their bank, they must rely on the greater, but still very limited, knowledge about the structural institutions in the banking system.

If a bank fails then depositors will attribute the failure to the institutions they believe should prevent the failure. King suggestion implies that the structural institutions are changed in such a way that they no longer provide confidence in the continued viability of the banks, i.e. if a policy is established to allow bank failures. This would reduce the confidence in the structural aspects in the banking system (it would add some new structural institutions defining the nature of the competition, but these would not provide confidence about the continued viability of banks)

Conclusion

This brief exploration of the responses and understanding of the current banking crisis shows that there is potential for the agency and structure framework developed in this thesis. The framework appears to show novel understanding the banking crises, the response of trust and confidence to the crises and the trust and confidence implications for the policy responses to this crisis.

Many of the significant policy makers within the UK system speak of the banking system in structural terms, suggesting that the framework can have positive impact on policy.

Conclusion

This thesis has explored and developed a notion of trust from the Old Institutional Economics approach and used this notion as a way of understanding the complex social structures of money and banking.

The thesis began by establishing a realist ontology as a basis for the entire approach to trust and social structures. This ontology began with an assertion that there is a real world independent of human perception and this realism extends to the economy. The transcendental realism of Lawson (1997) was adopted where the world has three distinct layers of real, actual and empirical. This ontology was combined with an open-systems stance and a belief that the real, social world is subject to fundamental uncertainty in the tradition of Knight and Keynes.

With the establishment of the realist ontology this thesis began with an exploration of the Adam Smith Problem, the apparent incompatibility between the views of humanity expressed in the works of Adam Smith. Various solutions to this perceived incompatibility were discussed and used to produce a framework to illuminate different aspects of the academic discipline of economics.

Different approaches within economics have adopted differing views of humanity and can be broadly classed as falling into different understandings and solutions of the Adam Smith Problem. The two most significant responses to the Adam Smith problem were, firstly, a rejection of the problem and a continuation of the dichotomy of Smith's work. This approach maintained that self-interest was the only motive for action and therefore social aspects could be successfully banished from economic analysis. The second significant approach to the Adam Smith Problem was a synthesis between the social being emphasised in the Theory of Moral

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Sentiments and the self-interested approach emphasised in the wealth of nations. This synthesis approach to the Adam Smith Problem produces a view of people that considers both self-interest and social influences as motivation for behaviour

Once the Smith framework had been established, the notions of trust offered by Behavioural Game Theory were considered. Behavioural Game Theory can be seen as adopting the rejection approach to the Adam Smith problem because self-interest is still the only motivating force for action in this conceptualisation of trust.

The Behavioural Game Theory notion of trust has been understood as focusing on 2 player games, where the choices that each player makes impact on the financial reward they will receive. It was argued that the notion of trust is inconsistent with the definitions offered by this approach. It is argued that this calculative notion of trust collapses into self-interested calculative maximising behaviour and offers nothing new to the understanding of behaviour, even within this self-interested view of humanity.

The next chapter examined Institutional Economics and the notions of trust offered by this approach. In the previous chapter Behavioural Game Theory was argued to have adopted the purely self-interested view of humanity, Old Institutional Economics will be considered as having adopted the synthesis solution to the Adam Smith Problem and considers both self-interested behaviour and social, organic behaviour as motives for action.

The fragmented and context-specific nature of institutional economics is argued to have a large impact on the development of trust from this approach, but common themes are discovered and form a core definition to trust offered from this

approach. The nature of institutions, structure and agency are also considered to further understand the notions of trust offered by institutional economics.

At this point the concept of social capital was also explored for its potential for understanding trust and for its potential for understanding both the Behavioural Game Theory and Institutional Economics approaches to trust. The notion of social capital was abandoned because the term is vague and a poor metaphor for understanding the social institutions that it attempts to address.

Now that the two approaches to trust had been considered by their own standards (as much as possible) the next chapter compared the two approaches and argued that Institutional Economics offers a superior conceptualisation of trust if it were to be used to help the understanding of large and complex social systems.. This assertion is based on the ontological assumptions established in the first chapter and the nature of institutional notions being more appropriate to discussing the role of trust in money and banking.

A framework based on the work of Luhmann is set out where trust applies to agency and confidence applies to structure. Luhmann drew his distinction that trust was defined as a belief in the intentions of another whilst confidence was a belief about the capabilities of another. This concept of trust and confidence was developed to apply it to an agency/structure approach. Now trust can be defined as not only applying to intentions, but also the role agency plays in complex social systems. Confidence was expanded to apply to beliefs about the capabilities and the role of structural institutions in complex social systems.

With this theory of trust and confidence established, the next chapter of the thesis began by considering theories of money. Again the Adam Smith framework

from the first chapter was used to understand the concepts of money in economics so that a consistent framework for understanding trust and money was maintained. Of the two main theories of money considered, It was argued that the commodity view of money represented the self-interested aspect of Smith's work and was rejected as a potential theory to incorporate the theory of trust developed earlier. With only self-interest as a motive for action, trust has no real role to play. It collapses into simple maximising behaviour with no distinct behaviours. The conceptualisation of money that best addresses the synthesis solution to the Adam Smith Problem was the credit view of money. The credit view allowed for money to operate as a complex social institution with aspects of agency and institutional structures both operating.

At this point a concept of money and a concept of trust had been developed that both operated using the synthetic solution to the Adam Smith Problem. Both the credit view of money and the intentions/capability view of trust and confidence were viewed in terms of agency and structure and the interaction between the two could now be considered.

It was argued that the fundamental uncertainty faced by people is altered by the interaction between money and trust. The most important aspect of this framework is the change from the agency-based belief of trust to the structure-based belief of confidence.

The following chapter considered the development of banking using the stages framework by Chick. I argued that the development of banking has seen an increase in the structural elements of the banking system and a decreasing role for agency.

This changing importance in structure and agency is argued to have a large impact on the roles of trust and confidence in the banking system. As the banking

system has developed and increased the structural nature of the system, the importance of structure-based confidence has increased, while the importance of agency-based trust has decreased over time.

We then considered an application of this analysis to the current crisis, in order to demonstrate its relevance. The current crisis can be seen as a collapse in confidence driven by a perception of a failure of the regulatory structural institutions. As confidence in the structural aspects failed, the awareness of the agency aspects of the banking system come to prominence and trust becomes important again.

The responses to the crisis can also be seen using this framework, with the offerings of John Kay being considered as a clear attempt to restore structural support to the banking system. This will have the consequence of rebuilding confidence and trust again being subsumed within the system. A system built on confidence is prone to crisis as confidence is subject to large swings because of the structural basis for the belief of confidence.

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