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Constructing Invisible Hands

Market Technocrats in Sweden 1880–2000



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Abstract

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Dominant market theories analyze markets as ahistorical entities without the need for professional groups that manage crucial functions within them. This thesis, in contrast, approaches markets as historical systems that develop over time and that can be constituted in many different ways because of different historical trajectories. Different professional groups managing market routines, further, are seen as a crucial part of markets. Two concepts are introduced: “market architecture”, the specific way a market is constituted at a given time; and “market technocrats”, the seemingly disinterested third party functionaries that manage routines in markets and advocate changes in market architecture. The thesis argues that market technocrats exist because of uncertainty and lack of trust between market actors, and that they are an important part of how market architectures develop over time. It presents an analytical framework for understanding market technocrats and how they interact with and develop markets. Four different aspects of market technocrats are explored: the process of establishing market technocrats in market routines; the capture of the authority of market technocrats by other market actors; the expansionistic behavior of market technocrats; and the way changes in economic theory, as an important part of how economists with technocratic authority advocate market change, can help to explain changes in markets. These aspects are explored through four empirical papers: *The Market Technocracy of Import Substitution: The Role of Asymmetric Information and The Swedish Seed Association 1880–1935*; *Limits of Market Technocracy: Swedish Fertilizer Research and the Crisis of Objectivity 1945–1960*; *Central Banks, and the Pursuit of Influence, Prestige, and Legitimacy: The Creation of the Nobel Memorial Prize*; and *From Market Engineering to Institutional Engineering: Reform Economics in Sweden 1950–2000*. The results of the papers form the basis of a hypothetical narrative of how the role of market technocrats has changed during the 20th century. This provides a roadmap for further research in the development of markets and the role of market technocrats.

Keywords: Markets, technocrats, central banks, agricultural science, Nobel prize, economics and society, asymmetric information, Social Democracy, neoliberalism, social engineering, market history, market engineering, market design, performativity

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秋叶无边萧萧下
青龙霍霍现首尾
光阴荏苒白驹过
岁月静好不羡仙

Introductory Essay: Market Architecture and Market Technocrats

Introduction

The modern era has been a time of great societal change. It has brought industrialization, urbanization, two world wars, unprecedented technological and scientific breakthroughs, and the rise of consumer society. Dominant market theories nevertheless analyze markets as ahistorical entities, unaffected by historical change. Economics, in this regard, is science rather than engineering, a discipline concerned with describing a natural system rather than understanding how markets are constructed or develop. Even though economics is part of the modern project to understand and reshape the world, economists have shown little interest in how the application of science and engineering has affected market dynamics. The technologies used in markets have gone through revolutionary development, for instance in the fields of transportation, communication and computing, but the possibility that this might affect the way markets work is seldom discussed.

A central aspect of the modern era has been the rise of professionals with scientific or technological authority. But dominant market theories are equally oblivious to the role of professionals in the functioning and construction of markets. They differ on the exact interpretation of markets, but share the implicit or explicit approach to markets as natural systems rather than historical constructions operated by professionals.

Leon Walras' conceptualization of markets as an auction with a central auctioneer does not describe what actually takes place in markets.¹ The auctioneer has been referred to as a theoretical "ruse", or "justifiable abstraction", to allow mathematical modeling using simultaneous linear equations.² The task performed by the auctioneer is one of mechanic trial-and-error which might well be explained as a natural function within the market itself, and the neo-classical tradition for all practical purposes treats the market as a self-contained mechanism without the need for functionaries or constructors.³

¹ Walker (2001); Keen (2011), p. 179.

² Keen (2011), p. 180.

³ In the JSTOR database of academic articles, April 10 2013, "Walrasian auctioneer" is mentioned 438 times, "competitive equilibrium" 8,939 times and "market equilibrium" 13,297 times.

In Friedrich Hayek's market theory the black-box character of how the market works and its non-design origins are elaborated more clearly. The market is expressively not consciously constructed by humans. Instead it is a spontaneously-generated order that allows "a much more efficient allocation of resources than any design could achieve."⁴ All humans are innately ignorant, and the market works like an information processor that channels, distributes, and organizes information to achieve an efficient outcome. It is impossible for the human mind to grasp how this mechanism operates.⁵ The authority of the trained professional is explicitly rejected: "The difference between the knowledge that the wisest and that which the most ignorant individual can employ is comparatively insignificant."⁶

Two later interpretations of the market are similarly oblivious of the role of different professions in operating the market. In the Efficient Market Hypothesis, prices always reflect all available information.⁷ This means that prices are always correct and cannot be improved by any organized attempts, including the services of professional functionaries or applied science. The Rational Expectations version assumes that every market actor is just as capable as any scientifically trained expert, forming expectations that are identical to the ones generated by "relevant economic theory".⁸

There is thus a lacuna when it comes to understanding the role of professionals and professional authority in markets. Aiming to make a contribution to this lacuna, this dissertation is about the role of a group of individuals who do not appear as market participants, but take on a technocratic role with scientific authority as its basis. I call this group "market technocrats". The hypothesis of this dissertation is that the concept of market technocrats is a fruitful theoretical approach that is useful in order to analyze a group that has been part of the historical development of markets and is an important factor for understanding how markets develop over time.

This dissertation takes market technocrats in Sweden as its subject. Four groups of market technocrats exemplify the concept. The first is plant breeders and cereal chemists in the Swedish grain market 1880–1935. The second is Swedish agricultural chemists in the market for artificial fertilizers 1945–1960. The third is central bankers 1930–1969. The fourth is Swedish economists in the second half of the 20th century that advocated reconstructions of markets from a position of scientific authority.

⁴ Quoted in Petsoulas (2001), p. 2.

⁵ Petsoulas (2001), p. 15.

⁶ Quoted in Mirowski (2011), p. 324.

⁷ Fama (1965); Fox (2009).

⁸ Muth (1961), p. 316; Koppl (2012), p. 3.

Purpose, method and limitations of the dissertation

The purpose of this dissertation is to argue for the presence and importance of market technocrats in 20th century markets; to provide an analytical framework for understanding their nature, their functions in markets, and their interaction with other actors; and to analyze different aspects of them through four different empirical studies. The broad outline of the modern history of markets in the Western World – from the largely unregulated markets of the late 19th century to the highly regulated post-war markets, to the rise of neoliberalism and deregulation of markets in the 1980s and 1990s – shows that the arenas of market technocrats have changed over the years. In Sweden more specifically, industrialization and urbanization started in a largely unregulated market environment. Notions of actively changing market outcomes came to the fore with the rise of the labor movement. With the beginning of a long Social Democratic political hegemony during the depression in the 1930s, markets were thoroughly reconstructed. Industrialization was thus completed in a market setting very different from the one in which it started. From the 1970s a set of changes in technology and the structure of the Swedish economy, sometimes referred to as the Third industrial revolution, occurred. Meanwhile, a combination of factors, among them ideological changes in favor of a renewed belief in market efficiency, resulted in yet another sequence of changes as a number of markets were deregulated. Such historical changes beg the question, how the role of market technocrats has changed, and how they have helped to initiate these changes. The dissertation will thus also sketch a possible trajectory, based on the empirical studies, of how the roles played by market technocrats have changed over time and how this change in turn has influenced market development. Because of the limited scope of and relatively small number of studies in the dissertation, this sketched trajectory cannot make a claim to generally apply to all market technocrats and the purpose of it is therefore rather to provide a roadmap for further research.

My method is based on diversification of the empirical studies. The concept of market technocrats is general, and as such has a claim to applicability in many different types of market. In order to show that market technocrats can be used as a general concept over time, I must therefore show the relevance of them in studies both in different time periods and within different markets. Similarly, in order to study different aspects of market technocrats – while they still share core characteristics that make them belong to the same category – I have chosen cases that each emphasize a specific attribute. The cases chosen for study are therefore intentionally different, but they are different in a specific way in order to analyze different aspects. The choice of the different cases is discussed in more detail in the section on the papers and their results. This use of diversification as a method bears resemblance to what methodologist Gary Thomas propose to be the very nature of case studies. Thomas defines case studies in the following terms:

Case studies are analyses of persons, events, decisions, periods, projects, policies, institutions, or other systems that are studied holistically by one or more methods. The case that is the subject of the inquiry will be an instance of a class of phenomena that provides an analytical frame – an object – within which the study is conducted and which the case illuminates and explicates.⁹

Following the typology of Thomas, the analytical framework of market technocrats constitutes the “object” of the dissertation, and the four papers four subjects. The cases are not chosen to represent a “random sample” or typical instances. Rather they are “revealing examples through which the lineament of the *object* can be refracted. [Thomas’ italics]”¹⁰

The studies are based primarily on three sources: archival material; published sources; and statistics. These three types of sources are used for different purposes. I use archival sources to illuminate the interior workings of organizations. When several organizations are involved in a process, I have strived to include sources from all organizations involved. This has enabled a more complete picture to be painted than relying solely on the archives of one of the organizations would have. Published sources, such as printed articles or books published by different actors, including those identified as market technocrats, are used to analyze another aspect of them: their communication with the surrounding society. Statistics is used in a descriptive manner, either to frame the different studies or to underpin their arguments.

From the point of view of source criticism, three issues should be discussed. The first is the printed sources I have used in order to study the way different actors portrait their views on different matters to the public. These sources must be handled with care, since they are often the results of deliberations and aim to convey a specific view in the interest of the actor. It is impossible to know if the views expressed reflect views actually held by the actors. It is possible, however, to use the sources to analyze how these actors portrayed themselves and argued to further their causes. The use of these sources in this dissertation should therefore be interpreted in this light. The second issue is about when there are obvious gaps in the source material. In a few cases important decisions taken by organizations are not covered by minutes in their archives. In other instances it is apparent that important events have taken place during personal, undocumented meetings, or with important individuals talking over the phone. In such situations I have used other relevant sources to provide a suitable basis for interpretation. The third issue has to do with interviews. While most of the empirical material is by now so old that all individuals involved were not living at the time of writing, there are some individuals still alive who could have been included as interviewees. I have had a number of interviews, or have had access to transcribed interviews. But some of the interviewees either wanted to remain anonymous, or be able to

⁹ Thomas (2011), p. 513.

¹⁰ Thomas (2011), p. 514.

exercise a veto on the inclusion of their interviews after reading texts based on them. I decided not to let my interpretations be influenced by such conditions, and opted to not include these interviews in the dissertation. These interviews have nevertheless been valuable for me as a personal contextualization of the research studies, and I have used them to assess my own thoughts and hypotheses in the course of the research.

The purpose described above also sketches the limitations of the dissertation. The scope of the dissertation does not allow a full historical treatment of market technocrats. I aim to show the relevance of market technocrats in the historical developments of markets, and the fruitfulness of this approach. The sketch of a historical development, based on the four cases, should therefore be seen as a hypothetical development that needs to be evaluated by further research. The other main limitation concerns the relation to the fields of sociology and history of science and expertise. I study market technocrats, but not experts or scientists in general. Likewise the dissertation primarily aims to contribute to market theory and market history, not to history and sociology of science and expertise. This means that while I do draw on selected previous research within the community of history and sociology of science, I leave out a large part of the discussions within it.

Disposition of dissertation

This dissertation consists of an introductory essay followed by the four empirical papers. The essay includes statements on methodology, the analytical framework of market technocrats, a description of the papers, and a conclusion with the results of the papers and a discussion on a more general level.

Market Architecture

To understand the role played by market technocrats, it is necessary to place them in a more elaborated view of markets. Since dominant theories see actual markets as representations of a homogeneous entity that is basically the same everywhere regardless of time and place, the details of specific markets have been paid very little attention. Douglass North wrote that it “is a peculiar fact that the literature on economics...contains so little discussion of the central institution that underlies neoclassical economics – the market”.¹¹ In a similar vein, Ronald Coase wrote: “Although economists claim to study the market in modern economic theory the market itself has a more shadowy role than the firm.”¹²

¹¹ North (1977), p. 710.

¹² Coase (1988), p. 7.

In contrast to this, several research strands have been emerging in the latest decades that emphasize how markets can be constituted in different ways. One colorful summary of these research strands acknowledges that “there is no ur-model or über-machine to which the blooming, buzzing profusion of markets can be reduced.”¹³ Richard Swedberg speaks about a “race to fill the void created by mainstream economics’ failure to do research on economic institutions.”¹⁴ The New Institutional approach diverges from the neoclassical view on markets through its insistence on analysis of the institutional structure that underlies actual markets.¹⁵ Institutions are defined as “the humanly-devised constraints that structure political, economic, and social interactions. They consist of both informal constraints..., and formal rules, constitutions, laws, property rights.”¹⁶ New Institutional Economics was supplemented by “New Economic Sociology”, a concept originating with Mark Granovetter’s 1985 paper on the social embeddedness of economic actions.¹⁷ This was a clear break from Karl Polanyi’s thoughts that modern market societies “disembed” the market mechanism.¹⁸ Instead New Economic Sociology insisted that economic actions are always embedded, even in full market societies.¹⁹ While both these approaches opens up the realization that actual markets can follow different evolutionary patterns, and thus diverge in their actual functioning, they fail to take into account changes in technology as well as the role of scientifically trained experts. Since technology and science are such profound parts of modernity, their absence in the study of how modern markets have evolved is a major lacuna.

The fact that markets change over time, means that they become historical objects. The subject of “market history”, however, has not been given sufficient attention by economic historians. There are some exceptions, for instance Fernand Braudel’s exposition of the development of markets in the second volume of *Civilization and Capitalism*. Braudel writes that “the ideal field of observation would cover all the markets in the world, from the very beginnings to our own time.”²⁰ Similarly emphasizing the nature of the market as a historical process, Lars Magnusson writes that the market is “a consciously and historically created technology for the transfer of property rights.”²¹ He also stresses that markets are not natural entities, but have been constructed by “social collectives with specific purposes.”²²

¹³ Mirowski (2007), p. 224.

¹⁴ Swedberg (1997), p. 161.

¹⁵ Caliskan (2010), p. 3.

¹⁶ North (1990), p. 97.

¹⁷ Granovetter (1985).

¹⁸ Polanyi (1944).

¹⁹ Swedberg (1997), p. 165.

²⁰ Braudel (1982), p. 26.

²¹ Magnusson (2006), p. 71.

²² Magnusson (2006), p. 71.

I use the term “market architecture” to denote the specific way a market is constituted at a given time. The metaphor of architecture has been used by several researchers to analyze markets as consisting of several different components. Neil Fliegstein’s book, *The Architectures of Markets*, approaches markets as composite social constructions. Fliegstein mentions social structures, social relations, institutions, laws, and supporting technologies such as transportation and communication. These constructions have not arisen automatically, but are, rather, “long-run historical projects ongoing in all of the industrial societies that have been created through waves of crisis”.²³ Robert Wilson also uses the architecture metaphor to denote both “the description of the main structural features of a market”, and “as the professional discipline that designs those features”.²⁴ Karin Knorr Cetina makes a distinction between markets based on “network architecture”, relying on social relationships for market transactions, and “flow markets” that have “become dis-embedded and decoupled from networks.”²⁵ International financial markets, to Knorr Cetina, are the prime examples of such flow markets. Nevertheless, they rely on physical infrastructure, such as trading floors, and a wide array of technological tools, such as terminals, and specialized computer software.²⁶

Market architecture as used in this dissertation refers to how a particular market is formatted, the components that frame and underlie the actual exchange, and ensure the necessary stability, and information flow for the process. This includes the physical infrastructure, technologies needed for communication and facilitation of exchange, institutions and specific legislation and regulations on the market. Caitlin Zaloom’s research on the relationship between traders and technology makes a similar point: “Markets are arrangements of technical devices, such as the trading pit and telephone; techniques, such as the bodily postures that traders master; and institutional arrangements....”²⁷

Through emphasizing the different components of markets, this approach is similar to the concept of technological systems developed by Thomas Hughes. Hughes writes that technological systems “contain messy, complex, problem-solving components”.²⁸ Such components range from technological artifacts, such as turbogenerators and transformers, to legislations and organizations such as firms and banks. Different professional groups are also components of such systems – Hughes mentions inventors, industrial scientists, engineers, managers, financiers, and workers.²⁹ This dissertation focuses on professionals rather than technological artifacts, though professionals often make use of

²³ Fliegstein (2001), p. 4.

²⁴ Wilson (2002), p. 1300.

²⁵ Knorr Cetina (2005), p. 39.

²⁶ Knorr Cetina (2005), p. 45.

²⁷ Zaloom (2006), p. 168.

²⁸ Hughes (1990), p. 51.

²⁹ Hughes (1990), p. 54.

technology and their role is highly dependent on their use of this technology for solving specific tasks in market routines.

The market architecture approach makes markets into historical entities that change over time. How then do markets develop in a historical process? Two influential research traditions, the Mechanism Design³⁰ approach and the performativity approach, emphasize the role of economists as market architects. The Mechanism Design approach centers on the problem of optimally constructing a market mechanism, rather than the optimization problem of each individual market actor. It is often combined with a normative agenda to actually create markets that fulfill a specific purpose. In the words of Alvin Roth: “The economic environment evolves, but it is also designed. Entrepreneurs, and managers, legislators and regulators, lawyers and judges, all get involved in the design of economic institutions. But in the 1990s, economists...started to take a substantial role in design, especially in the design of markets.”³¹ The “design” is more specifically one “mechanism” chosen from a set of available mechanisms. The problem is to optimally construct a mechanism given constraints and specified goals.³² Each mechanism has costs associated with creating and operating it, costs that must be factored into the design process:

A very substantial amount of what is generally recognized as economic activity...includes involvement in creating or operating a mechanism. These activities include acquiring information, processing information, and communicating information to or from others. Resources used in these activities are not available for use in production or consumption. Thus, the evaluation of mechanisms should not avoid considering the real costs of creating, operating, and maintaining the institutions required for the existence and functioning of those mechanisms.³³

The role of economists in creating markets is also emphasized in research focused around the term “performativity”. The term itself has a long pedigree, but has been adapted to explain the way models of the market, created by economists, influence or even create the markets in reality.³⁴ The role of the Black-Scholes option pricing model in developing markets for options is the favorite example of this process.³⁵

The problem with both the Market Design and the performativity approach is that they do not pay attention to the interest and influence of market actors other than the economists. For instance, Edward Nik-Khah’s study on the privatization of the US Federal Communications Commission, a celebrated

³⁰ I use the terminology in Mirowski (2007).

³¹ Roth (2002), p. 1341.

³² Hurwicz & Reiter (2006), p. 3.

³³ Hurwicz & Reiter (2006), p. 15.

³⁴ Callon (1998); MacKenzie (2006); MacKenzie, Muniesa & Siu (2007).

³⁵ MacKenzie (2006).

example of design economics, concludes that the auction led to “the commercial interest of a handful of large telecoms acquiring significance alongside both political and scientific considerations.”³⁶ The actual construction of markets is thus not as simple as envisioned by the Market Design school or the performativity theorists. Instead “the conflict over [market] architecture mirrors the conflicting interests of those looking to participate.”³⁷ A similar point is raised by Caitlin Zaloom. When the Chicago Board of Trade in the 1920s planned a new venue for market exchange, the ideal “of an apolitical market developed under the direction of experts” was subjected to pressure from firms that wanted special treatment.³⁸ Zaloom concludes that the interplay between “market experimenters” and market traders drives “a process of creative destruction in market forms”.³⁹

Instead of the one-dimensional construction process envisioned by the market design school and proponents of performativity, the market architecture approach assumes a process of interaction, conflict, and negotiation between several actors. This process is often triggered by problems experienced by key market actors. A more detailed discussion of such market problems follows below. I call this process of conflict and negotiation between different actors with stakes in the design of the market architecture “conflictual design”. A key aspect of this analytical framework, and this dissertation, is that market architectures incorporate, and is constructed with the help of, specialists with scientific authority that differs from that of commercial or political actors. The supposed disinterestedness of these individuals makes them the ideal architects and technicians of market architecture. These “market technocrats” are discussed in the section below

Professionals in market architecture, and the market technocrats

There is a growing body of research on the role of different groups of professionals in markets. The rise in prestige of finance in recent decades, and the increased attention to financial crises in recent years, have meant that most of these studies are of professionals in financial markets. Mitchel Abolafia has made a study of different groups of traders, each with its own distinct subculture. Situated at the heart of financial markets, these traders fill functions for the routines of the market, such as processing information and providing the ability of buyers and sellers to continuously make transactions. For these

³⁶ Nik-Khah (2008), p. 92.

³⁷ Mirowski & Nik-Khah (2007), p. 206.

³⁸ Zaloom (2006), p. 42.

³⁹ Zaloom (2006), p. 163.

services they charge a fee, making them profit-maximizing functionaries.⁴⁰ Alex Preda has made a sociological study on investors, and their emergence as “valid, socially legitimate social actors”.⁴¹ Karen Ho’s study of investment bankers emphasize the emergence of social codes and strategies that involves “hyping of their own superior capabilities and financial products”.⁴² Scott Patterson has studied both the mathematicians that reshaped the routines of financial markets in the 1990s, and the computer programmers that created new digital infrastructure for trading.⁴³ Jesper Blomberg, Hans Kjellberg, and Karin Winroth investigated four groups – traders, brokers, analysts and corporate bankers – each with their own function in the market.⁴⁴ These groups possess recognized expertise, and “seek political and economic advantages by aggressively marketing their knowledge/skill base.”⁴⁵

While these studies all contribute to the emerging picture of markets as complex and evolving systems, most focus on groups that are openly driven by profit, such as traders and brokers. This dissertation instead studies market functionaries that are not primarily driven by profit, and that have a recognized status as disinterested and neutral versus the market actors. I call these individuals market technocrats to distinguish them from for-profit functionaries.

A good way to start in describing market technocrats is to ask the question: In the market place where everyone follows their own self-interest, who can we trust to guarantee the objectivity needed for the market to work? In a secular society the authority of science and engineering arguably provides a claim to transcendence in an otherwise materialistic worldview.⁴⁶ Such transcendence has come to be associated with certain individuals with scientific authority. Historian of science Theodore Porter writes that expertise has “become inseparable from objectivity.”⁴⁷ Arguably, the claim of objectivity is an important part of the authority of expertise. As science replaced religion as the foremost source of authority, objectivity developed from a virtue by which to conduct science, into a much broader concept that applied to the social and political sphere.⁴⁸ This development historically coincided with the rise of organized social groups that compete for influence in politics and in markets. In their history of the concept of “objectivity”, Lorraine Daston and Peter Galiston write:

⁴⁰ Abolafia (1996), p. 7.

⁴¹ Preda (2005), p. 142.

⁴² Ho (2009), p. 295.

⁴³ Patterson (2010); Patterson (2012).

⁴⁴ Blomberg et al. (2012).

⁴⁵ Blomberg et al. (2012), p. 7.

⁴⁶ Gaukroger (2012), pp.1–2.

⁴⁷ Porter (1995), p. 7.

⁴⁸ Gaukroger (2012), pp.1–2.

First and foremost, objectivity is the suppression of some aspect of the self, the countering of subjectivity. Objectivity and subjectivity define each other, like left and right or up and down. One cannot be understood, even conceived, without the other. If objectivity was summoned into existence to negate subjectivity, then the emergence of objectivity must tally with the emergence of a certain kind of willful self, one perceived as endangering scientific knowledge. The history of objectivity becomes part of the history of the self.⁴⁹

Translated to the function of objectivity in society, this means that as social groups became more clearly defined, and began to compete for influence in markets and in politics, objectivity came to be seen as something beyond the narrow interests of particular groups. The history of objectivity, I would argue, is thus not only part of the history of the self, but also of markets. With increased social awareness, different groups began to identify themselves with specific market actors. In addition, the advent of modern transportations increased distances between buyers and sellers and created larger markets. Physical distance and the anonymity of large markets undermine trust.⁵⁰ In this context, Porter defines objectivity as a "set of strategies for dealing with distance and distrust."⁵¹ Science, according to historian of science Stephen Gaukroger, "was seen to embody objectivity in its purest form."⁵² Specific groups systematically laid claim to a scientific basis of their authority. This was part of the process of professionalization and the legitimacy of new professions. Steven Brint writes that,

During the course of the nineteenth century, the appeal to science became a keynote and not just an accompaniment of professionalizing activity. A "scientific" base served as a *prima facie* argument for incorporation. Even law and management, both so clearly based on human institutions, claimed a scientific base.⁵³

There is a historical tension between two interpretations of objectivity. The first is the view that objectivity is about bypassing human judgment by mechanizing decisions. This "supposedly eliminates individual prejudices and biases from interpretation and decision-making, offering something untouched by human brains".⁵⁴ Experts in this interpretation become technicians, responsible for designing or monitoring existing mechanisms that replace human judgment. In practice this often takes the shape of a set of rules which the experts claim to follow. The second view is that expert judgment is capable of making discretionary conclusions with objectivity. This gives

⁴⁹ Daston & Galison (2007), p. 37.

⁵⁰ Cronon (1991), Porter (1995), p. 24.

⁵¹ Porter (1995), p. ix.

⁵² Gaukroger (2012), p. 2.

⁵³ Brint (1994), p. 35.

⁵⁴ Gaukroger (2012), p. 3.

experts a more active role. Porter argues that the tension between these two views is a central part of the history of objectivity.⁵⁵

Daston and Galison use the history of scientific atlases to chronicle the development of different versions of objectivity. They argue that mechanical objectivity, emerging in the second half of the 19th century, was a reaction against the older notion that the scholar could truthfully represent reality. In the same manner the belief in trained judgment performed by experts is a reaction to mechanical objectivity.⁵⁶

Experts seem to favor one form of objectivity over others according to what benefits them in the context. In Porter's study of British accounting in the late 19th century, actuaries mobilized against the government's attempted creation of exact rules for accounting. They "mobilized a discourse that sanctions expert discretion".⁵⁷ On the other hand, another of Porter's studies concerns the use of cost-benefit analysis. Experts here, first in the shape of the US Army Corps of Engineers and later by economists in public service, were able to expand their influence through providing supposedly objective rules for evaluating public projects.⁵⁸

Returning to the question of delegating important functions of the market to a trusted third party, it is natural to delegate such functions to individuals with the supposed neutrality of science and technology. Three attributes characterize these market technocrats. The first is that they take an active part in the running and/or construction of market architecture. The second is that they possess expertise over a particular area, often with scientific authority. The third is that they are often perceived – correctly or not – as distinct from profit-driven firms that use market transaction as a source of revenue, as well as from politicians. Market technocrats, as will be expounded on below, nevertheless interact with these two groups.

A useful distinction concerning the activities of market technocrats is between changing market architectures, either through establishing new features or through removing old ones, and managing already existing routines, institutions, and functions of the market architecture. These two main forms can be carried out by the same market technocrats. For instance, a group of scientists can argue for the need to establish an institute to assess quality of a certain type of good, and once this is established, take actual part in the market in managing the new routines for quality control. Others might argue for changes in market architectures without an ambition to subsequently take actual part in managing functions within it. This is why I include some economists as market technocrats. Even though they do not often carry out actual managing of functions in markets, they do engage in advocacy to reconstruct markets.

⁵⁵ Porter (1995), p. 4.

⁵⁶ Daston & Galison (2007), p. 371.

⁵⁷ Porter (1995), p. 99.

⁵⁸ Porter (1995), p. 186.

This means that the history of economic thought has consequences – large or small remains something to be further studied – for market history. Changes in economic theory therefore become a relevant area of study to understand how markets develop over time. The relevance of economists in construction of markets claimed by the theories of performativity and the market design school is therefore valid to a point. But it is important to stress that economists are just one group of actors among many others, and that their influence might be contingent on a number of other factors, including how well their advocacy aligns with the interests of more powerful political and economic actors.⁵⁹

I thus view market technocrats as a group of actors in markets, taking part in the process of market formation. A simplified view of this process would be to envision a model with only three actors: the politicians, for-profit firms, and market technocrats. All three of these have their preferences for designing markets, and negotiate and clash with each other, but can also form more or less lasting alliances and cooperation. How they interact with each other will be expounded on below.

Market uncertainty and market architecture

This section links the market architecture and market technocrat approach to theories of market uncertainty. Market actors typically want to minimize uncertainty. According to Frank Knight, “it goes without saying that rational conduct strives to reduce to a minimum the uncertainties involved.”⁶⁰

Two forms of uncertainty can explain the demand for market technocrats in managing and developing market architectures. The first is lack of information for market exchange. The theoretical current of information asymmetry explores how lack of information leads to suboptimal outcomes. Kenneth Arrow’s 1963 paper “Uncertainty and the Welfare Economics of Medical Care” focused on the market for medical services but its argument is valid for all markets where uncertainty exists. George Akerlof’s 1970 article “The Market for Lemons: Quality Uncertainty and Market Mechanism” proposed that uncertainty concerning the product of goods had a tendency to push out high quality goods from the market. Both papers concluded that uncertainty leads to suboptimal outcomes, and postulated that non-market institutions would necessarily emerge to remedy this. These solutions implied judgment and criteria external to the market.

In its raw form, envisioned without architecture, the burden of information is put on the buyer.⁶¹ It is likely that a powerful group of buyers would attempt to ameliorate this situation by amending the market architecture. According to Arrow the problem of quality uncertainty can be solved in two ways. The first

⁵⁹ This point, again, was stressed by Mirowski & Nik-Kha (2007).

⁶⁰ Knight (1921), p. 238.

⁶¹ Offer (2012), p. 18.

is to exclude goods or practitioners of a certain profession from the market, so-called licensing procedures in the case of medical practitioners. The second is to certify or grade the goods or practitioners in the market.⁶² This implicitly assumes that objective criteria for judging quality are available, or at least that criteria are established that are accepted by all parties on the market. Akerlof is equally vague concerning the question of how to construct valid guidelines for measuring quality and reducing uncertainty.

Problems of uncertainty are compounded by lack of trust between market participants. Oliver Williamson use the term “opportunism” to refer to “lack of candor or honesty in transactions”, and “self-interest seeking with guile”.⁶³ Problems connected to this “proclivity of individuals to distort to their advantage the data to which they have preferred access” are an important part of Williamson’s explanations of why firms internalize parts of the market.⁶⁴ This dissertation focuses more on attempts to reconstruct parts of the market, rather than internalize them, to solve these problems. But Williamson’s concept of opportunism helps to explain why there will be a demand for a neutral third party to help construct and maintain market architecture.

Market uncertainty and distrust offers a function for market technocrats. If technocrats are accepted by all parties on the market as non-partisan, in other words if their authority is accepted, they can offer quality assessment and quality criteria accepted by all in the market. Market technocrats can thus be interpreted as functionaries, or even as components, of market architecture. Knight noted already in the 1920s, that “vast sums of public money are annually expended in securing and disseminating information as to the output of various industries, crop conditions, and the like.”⁶⁵ Joseph Stiglitz’ claim that asymmetric information leads to the conclusion that the invisible hand “is simply not there – or at least that if it is there, it is palsied”⁶⁶ is thus not entirely accurate. Rather market actors when faced with the challenge of asymmetric information attempt to create mechanisms for dealing with it.

The second form of uncertainty is connected to difficulties in assessing the large number of different possible market architectures. In the words of Leonid Hurwicz and Stanley Reiter “new goals and [market] mechanisms to achieve them...arise because of some unsatisfactory aspect of an existing economic system or institution, or from the efforts of agents to establish systems that they expect to give them an advantage.”⁶⁷ This is likely much more difficult than the Market Design approach acknowledges. Even if a problem is identified in a market, or there is simply a widespread consensus that a particular market setting is not working satisfactorily, solutions are not self-evident. Historically

⁶² Arrow (1963), p. 148ff.

⁶³ Williamson (1975), p. 9.

⁶⁴ Williamson (1975), p. 255.

⁶⁵ Knight (1921), p. 260.

⁶⁶ Stiglitz (2003), p. 6.

⁶⁷ Hurwicz & Reiter (2006), p. 15.

markets have often been radically altered *ad hoc* in times of crisis, such as the depression in the 1930s or the two world wars. Lack of knowledge of effects of new market features, and the large amount of possible ways to construct new features mean that there is demand for technocratic authority to reduce the number of options. The same reason for the demand for expertise has been put forward in the epistemic community literature, and by the psychologist Harald Mieg.⁶⁸ This can explain why economists, even though they do not necessarily take part of managing actual functions on the market, still take part in the construction of markets and are a necessary part of the study of the history of markets.

Market technocrats as actors

So far the discussion seems to have taken the technocrats at face value. But if they are not the selfless paragons of objectivity, then what drives them? Market technocrats are not primarily economic actors. Their greatest resource – their supposed disinterestedness – precludes an open profit motive. The problem of what drives market technocrats is similar to the problem of what drives bureaucrats. Both technocrats and bureaucrats claim to maximize general welfare rather than their own.

William Niskanen addressed the problem of bureaucrats in his 1971 book *Bureacracy and Representative Government*. A bureaucrat, “like anyone else, maximizes his personal utility”.⁶⁹ The same should apply for technocrats. The problem then becomes what factors the utility depends on. Niskanen’s suggestion was that the following factors were involved: “salary, perquisites of the office, public reputation, power, and ease of managing the bureau.”⁷⁰ Budget maximization was then assumed to be an “adequate proxy” for all factors motivating bureaucrats.⁷¹ Niskanen’s “adequate proxy” is an example of the analytical reduction of a complicated behavior function into a single factor that market technocrats attempt to maximize. Such reduction runs the obvious risk of oversimplifying. Niskanen’s budget maximization has been criticized as a universal motive. For instance, British bureaucrats in Margaret Thatcher’s administration made careers out of cutting expenses rather than expanding them.⁷²

One proxy is simply influence. In the Nietzschean framework the will to power is the fundamental driving force of all living things. Psychologist Alfred Adler put the inherent feeling of vulnerability and the quest for power to remedy

⁶⁸ Haas (1992); Mieg (2001).

⁶⁹ Niskanen (1971), pp. 36–37.

⁷⁰ Niskanen (1971), p. 38.

⁷¹ Niskanen (1971), p. 38.

⁷² Barr (1992), p. 756.

it at the heart of his psychoanalysis.⁷³ While such primitive accumulation of power can explain a large part of technocrat behavior, it does not specify the direction of power exertion. How do technocrats rationalize their ambition for influence, and what do they do with the influence they acquire? Niskanen stated that some bureaucrats do strive for the common good, but that the special field that they operate in “usually generates a sense of dedication, and it is understandable that many bureaucrats identify this dedication with the public interest.”⁷⁴ In this regard they are trapped in the illusion that they are maximizing the total social welfare, while they are in reality maximizing their own personal utility. One way to capture this is to state that technocrats usually have a social ideal that they strive to realize. The realization of this is often synonymous, in the mind of the technocrat, with the common good of society. This social ideal is usually connected to a view on how the world functions that can be more or less elaborated and more or less based on presumably scientific principles.

A successful technocrat enjoys high status both in society and among peers. Issues of status are non-existent in mainstream economic theory.⁷⁵ Behavior is equivalent to economic behavior, motivated by accumulation of wealth and consumption of goods. That both accumulation of wealth and consumption of goods may be part of status-enhancing behavior, i.e. that economic behavior is a subset of status behavior, is never acknowledged. Adam Smith in contrast put this at the heart of economic behavior. In the *Theory of Moral Sentiments* he wrote that it “is the vanity, not the ease or the pleasure, which interests us”.⁷⁶ Accumulation of wealth in Smith’s view resulted from the drive for status: “The rich man glories in his riches, because he feels that they naturally draw upon him the attention of the world”.⁷⁷ The same reasoning is evident in Thorstein Veblen’s *Theory of the Leisure Class*: “The possession of wealth confers honor; it is an invidious distinction.”⁷⁸

Capture of market technocrats

The self-interest of market technocrats opens up the possibility for other actors to influence them in exchange for resources or other gratifications. This situation has similarities to the one analyzed in the research tradition of regulatory capture. In the latter, political authority is used to introduce market regulations for the sole purpose of benefiting a particular business-interest.⁷⁹

⁷³ Overholser (2010).

⁷⁴ Niskanen (1971), p. 39.

⁷⁵ Brennan & Pettit (2004).

⁷⁶ Smith (1797), p. 122.

⁷⁷ Smith (1797), p. 122.

⁷⁸ Veblen (2007), p. 22.

⁷⁹ Stigler (1971); Peltzman (1976).

More elaborated versions of regulatory capture use a three-tier hierarchy that distinguishes between political power and the regulator.⁸⁰ This introduces a principal-agent problem, since actors can “capture” the regulator for their purposes. Interested parties have different means in different models for inducing the cooperation of the regulators, from monetary remuneration to outright coercion.⁸¹ In another version, the process of capture is more complex, involving a so-called “revolving door policy”.⁸² In this variant the regulators are implicitly guaranteed attractive jobs in the regulated sector in exchange for services rendered.

Technocrats do not always fill functions of political regulations of markets. Instead, as argued previously, they also fulfill purposes within market routines and might just as well be part of a private or semi-private operation. Another fundamental difference between the approach in this dissertation and the approach of regulatory capture is that the latter implicitly assume that regulators are exogenous to the market. There is an implicit assumption in this tradition that the alternative to regulation is a more efficient state without regulations. In the words of George Stigler: “When an industry receives a grant of power from the state, the benefit to the industry will fall short of the damage to the rest of the community.”⁸³ In this dissertation technocrats are instead seen as endogenous to markets: they are part of the construction of market architecture and constitute components of the way markets function. There is no freely-existing market existing outside time and space to use as a benchmark.

None the less the regulatory capture approach raises a valid point, namely that actions, regulations, routines, and institutions established in the name of the common good might well be an exponent of interested parties. On the other hand, I find it equally problematic to assume that they are always nothing but exponents for interested parties. It is more fruitful to envision a process of negotiations and conflicts in markets. The approach taken in this dissertation is thus that market technocrats interact with both political representatives and for-profit actors in markets, and that they have their own interests. This means that there is opportunity for capture by interested parties. But the capture is not inevitable, and the market technocrats often have normative views that might be more or less easy to square with the interested parties they encounter. They might none the less ally with interested parties, in exchange for resources. Such resources include funding to expansion of activities, but also other ways in which interested parties can help technocrats to increase their status or reach. The “revolving doors” policy through which individual technocrats can acquire future jobs arranged by the interested parties might also be a form of capture.

⁸⁰ Dal Bó (2006), p. 207.

⁸¹ Dal Bó (2006), p. 213.

⁸² Dal Bó (2006), p. 214.

⁸³ Stigler (1971), p. 10.

The advantages that market technocrats can give interested parties are connected to the role of technocrats in markets. Market technocrats both help to develop market architectures, but are also involved in the routines and functions of the markets. From this position they can give scientific authority to the preferences of other actors. In the words of sociologist of science Robert Merton, the authority of science “can be and is appropriated for interested purposes, precisely because the laity is often in no position to distinguish spurious from genuine claims to such authority”.⁸⁴ More specifically, it is likely that market actors attempt to influence market technocrats to act in their favor, thereby masking their own interest in a veil of scientific neutrality. The market technocrats might still rationalize such coalitions and maintain their self-identity as neutrals in the service of the public good.

The Swedish historical context of technocratic authority

This section describes the development in Sweden of the authority that market technocrats can invoke. This authority is rooted in the increasing status of applied science in a context of growing concerns over the effects of industrialization and urbanization⁸⁵, and the increasing fragmentation of society as different groups organized themselves. Gunnar Eriksson’s study of the development of natural science in Sweden concludes that 1870–1914 was the period in which “society is permeated by science and the scientific spirit.”⁸⁶ Individuals with scientific training started to appear as specialists in a number of fields: engineers, foresters, agronomists, state geologists, and so on. Eriksson writes that a common trait for all of them was that they “inculcated in people’s minds that they with their scientific training were changing society in a radical way.”⁸⁷ Science was becoming a “tangible, even visible, factor of change.”⁸⁸

Social problems provided opportunities for scientifically-trained experts to become embedded in social institutions. Such institutionalization often emerged not from government but from private initiatives. Perceived social problems, private associations to remedy them and the need for knowledge and guidance on how to deal with them led to institutionalization of expertise. The “common good” was often invoked when reforms and regulations intruded on the private sphere.⁸⁹ Private so-called reform associations became widespread towards the end of the 19th century.⁹⁰ They aimed to ameliorate a specific problem, and to

⁸⁴ Merton (1973), p. 277.

⁸⁵ Wittrock, Wagner, & Wollman (1991), pp. 32–33; Magnusson (2010), p. 352.

⁸⁶ Eriksson (1978), p. 203.

⁸⁷ Eriksson (1978), p. 10.

⁸⁸ Eriksson (1978), p. 11.

⁸⁹ Magnusson (2010), p. 350.

⁹⁰ Magnusson (2010), p. 347.

persuade the government to adopt reforms. The National Association Against Emigration (*Nationalföreningen mot emigrationen*), founded 1907, is a prime example of this. The Association consisted of members who thought that the large emigration of Swedes to America was caused by the social problems in Sweden. It managed to persuade the government to form a commission headed by the statistician Gustav Sundbärg to investigate the problem. This commission is important because it set the standard for what would emerge as a typical Swedish policy norm. Firstly, it involved a private interest group – in this case the reform association National Association Against Emigration. Secondly, it involved experts that between 1907 and 1913 produced several volumes of statistical and sociological analysis. An investigation of this size stretched the limits of available expertise in Sweden. The first chair in statistics was created at Uppsala University and given to Sundbärg in 1910.⁹¹ Thirdly, its 900 page conclusion delivered in 1913 was that the emigration was caused by problems in the Swedish society that had to be remedied by state intervention.⁹² This developed into a “reform coalition” between expertise and politics: as government politics shifted from norms of non-intervention to intervention and reforms, experts found opportunity for increased influence and social standing.⁹³

The breakthrough of the belief in science coincided with the rise of organized interests. Labor unions in the modern sense started to emerge in Sweden in the 1880s. Employers founded their own associations in 1902, while the first agricultural association was created in 1917.⁹⁴ Eriksson describes how scientific expertise emerged as a facilitator of consensus between the older established elite of state officials and the growing elite of industrialists and bankers.⁹⁵ The expert seemed to embody the unity between state and industry, working for both, “cloaked in his garment of objectivity.”⁹⁶ Eriksson claims that the belief in progress through science served as meta-ideology that established an “ideological community that included the entire establishment of the time and probably large parts of the general population.”⁹⁷

Progress through applying science and rationality was gradually established as a meta-ideology accepted by all the major groups in society.⁹⁸ Swedish business was initially skeptical concerning the application of science. Science was seen as unpractical and technology without scientific basis was deemed adequate. The engineers themselves, however, aspired for a scientific basis. In this they followed the pattern of several professions that aspired to associate

⁹¹ Wittrock, Wagner, & Wollman (1991), p. 36.

⁹² Sejersted (2005), p. 31.

⁹³ Wittrock, Wagner & Wollman (1991), p. 43.

⁹⁴ Wittrock, Wagner & Wollman (1991), p. 354.

⁹⁵ Eriksson (1978), pp. 197–198.

⁹⁶ Eriksson (1978), p. 198.

⁹⁷ Eriksson (1978), p. 198.

⁹⁸ Isacson (2012), p. 155.

themselves with science, such as medical doctors, lawyers, and accountants. Scientific claims served to legitimize professional associations and codified regulations.⁹⁹ Engineering gradually came to be seen and institutionalized as a set of independent scientific disciplines that constituted a synthesis between scientific theory and economically useful practice.¹⁰⁰ Swedish industrial leaders became increasingly influenced by new scientific management ideas from the United States.¹⁰¹ This offered to ameliorate the constantly recurring conflicts in the labor market during the first decades of the 20th century.¹⁰² In the words of Charles Maier, scientific management “through its brash teachings of productivity, expertise, and optimization” seemed to offer “an escape from having to accept class confrontation and social division.”¹⁰³

The engineer became the archetypical expert, deriving authority both from his association with science and his ability to transform reality according to rational principles. Other professions – medical doctors, architects and economists – increasingly laid claims to engineer-like authority.¹⁰⁴

The political power above all associated with expertise and reform is the labor movement. The Swedish Social Democratic Labor Party was founded in 1889 by representatives of non-worker reform associations – so called “workers’ friends” – and labor unions.¹⁰⁵ The Marxist tradition in Social Democracy might explain part of the fascination within the party for science and technology. Marx emphasized that technology and application of science laid the foundation for a future class-less society in which scarcity was abolished.¹⁰⁶ But the general acceptance of science and rationality, of which Marx himself is part, is probably more important to explain the Social Democratic fondness for science-based reform.

Economics with its implications for the labor market was of special importance. Before World War II economists were primarily represented by professors who acted as public intellectuals, mainly Gustav Cassel, Eli Heckscher, and David Davidsson. Economics was portrayed as politically neutral and purely scientific.¹⁰⁷ The economist was seen as a neutral observer, capable of raising “himself above party politics or any kind of special interest”. It was “the task of the scientific economist to find out and present to the public the rational solution to different economic problems.”¹⁰⁸

⁹⁹ Brint (1990), p. 35.

¹⁰⁰ Sundin (1981).

¹⁰¹ Isacson (2012), p. 147.

¹⁰² Magnusson (2010).

¹⁰³ Maier (1987), p. 23

¹⁰⁴ Sejersted (2005), p. 53.

¹⁰⁵ “Socialdemokratiska Arbetarpartiet”, *Nationalencyklopedin*.

¹⁰⁶ This part of Marx’ thoughts is most elaborated in the Communist Manifesto.

¹⁰⁷ Magnusson (1993), p. 84.

¹⁰⁸ Magnusson (1993), p. 95.

The rapid increase in the institutionalization of expertise in general and economic expertise in particular during the 1930s was to a large extent motivated by the Depression. Pre-1930s unemployment had resulted in a government commission to investigate the reasons behind it. This commission was dominated by experts of the older school of economists. Heckscher claimed that he himself was the driving force in creating it.¹⁰⁹ When the first reports were published in 1931 they were already deemed obsolete. Subsequent reports in the commission were written by the younger generation of economists favoring government intervention: Dag Hammarskjöld 1933, Alf Johansson, Gunnar Myrdal and Bertil Ohlin 1934.¹¹⁰ This was too late for the reports themselves to have actual influence on the crisis policy. But the involvement of these young experts in a major government commission set the stage for a deepened relationship between economic policy and economic expertise.¹¹¹ The creation of the National Institute of Economic Research (*Konjunkturinstitutet*) in 1937 has been referred to as a case of “political institutionalization” of social science and research.¹¹² The formal purpose of the institute was to “at the service of the state and municipal authorities follow the economic and social development, and to process information as guidance for the economic-political decisions that might be necessary....”¹¹³

The advent of what can be called “interventionist macroeconomics” added legitimacy to the Social Democratic policy agenda. Erlander wrote in his memoirs that interventionist economics meant that a “bridge had been built over the gap between socialism’s will to act and its demand that its policies should rest on a solid theoretical ground.”¹¹⁴ It was “we”, he continued, “not our opponents, who had the real theory.”¹¹⁵

The alliance between economists and the Social Democrats was part of a larger social development. It was necessary for the Social Democrats to transcend the interest of workers and become a party capable of uniting the nation in building a new society. With the Saltsjöbad Treaty of 1938, where the labor union LO and the employers’ association SAF agreed on procedures for handling conflicts, the consensual basis for the welfare state seemed secure.¹¹⁶ But transforming society required that the reform program was deemed legitimate, and that the consensus between the different groups could be maintained. Experts could help to establish such a consensus. According to Francis Sejersted’s history of Social Democracy in Sweden and Norway,

¹⁰⁹ Wadensjö (1987), p. 299.

¹¹⁰ *Arbetslöshetsutredningens betänkande* (1931–1934).

¹¹¹ Wadensjö (1987), p. 300.

¹¹² Wittrock, Wagner & Wollman (1991), p. 48.

¹¹³ Quoted in Metelius (1987), p. 11.

¹¹⁴ Erlander (1976), p. 176.

¹¹⁵ Erlander (1976), p. 177.

¹¹⁶ Magnusson (2010), p. 402.

scientific norms influenced political norms as factual argument was established as the ideal form of political persuasion.¹¹⁷ He writes:

Those who manage to harness...[depoliticization] and use it as a basis for politics can gain both realism and legitimacy. This is what the Social Democrats managed to do, they allied with science and expertise. This alliance unquestionably contributes to explain both the hegemony of the Social Democrats as well as the high degree of consensus that characterized the epoch.¹¹⁸

Science and rationality offered hope that social problems could be remedied, and that there existed objective values and guidelines outside the conflict between social interests. Politics itself came to be transformed. The Swedish postwar society is frequently characterized as a society of consensus, with all major social groups endorsing the creation of a modern, industrialized, urban welfare state. The role of experts with scientific authority in promoting this consensus has also been stressed.¹¹⁹ Science was, according to Francis Sejersted, seen as the “leading force in the development of society”.¹²⁰ Science seemed to transcend the boundaries between different social groups, and between the private sector and the growing presence of the state. The belief in rationalization of society was an *über-ideology* for both private and public ventures.¹²¹ The scientist was seen as “the embodiment of the unity between private industry and state.”¹²² State and business collaborated on a number of large-scale ventures, such as the development of hydroelectric power, which required the application of scientific principles. Such collaboration has been termed “development pairs”.¹²³

World War II and the war regulations increased not only the presence of the state in the economy but also expertise. After the war the system of regulations was deemed a success.¹²⁴ This strengthened the belief that the free market was not capable of delivering stable economic growth, efficient use of available resources, and constantly improving living conditions. The Social Democrats stepped up their ambitions to reshape society. A commission for postwar economic planning under Gunnar Myrdal – at this time something of the “chief ideologist” of the Social Democrats¹²⁵ – was set up in 1944.¹²⁶ The postwar program written by leading Social Democrats, including Myrdal,

¹¹⁷ Sejersted (2005), pp. 24–25.

¹¹⁸ Sejersted (2005), p. 233.

¹¹⁹ Johansson (1992); Sejersted (2005); Bergh & Erlingsson (2008); Lundin & Stenlås (2010).

¹²⁰ Sejersted (2005), p. 232.

¹²¹ Isacson (2012), p. 155.

¹²² Eriksson (1978), p. 198.

¹²³ Fridlund (1999).

¹²⁴ Lundin & Stenlås (2010), p. 11.

¹²⁵ Magnusson (2010), p. 374.

¹²⁶ Lewin (1970), p. 245.

met considerable resistance and was never fully adopted.¹²⁷ But several of the program's core points were, especially when it came to construction of new market architectures. The postwar program was based on the complete rejection of the notion of inherent market efficiency. But socialization as a political goal had by now been replaced by the notion that capitalism could be controlled, and markets re-engineered for greater efficiency and for the benefit of society. Social Democratic Minister of Finance Ernst Wigforss stated in 1933 that the Social Democrats could not accept an economy that did not function with full efficiency.¹²⁸ Tage Erlander, Prime Minister 1946–1969 wrote in his memoirs that for the Social Democrats the unemployment of the 1930s was “proof of the appalling organization of society”.¹²⁹ This was effectively a call for market engineering in order to do better than markets in their natural state. This resonated with the belief in the possibility to improve society through applying science and technology. All the major markets in Sweden – credit, agriculture, housing, and labor – were rebuilt to contribute to the creation of the modern welfare state.

The market engineering project opened up wider scope for the presence of experts. The Housing Committee created in 1933, mainly as a result of a campaign driven by Myrdal and the functionalist architect and later professor of Town and Urban Planning, Uno Åhrén, delivered its final report in the late 1940s and came to define Swedish postwar housing policy.¹³⁰ The Royal Housing Board, under economist Alf Johansson, oversaw a large increase in housing construction.¹³¹ Agriculture had been largely isolated from market forces since the 1930s. There was a large expansion in the number of experts and administrators to oversee its modernization. Regional agricultural boards were set up to ensure that scientific and technical knowledge created at the central level – mainly at the Agricultural College at Ultuna – permeated the local level.¹³² With the 1944 creation of The Home Research Institute, expertise aimed to extend rational principles even into the household. Research was conducted on how to rationally construct kitchens and household tasks to maximize production in order to free women for the labor market.¹³³

Rationality was considered to permeate Swedish policy norms. The government commissions served to bring representatives of interest groups and expertise together to lay the basis for consensus. While commissions had been used since the 17th century¹³⁴, they took on a more institutionalized form and became more important in the 20th century. According to the research

¹²⁷ *Arbetarrörelsens efterkrigsprogram* (1944).

¹²⁸ Lewin (1970), p. 101.

¹²⁹ Erlander (1976), p. 173.

¹³⁰ Lundin & Stenlås (2010), p. 16.

¹³¹ Lundin & Stenlås (2010), p. 17.

¹³² Flygare & Isacson (2003); Jörgensen (2010).

¹³³ Isacson (2012), p. 156.

¹³⁴ Johansson (1992), p. 2.

by Jan Johansson, the commissions were widely seen to embody two central features of the Swedish political system: the will to secure consensus and the respect for expertise.¹³⁵

Several foreign analysts lauded the Swedish form of rational politics. American political scientist Thomas Anton wrote that the Swedish policy style was

deliberative, involving long periods of time during which more or less constant attention is given to some problem by well-trained specialists...*rationalistic*, in that great efforts are made to develop the fullest possible information about any given issue...*open*, in that all interested parties are consulted before a decision is finally made...*consensual*, in that decisions are seldom made without the agreement of virtually all parties to them.¹³⁶

While this was likely an idealized view, the twin virtues of consensus and rationality were perceived by many. Herbert Tingsten wrote that in Sweden as “the general standard of values is so commonly accepted the functions of the state become so technical as to make politics appear as a kind of applied statistics.”¹³⁷

The consensus, however, should not be overestimated. With the establishment of expertise as a powerful group in society, organized groups started to make their own alliances with them and internalize them. Sigfrid Edström, signer of the Saltsjöbad Treaty on behalf of the Swedish Employers’ Association (*Svenska Arbetsgivarföreningen*, SAF), stated in 1938 that it was of “the greatest importance to educate capable experts to work for our cause.”¹³⁸ He added that “at the present all the best minds go to the Social Democratic camp.”¹³⁹

Sejersted’s claim that scientific norms became the ideal for political persuasion is strengthened by the fact that business leaders sought to create stronger ties to experts. The head of SAF, Gustaf Söderlund, wrote in 1938 that since business did not possess political power, “thorough investigations and convincing arguments are necessary to defend the interests of business in relation to the state.”¹⁴⁰ Söderlund recognized the need to equip the rhetoric of business with scientific legitimacy. He made a clear distinction between what he termed “propaganda on a low level” and argument carried out on a more advanced level. Propaganda was

of a different kind than the more objective informational activity and the objectively argumentative propaganda that a powerless minority must use in order to gain influence for their views over the power-holders. If business

¹³⁵ Johansson (1992), p. 9.

¹³⁶ Anton (1969), p. 94.

¹³⁷ Tingsten (1954), p. 147.

¹³⁸ Quoted in Henriksson (1990), p. 43.

¹³⁹ Quoted in Henriksson (1990), p. 43.

¹⁴⁰ Henriksson (1990), appendix, p. 226.

engages in such party-political propaganda, which cannot evade being at times non-objective...and illusive, it risks to lose even the influence that objective argumentation always possess in a democratic society.¹⁴¹

Eli Heckscher with his combination of pro-market rhetoric and high academic reputation represented the ideal champion of industry in the new era.¹⁴² Heckscher was not interested, however, in a full-time employment as representative of business.¹⁴³ The felt need for business-oriented expertise instead led to the creation in 1939 of the Industrial Institute for Economic and Social Research (*Industrins Utredningsinstitut*, IUI). During the Second World War the government regulations relied on a steady stream of information from the business sector. The newly founded IUI, under economist Ingvar Svennilson, was given responsibility for this information activity. This war-time cooperation was institutionalized after the war. IUI was given responsibility by the government for gathering data, and producing an annual long-term forecast of the Swedish economy. This collaboration between business and the government continued until the 1970s when it ended because of increased frictions between the two parties.¹⁴⁴

Business' need for expertise was stratified. IUI focused on gathering data and analyzing it in collaboration with the government. The Center for Business and Policy Studies (*Studieförbundet Näringsliv och Samhälle*, SNS) was created in 1948 to take more active part in the public debate.¹⁴⁵ Kersti Ullenhag's history of SNS emphasizes the context of its creation:

The founders believed in the ability of social scientific research to explain how society functioned. Through scientific argument they wanted to show that private enterprise and market economy were prerequisites of economic growth also in the new world of the postwar era.¹⁴⁶

The labor unions also invested in incorporating expertise.¹⁴⁷ Social scientists were recruited by the leading labor union the Swedish Trade Union Confederation (*Landsorganisationen*, LO) to analyze social developments and assist in creating guidelines for the union's strategies. Villy Bergström in his history of the economic policy of LO claims that economists were especially important for handling issues that demanded a quick resolution.¹⁴⁸ On the other hand experts were important for long term strategies as well, and to represent the unions in negotiation with the government and other interests.

¹⁴¹ Henriksson (1990), appendix, p. 226.

¹⁴² Henriksson (1990), p. 21.

¹⁴³ Heckscher was at this time occupied with creating the discipline of Economic History; see Hasselberg (2006).

¹⁴⁴ Åberg (2009).

¹⁴⁵ Ullenhag (1998), p. 22.

¹⁴⁶ Ullenhag (1998), p. 23.

¹⁴⁷ Magnusson (2010), p. 404.

¹⁴⁸ Bergström (2007), p. 15.

In the committee for producing the Social Democratic post war program, LO was represented by the head of its Department of Analysis, Richard Sterner, as well as the future top union economist Gösta Rehn.¹⁴⁹ After the war LO started to publish its own annual forecast of the economy.¹⁵⁰ The postwar era required the union to reassess its role in an economy characterized not by unemployment but by rapid growth and the threat of inflation. Rehn together with another economist, Rudolf Meidner, developed a strategy for combining full employment and low inflation that was accepted by LO's congress in 1951. The strategy came to be known as the "Rehn-Meidner Model".¹⁵¹ It incorporated earlier notions of solidarity wage policy. By striving for the same wage for all union members, less profitable firms were punished by having to pay the same wage as more profitable firms. The system combined notions of equality with restraints on wage pressure and acceptance of the need for business profits for investment.¹⁵²

The end of consensus between business, labor unions and the government coincided with the diminished status of expertise in society and the end of the reform coalition between the government and expertise. Per Lundin and Niklas Stenlås argue that Swedish politicians in the 1960s increasingly infringed on areas previously left in the hands of expertise.¹⁵³ This was part of an international trend as politicians and experts were increasingly dissatisfied of what the other side could offer.¹⁵⁴ At the same time radical youth movements and rising environmental concerns started to question the government, the capitalist system, and the experts that were associated with it.¹⁵⁵ The 1970s and its economic problems further weakened the belief that experts and politics could manage society.¹⁵⁶ From this crisis of legitimacy and authority sprang renewed faith in the market. This rebirth is often termed "neoliberalism", a catch-all phrase that defies any simple attempt to define it.¹⁵⁷

Technological and structural change sometimes summed up as the "Third industrial revolution", led to a quick reduction of the proportion of the Swedish population employed in industry and an expansion of the service sector.¹⁵⁸ Social theories began speaking about the "knowledge society" as early as the late 1960s and early 1970s¹⁵⁹. An account of the role of expertise in such a society is bound to be more speculative. Contrary to the notion of the fall

¹⁴⁹ Lewin (1970), p. 216N.

¹⁵⁰ Bergström (2007), p. 49.

¹⁵¹ The role of Rehn and Meidner as market technocrats should be further researched.

¹⁵² Magnusson (2010), pp. 406–407.

¹⁵³ Lundin & Stenlås (2010), pp. 24–25.

¹⁵⁴ Wittrock, Wagner, & Wollman (1991), p. 52.

¹⁵⁵ Wittrock, Wagner & Wollman (1991), p. 28.

¹⁵⁶ Sejersted (2005), p. 359.

¹⁵⁷ Plehve (2009), p. 1.

¹⁵⁸ Magnusson (2010), p. 441ff.

¹⁵⁹ Stehr (1994), p. 5.

of experts, Daniel Bell claimed in his “The Coming of the Post-Industrial Society” that “if the dominant figures of the past hundred years have been the entrepreneur, the businessman, and the industrial executive, the ‘new men’ are the scientists, the mathematicians, the economists, and the engineers of the new intellectual technology.”¹⁶⁰ While this has turned out to be an exaggeration, it is clear that experts are still ubiquitous in society. In the words of Nicholas Stehr, “despite evidence of considerable disenchantment with the merits of expertise, even fear about a ‘tyranny of experts’ and the loss of citizenship in modern societies, everyone must (still) defer...to the authority of experts today....”¹⁶¹

In the 1980s and 1990s a series of market reforms were initiated in Sweden.¹⁶² Market forces were to replace or at least supplement the public sector. In several aspects this meant more influence of expertise. The Swedish central bank, for instance, operated by experts trained in economics, was given formal independence in 1999, which was a major deviation from the belief in political control over monetary policy.

I will return to the question of the fall of technocratic authority, and of potential changes in the role of market technocrats in the conclusions of this essay.

The four papers and the research questions

This dissertation consists of four papers that exemplify different aspects of market technocrats. As stated in the methodology section, the cases are deliberately chosen to be different in a way that allows the study of a number of different characteristics of market technocrats. Building on the previous theoretical section, I have chosen four characteristics to study: 1) the process through which market technocrats get established in market architecture; 2) the process of capture and the consequences of it; 3) the self-interest of market technocrats and the expansionist behavior we associate with it; 4) how changes in economic theory, expounded by economists, can help explain changes in market architecture.

The first paper, *The Technocracy of Import Substitution: The Role of Asymmetric Information and the Swedish Seed Association 1880–1935*, is about the problem of quality assessment in the Swedish grain market and the role played by The Swedish Seed Association 1880–1935. The feature of market technocrats this paper is aimed to investigate is the process in which market technocrats become established as a component of market architecture. The Seed Association is well-suited for this purpose. The actors on the domestic

¹⁶⁰ Quoted in Putnam (1977), p. 384.

¹⁶¹ Stehr (1994), p. xi.

¹⁶² Bergh & Erlingsson (2009); Magnusson & Ottosson (2012).

grain market faced the problem of establishing routines for assessing quality acceptable to both buyers and sellers. The Seed Association was privately established, but managed to secure government funding, and interacted with both the milling industry and farmers' organizations. It early on sought to establish itself as a neutral third party in the grain market, deriving authority from its scientific achievements in the field of genetics. In the 1920s it was enmeshed in attempts to establish procedures for quality assessments. Political intervention in the 1930s gave the organization even greater influence, as the market architecture was rebuilt to facilitate import substitution. The research question of the first paper is, why did the Swedish Seed Association succeed to become established as the main source of quality information in the domestic grain market in Sweden?

The second paper, *Limits of Market Technocracy: Swedish Fertilizer Research and the Crisis of Objectivity 1945–1960*, aims to investigate the process of and consequences of capture of the authority of market technocrats. Market actors have incentives to use market technocrats to gain advantages in markets in exchange for resources. But if market technocrats become too involved with commercial actors, they risk undermining their most important resource: their status as disinterested functionaries. This feature of market technocrats is studied through Swedish agricultural scientists in the postwar decades, assigned the role of providing guidelines for fertilizer use and guarantee credibility of the different products in the fertilizer market. They increasingly collaborated with an industrial cartel, both producing articles spread by the cartel as part of its marketing and receiving funding from it. In the late 1950s this relationship was questioned on the grounds that it undermined the neutrality of the fertilizer researcher. This led to a crisis of legitimacy that ended in a government investigation that reported its results in 1960. The question posed by this paper is, how did the relationship between industry and the researchers develop, why was it questioned at that specific time, and what determined the outcome of the conflict?

The third paper, *Central Banks and the Pursuit of Influence, Prestige, and Legitimacy: The Creation of the Nobel Memorial Prize*, aims to investigate the expansionist tendencies of market technocrats. As mentioned in the section on market technocrats as actors, their motivations include influence as well as prestige and ideology. This paper analyzes the changes within central banking, from the fall of the gold standard to the increasing internationalization of central banking and increasing reliance on economics. The focus is on the Bank of Sweden and the creation of the Nobel Memorial Prize in Economic Sciences. The question posed by this paper is, why did a central bank, given its role as a supposedly disinterested functionary of the money and credit markets, create a prize in economics?

The fourth paper, *From Market Engineering to Institutional Engineering: Reform Economics in Sweden 1950–2000*, aims to study the way changes in economic theory can help to explain changes in market architecture. In Sweden

Table 1. *Papers included in the dissertation*

<i>Paper</i>	<i>Time period</i>	<i>Particular feature</i>	<i>Market technocrats</i>
The Market Technocracy of Import Substitution	1880–1935	Establishment of market technocrats	Plant breeders and chemists
Limits of Market Technocracy	1945–1960	Capture of market technocrats	Fertilizers researchers
Central Banks and the Pursuit of Influence, Prestige, and Legitimacy	1930–1968	The expansionistic behavior of market technocrats	Central bankers
From Market Engineering to Institutional Engineering	1950–2000	Changes in economic theory as part of changes in markets	Reform economists

economists were important technocrats employed by the Social Democrats in building the welfare state. But in the 1980s and 1990s, a group of well-known economists – here referred to as “reform economists” to distinguish them from the rank-and-file of the discipline – engaged in an aggressive campaign for dismantling the market architectures that had been constructed as part of the postwar social project. The purpose of the paper is to argue that this distinctive brand of “reform economics” was not – as is frequently taken for granted – primarily caused by the economic adversities of the 1970s, but had deep roots in the relationship between economics and the project of engineering markets into devices for assisting in creating the modern welfare state. This process is studied through Swedish economists, accessed primarily through two of the most influential economists, Assar Lindbeck and Ingemar Ståhl. The questions posed by the paper are thus, why did reform economics develop from a discipline closely linked to the Social Democrat social project, and how did this shift change the way the functions of economists were perceived?

The papers and the purpose for including them are summarized in Table 1.

The results of the papers

The success of the Swedish Seed Association to embed itself in the routines of the grain market was an important part of the rebuilding of Swedish agricultural markets to favor import substitution. The question of why the Seed Association managed to establish itself in the routines of the Swedish grain market can be answered by a number of factors. First of all, the attention paid

by interested parties at the time to the problem of quality information suggests that there was an interpretation among several key actors that this was a major problem for the development of the Swedish grain market. There was thus a clearly defined problem, which allowed the formulation of an equally clear role for the Seed Association in solving it. Secondly, the existence of a state willing to increasingly support it was equally important. It was difficult to finance the activity of plant breeding, and later chemical analysis of quality through membership fees paid by a multitude of farmers. The comparison with Britain, where the state was not willing to back similar enterprises, shows that the backing of the state was fundamental for allowing the Seed Association a financial platform. The existence of an oligopolistic industry with a capacity to pool and coordinate resources was also important. Throughout the Seed Association had a high scientific reputation, which it was skillful in using to legitimize its role as a disinterested party in the grain market. Finally, the Seed Association was able to profit from the development of a strong agricultural movement.

This paper suggests that the process of establishing routines for solving information problems is far from automatic, and more problematic than is implicitly taken for granted in the asymmetric information literature. Neither is it a simple process of the government orchestrating a solution from above. Rather it is a process of conflict and negotiations, in which market technocrats themselves engage in strategic maneuvers to embed themselves in market routines. In the case of the Swedish Seed Association, private actors first agreed to attempt to find a solution, and only gradually came to see the advantages of a supposedly neutral third party. While promising to help the market to transcend the conflict between the mills and the farmers, this third party engaged in both cooperation with the mills and advocacy in farmers' press for import substitution and its own increased importance. The state was important as a financier mainly for the plant breeding carried out by the Seed Association, but it did not back the Association's role as a conveyor of information about quality until the 1930s. This function was thus not created by the state; rather it grew out of a project they were already supporting.

The doubts concerning the objectivity of the fertilizers researchers had implications for the market architecture of the Swedish agricultural sector. This market architecture was constructed in the postwar years by a coalition of politicians, market actors, and technocrats to ensure the goals of industrialization, urbanization, and self-sufficient agriculture. The fertilizers researchers had a specific function to play in this market architecture, and the accusations against them were therefore indirectly also against the market setting they were a component of. The trigger of the conflict over objectivity was rivalry within the system. The fertilizers research system consisted of a central level that was formally in charge of a system of local experiment stations. It was the manager of one of these stations that accused the central level of lacking objectivity because of its relationship to the cartel. What might have been

dismissed as a minor academic squabble between a jealous scientist and his more successful antagonists snowballed into a full government investigation. But the government investigation exonerated the system as a whole. Most likely, the interests vested in market architecture of the agricultural sector, and the supposed scientific neutrality and objectivity that served a function within it, made the costs of accepting the accusations too high. The investigation's vague conclusion that some of the scientists had been careless, and that the relationship between the cartel and the research planning councils should have been more discreet, were criticisms against individuals rather than the system itself. On a general level, then, this case study suggests that the undermining of legitimacy of market technocrats through connections to market actors is a source of vulnerability for them. On the other hand this vulnerability might be offset by a strong commitment among powerful actors to the overarching goal of the market architecture. Under the shielding goal of creating a modern welfare nation, the fertilizers cartel and the scientists they favored could relatively securely continue their relationship. When artificial fertilizers, and the legitimacy of the agricultural scientists were again challenged – with the advent of the environmental movement in the 1960s and the rise of “green values” in Sweden in the 1970s – it was because society's goals were changing and the whole market architecture created to promote values of a previous society was called into question.

The third paper studies the expansionist aspect of market technocrats as they attempt to build up influence, legitimacy and prestige. Central bankers did not have a scientific basis during the gold standard, but did claim to represent a mechanical form of objectivity through managing the supposed automatism of the gold standard. After the end of the gold standard in the 1930s, central banks were subjugated to the politically-determined goals of monetary policy and credit markets. At around the same time, central banking went through a process of internationalization through the establishment of the Bank for International Settlements (BIS). At BIS, a technocratic ideal of independent central banks above the political realm flourished. National central bank governors regularly travelled to the BIS headquarters in Basel, Switzerland. An international identity of central banking was thus starting to take shape. The Swedish central bank was enmeshed in the Social Democratic program of re-engineering markets. This meant keeping the interest rate low, and regulating the credit market to channel funding into prioritized sectors. In 1955 Per Åsbrink was appointed governor of the bank, and was expected to continue to enforce party policy. But his increased contacts with BIS – and his exposure to its ideals of central bank independence – created tension with his role as implementer of government policy. In 1957 he raised the interest rate without notifying the government. A political crisis followed. Economists proved to be an important ally in the public debate that followed, giving seemingly scientific support for increased central bank independence. In the end, Åsbrink was allowed to stay as governor, but the government reasserted

its political dominance over central bank functions. The central bank thus had to resign itself to more subtle ways to build up influence and prestige. The bank's upcoming 300 year jubilee in 1968 became a focal point for such activities. When the bank's accumulated surplus became an issue, the bank managed to keep a sizable part of the surplus for the creation of a jubilee fund for funding research. This enabled increased prestige for the bank, both through making it a funder of research, and through commemorating its high age. The internationalization of central banking, however, meant that Åsbrink wanted to make an international impact. At a large public event, aimed specifically at the community of international central banking, Åsbrink unveiled the creation of the Nobel Memorial Prize in Economic Sciences. This also served to mark a development that had started much earlier: the gradual absorption of economists into central banking. In a society in which science, engineering and supposed objectivity provided a secure legitimacy, central banks gradually became more interested in gaining scientific credentials. The rising prestige of the economics discipline as a science, both in actual administration and in the public arena, made it increasingly important for central banks. Scientific economics seemed to hold the promise both to offer guidelines for central bank actions, and as a source of technocratic legitimacy on par with the no-longer existent gold standard. As central banks became more reliant on economists, and as they became more staffed with economists, the line between central bankers and economists started to disappear. The Nobel Memorial Prize served to manifest the increased central bank reliance on economics, while providing a way for the Swedish central bank to enhance its prestige within the boundaries set by the power relations versus the government. While formal central bank independence lay decades ahead, the Prize therefore should be seen as a step in building up the scientific legitimacy of central banking. This was connected to a gradual removal of the postwar goals from monetary policy and credit markets in favor of increased influence for market technocrats. The behavior of the Swedish central bank in the late 1950s and the 1960s thus both exemplifies the inherent self-interest of market technocrats and their expansionistic behavior.

The main conclusion of the paper *From Market Engineering to Institutional Engineering: Reform Economics in Sweden 1950–2000* is that reform economics should not be interpreted as a break with the past, caused by external factors or by a simple process of learning. Rather its roots lay as far back as the 1930s, with the incomplete Keynesian synthesis, the inconsistency of micro and macro theory, and a growing tension between the surviving emphasis on market efficiency on the micro level and the politically engineered markets of the postwar decades. In the postwar decades Keynesian macroeconomics was combined with belief in market efficiency on the micro level. Certain economists were thus, from the 1950s and onwards, increasingly frustrated with Social Democratic market engineering that was in defiance of their market theories. Attempts to reform markets in the 1960s were thwarted by political

considerations. This resulted in disillusionment over the nature of politicians, and increased hostility towards the Social Democratic market engineering project. The economic downturn that started in the 1970s, usually seen as a watershed, thus only served to bring out tensions that had been present for decades. The so-called “fall of Keynesianism” should therefore be toned down in favor of a narrative that emphasizes continuity rather than discontinuity, and with the dimension of rivalry between technocrats and politicians.

The second conclusion is that mainstream economists increasingly came to embrace the Hayekian vision of markets as information processors, and that this had consequences for how economists interpreted themselves and society. The punch line of Hayek’s contribution to the Socialist Calculation Debate proved as effective in the 1980s and 1990s as it had been in the 1940s. Its target was not the looming specter of a fully planned economy, but politically motivated restrictions of the market mechanism. The rise of public choice gave a theoretical foundation for the frustration felt by economists caused by the political obstruction of the mechanics of the market. The social engineering ambition of economists remained however, but was transformed. Hayek wrote that the market as a machine was “more than a metaphor”.¹⁶³ The self-image of the economists shifted from experts exercising knowledge in service of the politicians for a mutual goal, into caretakers of a vulnerable but effective mechanism. The postwar market architectures were seen as alien obstructions of this mechanism. Using the terminology established by Daston and Galison, this was a reemergence of the prevalence of mechanical objectivity. The market in this view delivers objective outcomes that all groups in society have to accept by virtue of the superior efficiency of the market mechanism. Economists came to exercise their expertise mainly through identifying friction – sand in the machinery – in the market mechanism. This was linked to market reform to let the market function smoothly. Market reforms thus became part both of the redefinition of expertise and the continual authority of economists. Such market reform is social engineering in another form: changing society to let the market machinery work smoothly. This amounted to the transition from market engineering undertaken in the name of the postwar social project to institutional engineering, as the political institutions were to be changed in order to let the market mechanism function efficiently.

Comparison of the papers and their results

I have chosen three dimensions to compare across the four papers. The first is the type of conflicts present in them. The second is how the activities of market technocrats were funded, and the third is the ideological dimension of the different market technocrats.

¹⁶³ Hayek (1945), p. 527.

There is an element of conflict in all four papers, but the conflicts are different. In the first paper, the conflict is primarily between buyers and sellers, with the market technocrats taking the position as a mediator between them. In the second paper the same tension between the buyers – the farmers – and the sellers – the fertilizers cartel – is not present, and instead the conflict is between different market technocrats in different levels in the quality assessment system. The common goal of agriculture and industry was frequently stated by the actors at the time, and the role of the scientists in providing the necessary information for the farmers is similar to the one sought by the Seed Association. On the other hand it was precisely this role as mediator that opened up for the role of the scientists as component of the cartel's marketing. The role of the mills in funding the cereal laboratory of the Seed Association, and their subsequent collaboration can be compared to the fertilizers cartel's funding of research in the postwar era. Even though close cooperation existed between the mills and the Seed Association, there were no accusations of a similar kind. The difference might be explained by the lack of the internal tensions displayed by the fertilizers research system, but another possibility is the different role of the media. While the Seed Association clearly used available channels to further their cause, the role of the media in the 1950s had arguably grown to a point where it could be used with lower costs by individuals. The possibility to use it as a resource by minor players, such as the local scientists in the second paper, had therefore increased.

In the second two papers, the conflict is between technocrats and politicians, something that is not visible in the first two papers. The interest rate coup took place in 1957, the same year that the objectivity crisis unfolded in the agricultural research system. The difference can be explained by the fact that the postwar political rebuilding of markets had different consequences for the two groups. For the fertilizers researchers, the postwar market architecture that emphasized modernization through increased application of fertilizers, offered greater influence and increased social status. The central banks, on the other hand, experienced not just a fall in status but in actual freedom of operation and influence. Further, central banks had an established ideology at the time, grounded in the belief of *laissez faire* and the gold standard, beliefs that were trampled on by the Social Democratic postwar program.

The same reasoning can explain the increasing tension between economists and politicians. The increased state intervention of the 1930s, and the state-backed institutes of economic research, did give a boost to the influence and status of economists. But as the surviving belief in market efficiency increasingly clashed with the Social Democratic market engineering, and economists found their reform attempts thwarted, tensions increased. The further politicization of the markets in the 1970s served to increase tensions in a period in which the authority of economists as advisors for macroeconomic discretionary actions was on the wane.

The funding of market technocrats also needs to be addressed. The different time periods of the four different cases provide differences in the possibility of financially supporting the activities of the market technocrats. The Seed Association had to start from scratch, initially only receiving financial backing from a few wealthy enthusiasts. The plan to fund it by membership fees failed because of the difficulties in getting enough members. Soliciting the state, through the mediation of supporters with political influence, became the solution. The oligopolistic mill industry, furthermore, had enough concentration of resources to be able to provide funding. In this, industry was very different from the agricultural sector with its many small and medium-sized farms. The problems inherent in coordinating a large amount of people in collective action or collective funding might therefore explain why market technocrats have a tendency to end up being funded either by the state or oligopolistic industries.¹⁶⁴ There is a similar situation in the case of the fertilizers researchers. The government provided the bulk of the finance, but industry early on funded quality assessments that became part of the marketing of the products.

From the point of view of funding, central banks are unique. Their privileged position effectively gives them a *seigniorage*, that is their activity most often gives them a profit which they can in fact use to fund projects not necessarily connected to the strict definition of central banking. The paper on reform economists did not go into the question of their funding. What can be said is that their activity is far less costly than the ones carried out, for instance, by scientists that need a laboratory. Nevertheless, state-backed economic research did provide both career opportunity and funding for economic researchers. Private business research also provided funding, and became a more important funder for publications in the 1980s and 1990s. Most of the works cited by Ståhl, for instance, from this period were published by business-funded publishers. The twin-funding of government and business was therefore prevalent in three of the four studied cases of market technocrats.

All four cases indicate that market technocrats are expansionists, eager to increase influence and status. But it is also apparent that they have an ideology that influences how they interpret their own function in society. The Seed Association held a worldview in which the good future society was a high-tech agricultural society, preserving old values but on a scientific basis. For the fertilizers researchers the social goal was a modern society in which the extended use of fertilizers had a natural place. Among central bankers there was a surviving ideology based on the principles of “sound money”, and an almost morally charged distaste for the cheap money policies of the postwar governments. The reform economists, finally, held a strong belief in market efficiency but never abandoned their tendencies for social engineering.

¹⁶⁴ Olson (1965).

Even when elevating the market mechanism, they maintained the reforming imperative so prevalent in the postwar era.

Conclusions

The purpose of this dissertation, as stated above, is to argue for the presence and importance of market technocrats in 20th century markets; to provide an analytical framework for understanding their nature, their functions in markets, and their interaction with other actors; and to analyze different aspects of them through four different empirical studies. This introductory essay, and the four papers that follow, have fulfilled this purpose. The approach to study markets as evolving historical objects, and market technocrats as one group among several that drive the process of market change, has been fruitfully applied in this dissertation in four different cases. It has generated results both concerning the studied examples themselves and, I argue, how market technocrats take part in managing markets and development of new market forms.

Market technocrats take many different shapes. That which unites them is their role as seemingly disinterested functionaries in or constructors of markets. Their interaction with other actors, such as buyers and sellers or representatives of the state, can be described as a process through which markets develop, reach long-term stages of equilibrium, and then change again because of tensions having built up, or new factors having emerged. The actions taken by market technocrats themselves in order to increase their influence should therefore be seen as part of the process that changes the architectures of actual markets. The diversity of the cases studied has the advantage of showing the broad applicability of the term market technocrat, but also suggest that there are unmapped areas which could be studied fruitfully with the same approach.

As a roadmap for such research, it is useful to have a hypothetical sketch, based as far as possible on the four studies in this dissertation, of how the role of market technocrats in society has changed over the 20th century. Such a roadmap is more speculative the closer we get to the present. The history of market technocrats from the early 20th century up to the 1970s is rather straight-forward. At first they were typically problem-solvers. With the growth of markets new problems appeared, and certain individuals were given the role of ameliorating them. This took place at the same time as the breakthrough of the authority of science and engineering in society. Prospective market technocrats could therefore gain legitimacy by invoking objectivity. Through gaining support both from government and private enterprises, there was an institutionalization of market technocrats, and they became a feature of markets at least from the 1920s but even more so from the 1930s. By the time of the postwar era, the disinterested “progressive expert” had become a typical feature of a mixed economy. The belief in the perfectibility of society through employing science and technology had consequences for markets as well.

Market technocrats could seemingly bridge the tensions between buyers and sellers in markets, and help change markets into vehicles of a better society. Under the surface, however, there was tension building up in the cases where political considerations did not coincide with the interests and worldviews of the market technocrats. Such tension is visible at least from the 1950s, but escalated in the 1960s and 1970s.

In the last decades of the 20th century the belief prevalent in the 19th century in the efficiency of markets, made a powerful return. The common view is that the authority of technocrats and social engineering diminished at the same time. The label neoliberalism may or may not be a suitable description of this complex phenomenon, but for lack of a better word it is what I will use here. I have argued that in the case of reform economists, what took place was not the end of technocratic authority or even social engineering but rather a transformation. As exemplified by the fourth paper, the market constructions carried out in the postwar years, and what was interpreted as political interference in the mechanism of the markets, gave ample opportunity to advocate market reforms. In this light the so-called “fall of Keynesianism” or rise of “neoliberalism” can be interpreted as a return of mechanical objectivity and the disillusionment of discretion. Hayek’s 1944 claim that “the only alternative to impersonal and seemingly irrational forces of the market is submission to an equally uncontrollable and therefore arbitrary power of other men”¹⁶⁵ captures the essence of mechanical objectivity over expert authority. The market becomes a machine that transforms self-interest and the chaos of torrential rivers of information into objective prices that guarantees social efficiency. Politicians themselves possibly found this appealing, since depoliticization by reference to the mechanical and impersonal market could replace the one of impersonal expertise wielded by technocrats. For instance, Sofia Pérez has argued that several European governments endorsed deregulation of financial markets in the 1980s, because a market-based financial system seemingly removed discretion and allocated costs of disinflationary policies “impersonally”¹⁶⁶.

There is still room for technocrats in this arrangement. All machines need a caretaker, and markets need market technocrats even if only to keep them safe from obstructions. There was also a campaign to make the machine fail-safe through legislated obstacles to limit the ability of politicians to interfere in it. This included limitations on the size of government debt, and formally independent central banks in most advanced countries. The latter meant that central banks were granted a degree of influence and prestige they had not experienced since the gold standard era. They could transform themselves from direct regulators of markets to non-political guardians of the purchasing power of money through manipulating the lever of short-term interest rate. The

¹⁶⁵ Hayek (1944), p. 205.

¹⁶⁶ Forsyth & Notermans (1997), p. 8; Pérez (1997).

use of econometric modeling further seemingly reduced discretionary acts, making the entire process look almost as machinelike as the gold standard of the last golden age of central banking. As mentioned in the central bank paper in this dissertation, most empirical research points to the fact that discretionary acts were in fact common during the gold standard. Further research might show the same tendency for discretion under supposed automatism during this “Second Golden Age of Central Banking”. After the recent financial crisis, central banks have emerged with seemingly new policies. Time will tell if the future holds a new fall in central bank authority, or if they are on the contrary becoming even more influential.

These decades thus saw the active reconstruction of markets and a wide range of institutions and legislations with implications for markets. I have earlier referred to this as “institutional engineering”. This might be the feature in particular that makes reform economics into part of the neoliberal movement. Other writers have identified an element of active social reconstruction at the heart of neoliberalism. Loïc Wacquant writes that what is “neo” in neoliberalism is “the reengineering, and redeployment of the state as the core agency that sets the rules and fabricates the subjectivities, social relations and collective representations suited to realizing markets.”¹⁶⁷ Similarly, Philip Mirowski writes that neoliberalism avoided the contradiction between the view of the market as a natural entity, and their own constructivist approach through “increasingly erasing any distinctions among the state, society, and the market, and simultaneously insisting their political project is aimed at reformation of society by subordinating it to the market.”¹⁶⁸

As has been emphasized earlier, this is another form of social engineering, and the market reformists on the 1980s and 1990s thus have more in common with the social engineers of the 1940s and 1950s than is often acknowledged. One could perhaps go as far as to claim that the neoliberal project is a social engineering project on par with the Social Democratic one initiated in the 1930s. This is completely different from the classical liberalism of the 19th century.

But what has happened with market technocrats other than reform economists and central bankers? This is an area which opens up large opportunity for new research. Some researchers have claimed that there has been an overall “commodification” of technocracy. Björn Wittrock, Peter Wagner, and Hellmut Wollman writes that there has been “a very clear tendency in most European countries to replace the government’s traditional near-monopoly on administrative and scientific expertise with the expertise claimed by each and every national and local interest grouping.”¹⁶⁹ Expertise lends its authority and knowledge to that agency, bureau, lobby group or company which pays

¹⁶⁷ Wacquant (2010), p. 66.

¹⁶⁸ Mirowski (2013), p. 55.

¹⁶⁹ Wittrock, Wagner & Wollman (1991), p. 78.

it.¹⁷⁰ According to Steven Brint there has been a shift from the experts of older times that identified themselves with the common good. Today “those who claim knowledge-based authority increasingly eschew any claims to representing vital social or public interests...expertise is now a resource sold to bidders in the market for skilled labor.”¹⁷¹ If so, this might mean that the supposed disinterestedness of market technocrats has been replaced by the disinterestedness of the market mechanism. The non-partisanship of the technocrats is no longer deemed necessary, and their functions might as well be carried out by for-profit agencies. This would mean a thoroughly novel form of technocracy that should be the object of research. The market would thus operate its own infrastructure, and recreate itself when needed, through following its own dynamics in a form of self-replication.

Curiously, one particular group has been surprisingly resilient to being ascribed self-interest, namely the economists who themselves analyze society as governed by self-interest. Only in later years attention has been paid to the dual role of economists as supposed neutral researchers, and paid consultants for private interests.¹⁷² The American Economic Association has recently enacted a policy of disclosure, requiring all submitted articles to be accompanied with a statement of all “interested parties” that have funded the researcher.¹⁷³ The same question can be put to the Swedish reform economists, siding with business in the question of the wage earners’ funds, and publishing widely in business-funded publications. There is a paradox that economists using public choice to criticize the political process through which profit interests earn influence, were themselves in practice allies of profit interests. The problem with the theory of public choice is thus not that it assumes self-interest of politicians, but that the theorists fail to apply the same model to themselves. Recognizing the self-interests of economists and the possibility that economists and economic theory can be captured by different interests, yields a more realistic and fruitful approach.

In the end, this dissertation seems to have a paradoxical conclusion. On the one hand, the existence of market technocrats is derived from actual problems in markets, and their activities said to fill a necessary function. On the other hand their self-interest is seen as one of several driving forces in the continual process of creative destruction of market forms. In other words, as long as there are markets there will be people who manage vital functions in them, who will need to be financed, and who are motivated by self-interest and their interpretation of the world and their place in it. This is a dilemma that reveals the inherent flaw in the notion that technocracy can replace ethics, or indeed that the market mechanism can replace ethics through transforming

¹⁷⁰ Orestes & Conway (2010); Mirowski (2011), p. 327.

¹⁷¹ Brint (1994), p. 15.

¹⁷² Epstein & Carrick-Hagenbarth (2010).

¹⁷³ “American Economic Association Disclosure Policy”, available online [September 25 2013] at: http://www.aeaweb.org/aea_journals/AEA_Disclosure_Policy.pdf.

self-interest into efficiency. On the other hand, the worldviews of market technocrats influence how they interpret their own functions and how markets should ideally work. Their worldviews, in other words, matter and can change over time. Worldviews also include such things as ethics, virtues, and moral, concepts that scientific and mechanic objectivity were to replace. Perhaps it is necessary to bring the study of ethics and morals back into economics and economic history. And perhaps these human phenomena should be seen as parts of well-functioning markets and the lack of them as crucial flaws in market architecture.

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