University of Debrecen
Doctoral School in Economics

Market Institutions and Economic Growth: A Modern Austrian View

Summary of the PhD theses by

Pál Czeglédi

Advisor: Judit Kapás, PhD, associate professor

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1. Motivation

It was no way straightforward to find the topic of my dissertation, which is the relationship between market institutions and economic growth. The first time I had to think and decide about which area of the wide supply of the economics I would really like to deal with was when I was looking for a topic for my MA thesis. Then I already knew that that should be some area in theoretical economics. The fact that I chose economic growth can be attributed to two factors. The first one is that I have some inclination for mathematics, and the other is that this is the topic, and economic dynamics in general, that receives, for obvious reasons, little attention in standard economic education. Yet, economic dynamics in the long run is one of the oldest and hardest questions of economics, which has not lost its relevance since Adam Smith first posed it.

At the same time, and mainly as an effect of my PhD studies, I had to realize that there were other branches of economics outside of the narrowly understood theory of economic growth, that try to answer the same questions. The New Institutional Economics does not argue against the conclusions of these models, but formulates the questions differently, and looks for the deep-seated causes of economic dynamics, which it suggests to be found among institutions.

It was also during my university years when I began to read the woks of F. A. Hayek, and although these had an impact on my economic thinking, I have not met the modern Austrian school as a distinct and unified system of economic thoughts until my PhD studies. This school stands relatively close to the new institutional economics, and aims at understanding and explaining the dynamics of the market and the evolution of market institutions. This was the time when I began to think about a modern Austrian view of economic growth. Would such a view be able to give new answers to the old questions, or would it make us possible to see them through different lens? However, to my great surprise, I could hardly find any source dealing with this question, that is, which looked for answers for the questions of economic growth by using 'modern Austrian tools'. This is a gap in the literature and with my dissertation I try to (1) explain why this exists at all, and (2) to show a possibility of filling it. More precisely, I will try to show that those ideas of Mises and Hayek, which deal with the market and planning in general can be given an interpretation by which one can enrich economic science.

2. The problem

The modern Austrian school does not take part in the present day research in economic growth. Why is it so, and how could Austrian economics contribute to the theory of economic growth after all? This is the main question of my dissertation. In this section I will briefly review the history of the Austrian school, and show the relevance of this question.

The Austrian school[1] of economics, to which F. A. Hayek's 1974 Nobel prize drew the most attention in the past years, started with the works of Carl Menger, who was one of the leaders of the "marginal revolution" beside Walras and Jevons (Bekker 200:216-222). Not only Menger, but Friedrich Wieser and Eugen von Böhm-Bawerk belong to the founders of the school as well (Boettke and Leeson 2003a). Although some authors show that this school was somewhat separated from Anglo-American economics and it was not really "neoclassical" (Mirowski 1984), the Austrians themselves thought that by the 30's the main Austrian ideas had built into the mainstream of economics (Kirzner 1997). A crucial moment in the history of the relationship between Austrian and neoclassical economics was the so called calculation debate at the turn of the third and fourth decade of the 20th century (Boettke 1998). That was the time those *modern* Austrian thoughts began to "crystallize", which were later developed by several generations of scholars living in the United States, such as the fifth (Israel Kirzner, Ludwig Lachmann, Murray Rothbard), the sixth (Mario Rizzo, Donald Lavoie), and seventh (Peter Boettke, David Prichytko) generation.

What made me pose the question above is the fact that those theoretical differences which separate the Austrian school form the other branches of economics, and which were explicitly formulated in the last quarter of the 20th century referred to very similar questions as those that the researchers of economic growth began to study at the same time. Paradoxically, however, these two theoretical branches have never met. As a remarkably extensive part of my dissertation deals with these special Austrian features I will not go into the very details now, just give a summary about them, by which I intend to highlight the relevance of the question. What reasons do we have to say that it is a real paradox that the economic theory of economic growth has not made use of the ideas of the Austrian school?

There were two arguments in the calculation debate, each of which coincides with one of the main questions of growth theory. One is laid down by Hayek, and the other by Mises, but virtually they are just different aspects of the same problem. For Hayek, the main

[1] One can read about the Austrian school in an historical interpretation in Hungarian in Madarász (2002), Solt (2003) or Mátyás (2004).

economic problem was the "use of knowledge in society", that is, how to use the decentralized knowledge of the economic actors that cannot be collected in one central agency. The main models of the new or "endogenous" theory of growth also put the most weight on the question of the use and diffusion of knowledge, and they build their theoretical models on some mechanism of these processes, as I explain in the dissertation. Ludwig von Mises formulated the argument against the possibility of socialism in a different way than Hayek did, when he launched the calculation debate in 1920 (Mises 1920). In the absence of some institutions (money, property and the market for capital goods), Mises said, economic actors are not able to calculate rationally, that is, the performance of the economy is not independent form the institutions of the market. This argument coincides with one of the main insights of modern growth theory, according to which "institutions matter". By now, the research area dealing with how macroeconomic institutions affect economic performance and growth has become a well-developed discipline. In addition, one of the most widely accepted results of this new and to a great extent empirically inspired branch of growth theory is that the security of property rights and the freedom of capital markets are the main conditions of economic growth. This insight is also underpinned by the literature I reviewed in the third chapter and by the stylized facts I formulate as conclusions of this reviewing. The most important of them is the one saying that "institutions come first", that is, market institutions are the causes of growth. This is nothing else, but Mises's argument.

The third theoretical reason which strengthens the paradox above is the role of the entrepreneur. At the very beginning of growth economics, the entrepreneur was an inherent part of the explanation, since Schumpeter (1912) built up his theory taking the behavior of the entrepreneur as a starting point. However, the entrepreneur is missing form the modern theory of growth, despite the fact that the most influential branch is called Schumpeterian (Aghion and Howitt 1998). On the contrary, modern Austrian school has a well-developed concept of entrepreneur, thanks to Israel Kirzner's work (Kirzner 1973), which, in addition, is in close relationship with the two above mentioned Austrian thoughts, that is the knowledge problem, and the role of institutions.

Fourth, the pro market and pro capitalism broad predictions of the Austrian authors came true. It is well known, that Hayek's position against socialism and Keynesianism was verified by history (Madarász 2005:167). But the very general Austrian insights about economic development, according to which (Hayek 1978[1995]:310) "competition as a discovery procedure" plays a more crucial role in developing than in developed countries seems to be verified, too. Researchers of development economics had not shared this view for

-a substantially long time , but the revolution of the discipline during the 80's change this view radically, which eventually got very close to that of Hayek (Olson 1987:96, Rodrik 2005).

My fifth reason by which I am arguing for the Austrian school to be present in the research in growth theory is the fact that it provides an explanation for one of the most remarkable economic phenomena of the 20th century, that is the increasing level of state activity. It is not only the market that this theory is able to analyze in a dynamic theoretical structure, but the behavior of government reacting to market outcomes, thus it is able to explain to some extent the co-evolution of the market and the state (Csaba 2006:131-166). However, this is a feature of Austrian economics, by the help of which it cannot be paralleled with growth theory.

There is a sixth reason that I think may make us expect that Austrian economics should contribute to the bulk of growth theory. I do not want to expound this argument very deeply but it must be mentioned here. This is the fact that in the case of other disciplines of economics there are approaches as well that apply and develop further the analytical tools of modern Austrian economics. It is not only about the so called market process theory, because that has no counterpart in mainstream economics. However, the Virginia school of public choice has strong traditions rooted in Austrian economics (Boettke and Leeson 2003b). One of the newest of such branches is the Austrian theory of the firm, which draws its conclusions form the Austrian notion of entrepreneur and knowledge problem (Kapás 1999).

Taking the problem explained above as a starting point, in the first part of my dissertation I examine the reasons that make it impossible that a unified Austrian theory of growth can develop. In the second part, I develop further the theory of market processes and that of interventionism, in order to be able to analyze the role of imperfect institutions and to draw some sorts of predictions which I examine by qualitatively and quantitatively in the empirical chapter. I summarized the main results of this research in four theses. In what follows, I will formulate these theses, and briefly explain them without reviewing the literature and without going into the very details. Those interested in these should consult the whole dissertation.

3. Why the Austrian school is separated

The following thesis summarizes the reasons why it is impossible to build a unified growth theory as understood in the modern economics literature:

***Thesis 1**: There are two theoretical positions that prevent modern Austrian school to be the third pillar of the just unifying growth theory aside new growth theory and new institutional economics. The first is the praxeological and subjectivist approach, and the other is the fact that this school looks at the market as a discovery procedure which solves the knowledge problem. These two methodological features prevent authors of this school to formulate statements on growth as an aggregate measure of the performance of the market economy.*

The first part of the thesis denies that the difference of the Austrian school lies in the understanding of institutions. When it comes to modeling institutions, the Austrians are not different from new institutionalists. In order to underpin this argument I reviewed three traditions of analyzing institutions, but I emphasized the first two, modern Austrian school and new institutional economics; while the third, the old intuitional school served only as a benchmark. The first two branches approach the same institutions in two different ways. The new institutional economics, in the work of such authors as North, Weingast or Greif emphasizes enforcement and coercion: in an economic environment characterized by impersonal exchanges there is need for a third party that is able to enforce the other two parties to follow the rules of the contract, thus the role of the state is unavoidable.

The other branch that grew out of the pioneering works of Menger and that is virtually the same as modern Austrian economics, does not concentrate on enforcement but on the evolution of institutions. This approach concludes that the state cannot create institutions, since they will not work, unless they result from the interaction of the players. This approach examines how institutions come to alive.

These two different approaches, I argue, do not exclude each other, and one can see them as complement theories. The fundamental problem of the Northian approach is how to convince the government to enforce contracts, but at the same time not to violate the property rights of the actors. The question is thus, what the conditions are that can make markets work. The other branch focuses on another fundamental problem, which is how those institutions evolve which have not been planned by anyone, yet they increase public welfare, by making the possibility for mutually beneficial exchange wider.

The fact that these differences are present does not mean that the understanding of institutions is different as well, and this is what I show in my dissertation. The logic of the argument is to parallel three schools: new institutional economics, old institutional economics and Austrian economics. Using old institutional thoughts as benchmark, I argue that this is not the special way of looking at institutions that separate the Austrian way of economic thinking from other schools in the area of economic growth. Austrian economists as well as new institutional thinkers analyze economic problems through the lens of situational logic, as long as they model institutions as constraints of the economic man, who otherwise acts freely. However, economists from the old institutional school refuse this methodologically individualist view of economic players and this is why they do not understand them as constraints, they rather see them as patterns of behavior. Thus, new institutional and Austrian economics can belong to the same broadly understood institutional research program (Csontos and Lanlgois 1999). Where Austrians disagree with new institutionalists is what they mean by a free act. They say that utility maximization is not action, because what can be predicted cannot be free, and as such maximization is very similar to the old institutional notion of behavior as opposed to action.

Thus, the relationship between the three schools can be interpreted as if Austrian and old institutional school widened the new institutional tools in different directions. The latter preserves the assumption of maximization but introduces transaction costs and institutions. The old or alternative school denies that individuals with his preferences, objects and aims are given, instead scholars in this school take habits, and norms as given. The question then is, which pattern of behavior people choose and when. The modern Austrian school takes the other possibility and abandons maximization without questioning interpretation of institutions as constraints. In this interpretation, economic action is purposeful and free by definition, but at the same time is constrained by institutions among other things. If one wants to proceed in explaining economic phenomena with the analytical tools of Austrian economics, he or she has to focus on the more detailed description of contexts of action.

The answer for the question posed at the beginning cannot be found, as we have seen, in the way the Austrian school sees institutions and their roles. I propose that we should rather look for the answer in the understanding of growth as such. At this area, we have to deal with questions which subjectivist (Austrian) theories answer in a radically different way than mainstream theories do. Clearly, when talking about economic growth, we have to touch upon normative questions, which, in a subjectivist perspective, can not be judged only by examining the way we get to a certain allocation of resources. We can not say that one allocation is better than another only by looking at the process that has led to the outcome in question, that is we have to look at the rules by which the players have reached that allocation. This "historical" normative theoretical position as opposed to utilitarianism is usually referred when dealing with problems of social choice and social justice, but, as I argue, this can also be found behind the understanding of economic growth, and this is one of the main reasons the Austrian school can not build up a theory of growth. The Austrian critics of measuring economic growth by GDP per capita or with other aggregate measure do not say the same as those neoclassical critics of the concepts who tries to develop a "better" measure do. The Austrian critique is mainly theoretical and is not about the impossibility or the hurdles of measuring. From the subjectivist point of view we do not have any reason to look for any measure of growth in human welfare based on any kind of outcomes, regardless it is some kind of spending, income or education or any other broader measure. We can only look at the way people have chosen these outcomes, but what they choose will never matter.

However, the impossibility of measuring welfare with the help of outcomes is not the only hurdle that prevents Austrian economics to take part in the modern research program on economic growth. Another obstacle is the Austrian view of the market economy as a spontaneous order. Spontaneous order in the Hayekian theoretical system is clearly different form organization, and it is not only the way transactions are conducted that makes it so. The most important difference between an organization and the market as a spontaneous order is the fact that the latter have no ends and no hierarchy of ends. Although every players pursuit their own aims, the market remains an 'order', because these players follow the same abstract rules. These rules make it possible for every actors to make use of his knowledge of "particular time and space" (Hayek 1945). The market is thus a catallaxia, a complex system made up of mutually beneficial and voluntary exchanges, which, by definition, can not be judged by any one measure of economic outcomes. But by seeing GDP or any other single and aggregate measure as a criterion of success of a market economy, we do that exactly. The performance of the "economy" as a whole can only be judged by asking, whether or not (or to what extent) the players can pursuit their ends freely.

These two reasons, impossibility of value judgments based on outcomes and market as a spontaneous order, make it for us impossible to develop an "Austrian theory of growth". This does not mean, however, that by the help of the insights of this school, we cannot draw some unique conclusions concerning institutions and growth. This is what I try to do in the following three theses.

4. Imperfect institutions in market process and in the process of interventionism

4.2. Imperfect institutions in the market process

Thesis 2: *The modern Austrian theory of the market process makes it possible to identify two new causal relationships running from institutions to economic growth. According to the first one, the weaker the institutional system is, that is, the higher the probability that the property rights will be encroached or that contracts will be breached, the greater the extent is, to which price and profit signals will be distorted, thus the less economic knowledge will be diffused by them. This will distort the informational function of the market as whole and reduce the chance that an entrepreneurial action will improve coordination.*

In the above thesis, I virtually apply the Misesian argument developed in the calculation debate to analyze the effect of the conditions of imperfect institutions: in this statement and by the argument leading to it, I try to underpin that beyond the fact that the absence of market institutions makes economic calculation impossible, the quality of institutions determines the quality of economic calculation. As a fist step I identify the institutions, the existence of which is explicitly assumed in theory of market processes, and as a second step I examine the implications of the assumption that these institutions are imperfect.

In a modern Austrian theoretical system economic growth can only mean the improvement in the coordination of the players' individual plans, that comes into being in the market process driven by entrepreneurial discoveries. The "Austrian theory of growth" is thus the same as the Austrian theory of the market process. This theory developed by Kirzner (1973) and is based on the notion that the fundamental role of the entrepreneur is to be alert to price discrepancies (profit opportunities). In a market economy the absence of coordination is revealed by these profit opportunities, thus the fact that the entrepreneurs continuously discover and utilize them means that entrepreneurial actions push the economy towards a better coordination. However, since the same entrepreneur action create new profit opportunities, this process of discoveries will never come to an end, and the market will never reach a state of some "final coordination".

Looking for the institutional conditions of this process I show in the dissertation that one needs to assume the existence of two fundamental institutions: security of property rights and the freedom of contract. These two institutions make it possible for the resource owners to lend their resources to the entrepreneurs under any terms of contract they want. In order to make statements on the effects of the quality of institutions, we have to have some concrete meaning of the institutional quality, and then to examine how markets work under the condition of imperfect institutions.

To introduce the assumption of imperfect property rights is to assume that it is not unambiguous what those thing are that anyone is allowed to own, and what people can do with their property. Based on these assumptions one can show that in each of these cases the risk of appropriation of private property is higher, because (1) when the resource owner lend their resources, it becomes more specific; and (2) the entrepreneur and the resource owner may not face the same authority, that is, the resource owner may be a foreigner.

If we want to give an Austrian answer to the question, how institutional quality affects growth, we have to explain how lower security (quality) of property rights lead to a worse coordination of individual plans. My "Austrian answer" focuses, of course, on the capital market following the original argument of Mises (1920). The unique feature of this argument and which makes it differ form the neoclassical one, is that according to Mises, equilibrium prices can not be computed, these prices can only be revealed in exchanges. Thus if we do not have capital markets, we do not have prices of capital, and as a conclusion, we are not able o calculate at all. In the absence of capital markets, no one can know what is rational to do with the resources. When we talk about the weakness of property rights and not their absence, that is exactly what I am trying to do, the arguments is not very different. The insecurity of property rights lead to a higher risk of appropriation, and this will cause resource owner to exchange less. That is, they will be more reluctant to bring their resource to capital markets, and thus less exchange will occur. As the rational prices are those revealed in the series of exchanges and the process of exchanges lead to better and better coordination of resources, the less voluntary exchanges occur, the less possibility we have that coordination of the plans of the players will get better. The more risky it is to bring resources into the market, the less the extent is, to which market can serve the role of discovery through the process of trial and error.

To introduce the assumption that the freedom of contract is imperfect is to assume that some contracts will be breached. If an entrepreneur breaches the contract negotiated with the resource owner, their acts will not reveal voluntary exchanges. Thus, prices that come into being through breaching the contract are not resulted from the voluntary exchanges between resource owners and the entrepreneur. However, what causes the loss in growth is not that the resources owners disappoint, rather, it is that the reason they disappoint is not the fact that business is doing badly. That is, the improvements in coordination revealed in profits are not seen in the income of resources, thus the resource owners will be forced to revaluate their plans even if they "should not do that". Since the actions of entrepreneurs and those of the resource owners are in this way separated, the reexaminations of those plans will not imply that their expectations will better suit to "objective data" (Hayek 1937). This fact has implications on the roles profits and resource prices play in the solution of the knowledge problem.

4.2. Imperfect institutions in the interventionist process

Thesis 3*: The second channel through which market institutions affect economic growth, is that the unintended consequences of the government intervention in the market are more direct, if the institutional environment is of better quality, that is, if the enforcement is more efficient. The better the quality of institutions is, the more incentives the regulators have for deregulation instead of introducing new measures of regulation.*

Ludwig von Mises did not only concentrate on socialism, but he criticized interventionism, by which he meant the mixed economy, as well (Mises 1923, 1926, 1940). The bottom line of his argument was that interventionism as an economic system, in which the players are forced to employ their resources in such a way they would not employ them otherwise (without the interventionist measures), is instable. He argued that each intervention had unintended consequences, and these consequences would provide further incentives for the interventionists to introduce new measures of intervention. Thus an intervention will initiate a spiral of further interventions, and finally, Mises said, the regulators will face the problem either to introduce socialism or to go back to laissez faire. This Misesian argument got a modern shape in the works of Sanford Ikeda (1997, 1998) a present day Austrian economist. Ikeda developed the argument further by showing that even the laissez faire economy is unstable (Ikeda 1997:196-212).

However, it is important to note that this interventionist theory, as well as the theory of the market process, assumes perfect institutions. This is why I examine the implications of the same assumptions in the case of interventionism as I did in the case of the market process. How does interventionism work, if institutions are imperfect, that is, the interventionist measures are not forced efficiently.

In my argument which is based on the theory of interventionism and on the theory of the market process, regulation has two important effects on markets, both of which become more serious as efficiency of enforcement increases. The first is the effect on the allocation of resources, and this is what Mises described as the unintended consequences of intervention. As the efficiency of enforcement increases, unintended effects of regulation which induce the regulators to regulate further (or provide them with an excuse to regulate further) become more serious. Thus, the more efficient the enforcement, the more relevant the Misesian argument is. The second effect of regulation is the effect it has on the process of entrepreneurial discovery: the more efficient the enforcement of the regulatory rules are, the less profit opportunities are exploited, and the less profit opportunities will be created for the future, which means that more "errors of neglect" (Ikeda 1998) will occur in the future. As enforcement increases, this effect also becomes more severe, because more profit opportunities remains undiscovered. The first type of effect makes the interventionist process work faster, while the second kind provides more incentives for the regulators to deregulate.

This having been said, I formulated a hypothesis concerning the relationship between fundamental institutions and regulation. First I introduce a definition of institutional coherence referring to the extent to which the regulation of different areas move together in a certain countries. The stronger the association between the different measures of regulation, the more coherent regulation a country has. My hypothesis is based on the argument that it is the interventionist logic that drives institutional coherence, and that interventionist logic is more strict on those countries where the institutions are of better quality. Thus, I hypothesize that the countries with better institutions will be the countries that have a more coherent and easier market regulation.

5. Institutional coherence

The conclusions of the empirical examinations based on the hypothesis above, can be summarized in the following thesis:

Thesis 4*: Regulatory coherence is a function of external institutions, because although quantitative research shows that more developed countries regulate more coherently, the qualitative examinations seems to support the view that this is not directly resulted form development as such. This implies that the arguments concerning the importance of initial conditions are limited.*

5.1. Quantitative results

In order to examine the hypothesis quantitatively I used the 'Doing Business' database of the World Bank. First, I had to find a measure of institutional coherence measuring the extent to which introducing a regulatory measure will lead to the introduction of another measure. To capture this idea quantitatively I used the method of cluster analysis. By the help of formulating clusters based on the data of the report 'Doing Business' for developed and developing countries separately, I showed that those being closer to laissez faire are those that regulate more coherently. The results for developed countries are presented in figure 1 that shows how the clusters based on the regulatory data differ when it comes to measuring external institutional environment. The latter is measured by the Economic Freedom of the World index developed by the Canadian Fraser Institute.[2] This fact underpins the hypothesis resulted from the theory as long as one assumes that the unintended consequences of the regulation will lead to the formation of new interests group and at the same time, the regulators have some incentives to promote growth as well. This implies that in those countries where property rights and contracts are enforced more efficiently, regulation will be more coherent and "easier".

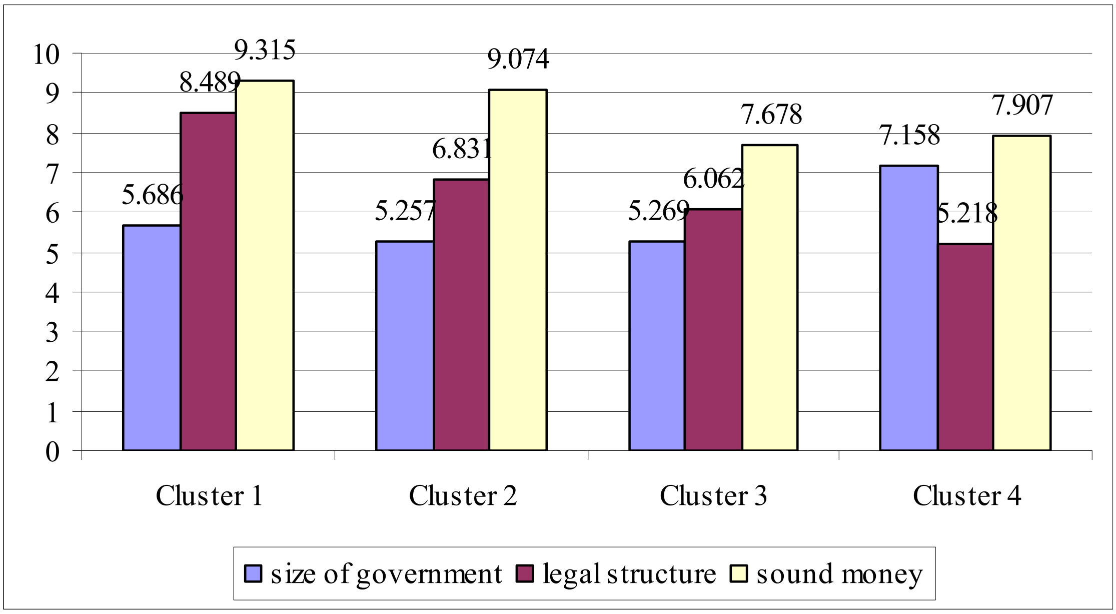

Figure 1. Values of different area of Economic Freedom for the clusters of developed countries
Source of data: Gwartney – Lawson (2005) and Doing Business (2006)

My argument is also strengthened by the three stylized facts I draw for the literature on regulation and growth. These are namely that (1) countries regulating less, grow faster; (2) the

[2] More precisely, only those areas can be seen on the figure that don not overlap with the similar measures of the doing business data on which the separation of the clusters is made.

different measures of regulation correlate with each other; and (3) this correlation is stronger in developed countries than in developing countries. In spite of all that has been said there seem to be some areas of regulation which do not follow the general trend, and do not move together with the other areas. In developed as well as in developing countries, measures of labor market regulation, and of registering property are those that do not behave as "well" as the other measures do.

5.2. Qualitative illustration: Botswana and New Zealand

To examine qualitatively the relationship between institutions and growth I chose two countries, Botswana and New Zealand, because both countries are said to be success stories form the viewpoint of economic growth, and the same time, both followed growth paths that one had not expected when looking at the initial conditions. Botswana has been able to grow in spite of the disadvantageous natural conditions, while New Zealand has lagged behind the pace which would have been expected from the extent of the free market reforms the country went through.

Looking for the secret of the growth of Botswana breaks down to the question, how this country has been able to avoid the trap of the resource course. Botswana has been getting wealthier thanks to diamond, but it is not evident that a country that is well endowed with natural resources will grow faster than those countries that are less luckier; it is just the opposite that seems to be the rule (Sachs and Warner 2001, Csaba 2006:442-444).

My brief reviewing of Botswana's success does not make it possible to give a comprehensive story of the country. I just tried to illustrate the conclusion of the theory and to formulate some hypotheses. My hypothetical narrative concerning Botswana's success is the following: The crucial question is why the government has been able to allocate the income from diamond mining based on long term principles of wealth accumulation. The first part of the answer, I think, is the far from perfect but working system of democracy, and the second part is the viewpoint of a stationary bandit (Olson 2000:6-12), which became relevant at the time when lands of the tribes were appropriated. This leads to the fact that the quasi autocrat prime minister should decide considering maximizations of wealth. Thus, the national development plans, the fundamental determinants of economic policy, were formulated on the principle that government policies should be based on rules, which prevented short sighted interest groups to take control over the allocation process. Besides, this created a tradition of rule based economic policy, which is the precondition of sustained growth. The high level government intervention, however, made it hard for resource markets to emerge, which may refer to a long term mechanism of the resource course.

The other country, New Zealand went through radical reforms in the late 80's and early 90's, as a result of which the country got very close to what one calls laissez faire. However, the growth process did not become as dynamic as one could have expected form the cross country data, or the experiences of some other countries suggested. Similar to my study on Botswana, this short review of the New Zealand reform is only capable to give some hypothetical answer to the main particular question, which is what caused that the economic growth were slower than expected. I hypothesize about two main causes. The first one is that openness of the country is not of as high level as that of other small and developed countries. The second hypothetical cause is that some reforms lagged behind the whole reform process.
When having a closer look at the first cause I further differentiate three reasons why New Zealand is not open enough. The first is geography. Even the nearest important market, Australia is 2000 km away, while the most important countries are even more distant. But this reason is not sufficient to explain the relatively low openness of the country. The second reason is that a very remarkable part of the country's export is made up of agricultural products. In addition, in this respect the main trading partners of the country are those developed countries that try to preserve their own markets against imports as an effect of the activities of their own interest groups. As a developed country New Zealand is not an exception, and the agricultural interest group and the regulation is relatively high, which is the third reason for the relatively low level of openness.

The second part of my hypothesis concerning the question of New Zealand's growth refers to the reforms that were lagging behind. These were those reforms that are of crucial importance form the viewpoint of Misesian economic calculation. It is no question that New Zealand as a developed country with an Anglo-Saxon cultural heritage has secure property rights system, and the risk of appropriation is extremely low. However, as I argue in the theoretical part of my dissertation, there is need for at least two additional institutional foundations for the market process to work: price stability and the freedom of contract that is made between entrepreneurs and resource owners. Sound monetary and fiscal policy, and free labor market came into being, however, only later in the reform process.

In addition to that have been said about the two countries above, these stories are good examples for the way a country goes according to figure 1, when it proceeds from the fourth cluster toward the first one. The paths of the two countries are of course very far from each other, although they are very similar in one respect: the level of economic freedom has increased in both of them. The most spectacular difference is that while New Zealand became freer through a drastic reduction in the level of government intervention, Botswana built up a remarkably big sized government. This does not contradict the conclusion shown by my cluster analysis. When the level of economic freedom begins to improve in several area, the size of government is increasing, and this is what happened in Botswana. Meanwhile the regulation of business is improving as well, but on one or two areas (such as financial and labor market in the case of Botswana) the level of regulation begins to increase. New Zealand is the other end of the figure: here, economic freedom was increased by reducing the size of government, which was attributed to a large extent to a drastic deregulation. Labor market deregulation plays a crucial role in this process. It is also important to keep in mind, that the increasing size of government in Botswana, and the decreasing size of that in New Zealand is not the reverse of the same process. In Botswana, the most part of the government expenditure is investment, while in New Zealand deregulation was aimed at reducing transfers of the welfare state.

6. Assumptions to be relaxed as possible further research

The conclusions of the dissertation comes form assumptions of which relaxation can make it possible to do further research on this area. A general omission that was made is the negligence of the political process. Thus I always assumed that economic consequences of regulation will motivate regulators the same way regardless of the country's political institutions, which are direct constraints on political decision makers. It is similarly not clear how and why the process of interest group formation may differ from one country to another, and how this can affect my results concerning institutional coherence. In sum, I think it would be a useful direction of research to examine how economic costs of intervention will become political costs for regulators.

Research concerning institutional coherence may be worth taking further. Newer and newer data are getting published and the measurement of institutional variables is developing fast. On the other hand, it is also not clear why some areas of regulations behave erratically.

A broader new way of research may be advancements in the area of measuring growth and development. The new and broader measure applied by the literature are all trying to bring some procedural notion into the measurement based on outcomes. The Austrian side of this coin may be the reverse direction, that is to try to bring some consequentionalist logic into the purely procedural subjectivist theory.

Another broader research question may be the relationship between empirical research and Austrian economics, since this school traditionally denies that predictions should be tested. However, I argued that this does not mean that there is no place for empirical research at all. After all this question is still open, I think, and my argument can be affirmed by more and more useful empirical research that applies theoretical Austrian concepts.

At last, the research on the theory of entrepreneur is worth continuing, by which I mean the examination of how entrepreneurial behavior is affected by different institutions, since the institutions I hypothesize the main part of my dissertation, property rights and freedom of contract, can be realized by different particular institutional solution.

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