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The PIE-model: *Politics – Institutions – Economy* - A simple model for analysis of the business environment

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1. Introduction

Societies all over the world are complex systems of human beings interacting with each other for making a living. Understanding these societies is essential for international business whatever the company interacts through foreign trade, outsourcing production or foreign direct investments - FDI. Choice of location makes it necessary to do an analysis of relevant foreign societies. The existing models for these analyses are often too simplified, static and without enough emphasis on key determinants for these societies – their institutions. The quality of institutions is an important part of the explanation for the level of development in different countries (WB 2002, IMF 2005, WEF 2006); but there is no simple link between institutions and economic performance (Rodrik 2004).

In later years, there have been drastic changes in institutions in many countries. Most markedly this happened in the countries in transition from command economies to market oriented democracies in Eastern Europe, but also the changes in India and China and other emerging markets are closely connected to important institutional changes although implemented in a more gradual manner. The institutional development must be analyzed in a holistic model including the dynamic interaction with politics and the macroeconomic development. This is neglected in existing models. In international business books like Brooks (2004) or strategy textbooks like Johnson and Scholes (2001) the analysis of the business environment is based on a PEST-model, or in an extended version as a PESTLE-models. This is basically just a checklist with the following elements: **P**olitical-, **E**conomic-, **S**ocio-economic-, **T**echnological-, **L**egal-, and **E**nvironmental conditions. However, this literature does not give a clear definition of the different elements; it does not include the dynamics between the elements; and it does not make appropriate emphasis on the role of institutions.

The ambition behind the development of the PIE-model is to get behind the development of institutions. The analysis shall be holistic – so the economic, political, and institutional developments are understood in relation to each other and not just listed separately. The interaction between these elements must be emphasized and the dynamic perspective must show how the different elements influence each other and go into processes of dynamic change of the whole model. At the same time the goal is to make a relatively simple overview over the main elements and their interaction. The idea is that it can be used for a relatively simple analysis of the framework of a given society.

It is of course not possible to make a correct model of the complex world. There will be a lot of simplifications. This concern also the specific definitions of the different parts in the model and the problem of where to put different sub-elements which overlaps with different systems, see figure 1. This is a first draft, deeper theoretical background and more empirical examples will be added in later versions. It must also be stressed that when the PIE-model is applied to a specific analysis the different elements must be weighted and adjusted to the specific analysis. In the end of the paper more advice is given for customizing the analysis seen in relation to a specific industry and type of strategy choices. Specific indicators for measuring different variables are suggested in the appendix.

2. Presentation of the model

2.1 Overview

Human beings devise institutions as constraints on human behavior to shape human interaction North (1990). The political and economic institutions of a society define the rules of the game between the citizens in a given society, and high institutional quality is a main driver for growth. This is the reason why *institutions* – both formal and informal – are included as a main system in the model of society. The *political institutions* define the rules for how the political system functions through the constitution. The *economic institutions* set the framework for the rules of the game in the economy. The *informal institutions* laid down in the given culture set the unwritten rules of the game both for politics and economy. The change of formal institutions is done through the political process – therefore, the arrows go both ways between *politics* and *institutions*.

Politics are based on the distribution of power, income and resources on the citizens, who can be divided into different *social groups* in relation to this distribution. Different cultures also play a role in relation to different ethnic or religious groupings. This makes a connection between the informal institutions and social groups. It may be argued that politics also should include the political institutions – the formal rules for how decisions are made in the political system and some informal institutions are also closely related to the political process. However, to specify the dynamics between the political processes and the changing institutions, the political institutions are taken out separately to form an important part of the institutional system. In this way politics and institutions overlaps considerably. This is also the case for many other elements where e.g. economic policy could both be defined as part of institutions on a more applied level, and as part of politics, and in fact also as part of the macro economy. Financial systems could be included as a special market under economy, but here it will be included as an economic institutions important for the functioning of other markets. Thus, a choice must be made to make the model operational – as done in figure 2.

Figure 1 Overlapping PIE-Model: Politics – Institutions – Economy

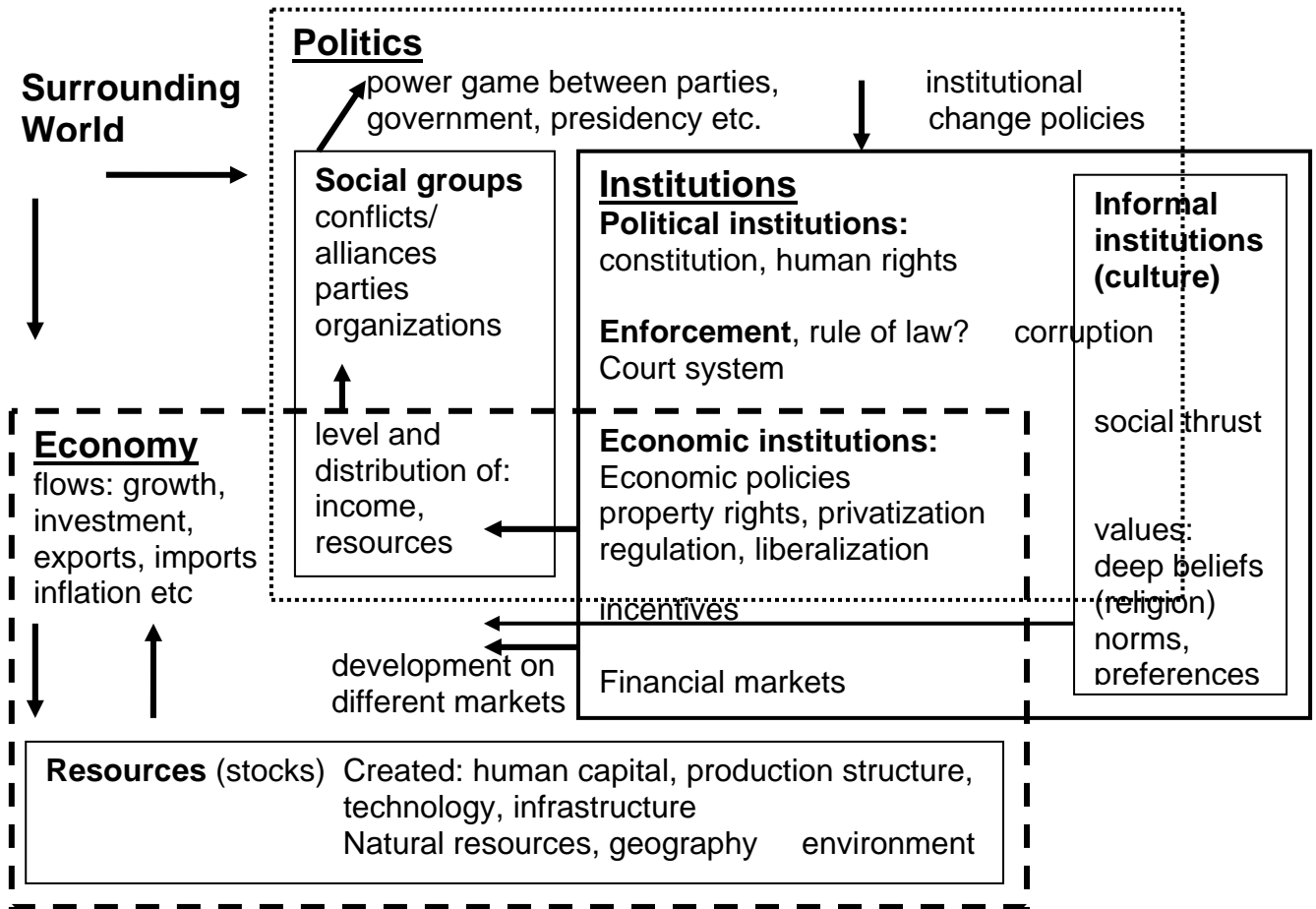
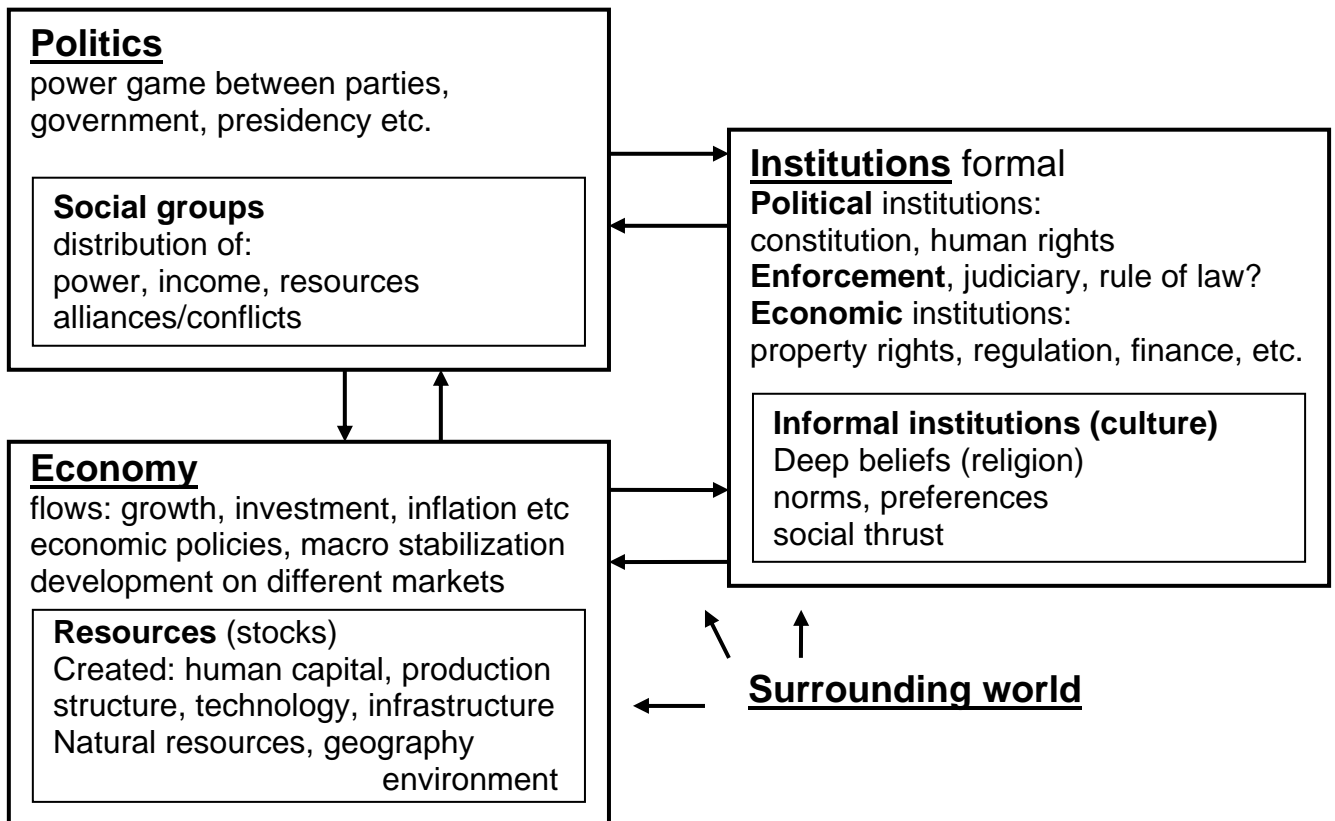


Figure 2 – Dynamics of the PIE-Model: Politics – Institutions - Economy



The *economy* is divided in two parts: the *flow* variables, such as GDP, investments, consumption, etc. and the *stock* variables, such as human resources - size and quality of the workforce - capital equipment given in the production structure of enterprises, the technological level imbedded in this structure, the infrastructure, and the natural given geography and resources. Flow variables like net fixed investments make up the addition to the stock of capital equipments. The *economy* is strongly influenced both by economic institutions – and the economic policy determined in the political process. At the same time the *economy* lays the base for the distribution between different social groups. The economic development, the accumulated resources at a certain technological level also influences the potential and high quality and enforcement of institutions. Therefore, figure 2 includes arrows in both directions between the *economy* and the boxes of *politics* and *institutions*.

Finally, is it important to include the influence from the *surrounding world* on all the three systems: International pressure and alliances influence *politics*. International pressure, benchmarks, and supervision influence *institutions*. International interaction through trade, FDI and other types of economic cooperation has strong influence on the *economy*. Also here is a feed back effect – like the effect on global oil prices from China's growth. However, the different links in the model have different weights depending on the specific analysis. This will be exemplified in the following.

The processes of change in institutions are often started in the political system by powerful groups believing that their situation can be improved by some institutional changes. Politics are the driving force for institutional change. At the same time the institutions set the framework for how this political change process is run. The institutions determine to a high degree the functioning of the economy and the dynamics in the economic system are decisive for the living conditions for different social groups and thus their political reaction to the economic performance.

The interaction between the three systems makes it clear why the term of *path-dependency* is important: The current institutions are the result of earlier developments, at the same time they set the rules of the game for future changes. Some groups have an interest of keeping the status quo and if they are strong enough their defense of current institutions may be an important barrier for change. In other cases social groups interested in change may be strong enough to initiate such changes in the institutions which if successful can consolidate their power and push for further changes. The dynamic interaction is path-dependent – the initial conditions are decisive when determining the next step. The dynamics of the system will be further discussed in the following, but first it is necessary to go deeper into each of the boxes and give some indicators for the different elements.

2.2 Some sources of inspiration

The theoretical foundation is not in the PEST or PESTLE models since they are just checklists of keywords without clear definitions and no precision of their interaction and dynamic development. The ambition of making an overall picture of understanding of society goes back to the early history like Platon's "The State". However, here shall not be given a comprehensive discussion of the development of different theoretical models of society, the idea is just to give some of the main sources that has given inspiration to the PIE-model. This model may also be seen as a second generation of the dynamic model of society developed in Mygind (1994): *Societies in Transition*.

The close relation between politics and economy was a key element for the classical economists like Smith, Ricardo, Mill and their opponent Marx. Later the neoclassical tradition focused more on "pure" economics, but with macroeconomic theory as a base for economic policy. Marx also had much focus on institutions and he stressed the social groups/classes as the historical driver of change of these institutions. Later the old institutional economist like Veblen followed this tradition. The new institutional economists also see institutions as key elements for the economic analysis, but they follow a more narrow neoclassical tradition. They analyze institutions as economic variables converging to a new equilibrium securing efficient use of the scarce resources. The leading institutional economist, and Nobel price winner 1993, Douglass C. North can be placed somewhere between the old and new institutional economists (Van de Mortel 2002). The contribution of North has been to give more precise meanings to institutions and how they work. He also explains institutional change, but has in his later works emphasized the barriers for convergence to efficient institutions – the institutional system can get stuck in inefficient institutional setting because of the distribution of power (North 1994). However, political processes are not integrated in this work, and the relation between politics and institution should be more developed. The idea in the PIE-model is by specifying the functioning of both the political-, institutional- and economic systems to be able to give a more precise analysis of the dynamic interaction between these three systems.

2.2 Politics

2.2.1 Social groups

Social groups can be defined in relation to different and to some extent overlapping criteria. An important criterion is based on the distribution of resources in the economic system. This corresponds to the traditional Marxist concept of economic classes. The classes are defined in relation to their position in production including their ownership or lack of ownership to economic resources. The political game between different social groups around the distribution is a main driver for the dynamics of the system. There is link between ownership to economic resources and political

power. Groups controlling essential resources are within given institutional constraints able to convert their economic power position to high influence in politics. This is often the case for groups with important capital resources. However, although the groups of workers have no capital ownership, they may gain political strength through unions and political parties. If there are democratic political institutions and if the workers are well organized, their high number may give them a strong position at democratic elections or through the threats of strikes.

The main social groups defined from their interest in relation to employment and ownership of resources are: farmers and agricultural workers; workers in manufacturing/services; small independent entrepreneurs; white collar workers in private sector/public sector; owners and managers of large enterprises; top bureaucrats, political elite, unemployed and people outside the labor market. Note, however, that the relevance and definition of different groups changes over history. Indicators of social groups can be based on distribution of employment on different sectors, the distribution of income and wealth, educational level etc.

The formation and importance of different social groups is closely related to both institutions and economy. The technological development determines to a high degree the number of workers in different industries. Many years of high growth in productivity in agriculture in developed economies meant that farmers and agricultural workers, who some centuries ago were the big majority of the population, now make up only a small fraction. The relative fall of manufacturing in later years means that the group of blue collar workers has lost importance while wage earners in IT, communication, public administration, health and education and other services have increased in numbers. The development of different groups and the distribution of income are closely related to economic development. The specific institutions for taxation, for regulation of the labor market, the development and regulation of education are important factors behind the distribution.

There are also strong connections to the informal institutions – some groups are defined from ethnic and cultural divisions often with overlaps to the social economic background. In countries like India, Turkey, or Bulgaria there are specific political parties organizing special religious groups.

2.2.2 Political processes - politics

The social groups and the political processes have been placed in the same box because of the close relationship. Conflicts, alliances and developments in relative strength of the different groups – the development in their organizational strength – go directly into the political processes. In some countries like in Scandinavia unions and parties representing the workers have for a century had a strong

position and dominated governments for long periods. In other countries like in Latin America conservative parties based on landlords have dominated politics for many years. Complex dynamics from technological development, institutional changes, and international pressures influence the power structure in politics and new groups may take dominant political positions. These political changes are important to follow because they determine future changes in institutions, economic policies, and thus the development in the economy.

Based on the political institutions and the way the political processes actually functions there can be defined a broad specter of different political systems from highly centralized authoritarian regimes to broad based democracies with strong political competition between different groups. To what degree are the different interests of different social groups in fact represented in the government? How much influence do those groups not participating in government have on political decisions? Is there a strong opposition which can challenge the current government and develop relevant alternatives for the solution of important problems? This can be measured as the degree of political competition – increasing with more veto point for different groups in the political process. The more political competition - the more the current government has to negotiate with opposing groups and make compromises. In an overview of the first ten years of transition the World Bank (2002) found that those East European countries with most political competition had also most progress in economic reforms. It may be argued that a stronger government with a less powerful opposition may be more stable and able to make deeper changes. Probably this was the case for some of the development in East Asia including the reform process in countries like Singapore and China. It is not given that the experience from Eastern Europe can be transferred to other institutional including other cultural settings. The dynamic processes change with different conditions in the three systems.

The role of the media is an important part of this process. Are the media independent from the government and do they put forward relevant criticism of the political decisions? Is the political process made transparent so the channels of influence of different groups and distributional consequences of given policies are made public? These processes are important for balancing different interests in a dynamic setting with changing technologies, international relations and changing institutions. Democracies with high political competition may have an advantage, though the political decision process may be slow and complicated. If the different interests are not balanced in the political process the result may be more abrupt changes in policies and less stability in the long run. This means higher political risk seen from the point of view of foreign business partners.

The political processes must be seen in close connection to the development in the political institutions. The institutions are changed through politics and at the same time institutional changes can imply important changes in the actual political power structure. The rule of the game for politics is defined by the political institutions. This includes also the possibilities for organization of different social groups in unions, political parties etc. The democratic revolutions in USA and Western Europe some hundreds years ago came after drastic changes in the power structure often through violent takeovers and were accompanied by the introduction of democratic constitutions. The transition in Eastern Europe was initiated by gradual political changes in the Soviet Union opening up for deep political changes in the Soviet dominated countries starting with Poland and Hungary. Here, followed a change in the political institutions and a further change in the political power structure with a strong backlash effect ending up in the dissolution of the Soviet Union (Mygind 1994).

2.3 Institutions

2.3.1 The quality and enforcement of institutions

According to North (1990) institutions are any form of constraints that human beings devise to shape human interaction. Institutions bring structure into human interaction and thus decrease uncertainty. This is done by defining the rules for the distribution of power and how processes shall be run in the political system, how property rights are protected and distributed in the economy, how criminal codes are defined and enforced etc. The formal rules function side by side with the informal or the unwritten rules. These informal institutions work not only within families and closer groups, but also within relations to colleagues at the workplace, in relation to business partners etc. Informal rules regulate what is the appropriate behavior in situations not covered by formal rules. When these rules function the reactions and behavior of the different agents become more predictable, uncertainty decreases and coordination becomes easier. Thus, transactions costs are lowered and business-relations and market processes function more smoothly (Williamson 1985). In a system with high quality institutions it is easier and less costly to make transactions and thus securing higher efficiency in the interaction and cooperation between human beings.

It must be noted that there are some often implicit values behind measuring the quality of institutions – values that may change over time and vary with different cultures: Democracy with political equality is preferred to authoritarian systems, equality for the law is preferred to different forms of favoritism, systems that motivate entrepreneurship and innovation and thus competition and economic growth is rated high, while economic equality may not go into the different benchmarks. Thus, political judgments are included. There is no objective definition of the best set of institu-

tions. A given set of institutions lead to a certain outcome in the economic system with a certain distribution between social groups. Different groups may thus prefer different sets of institutions.

The quality of formal institutions is relative to the given culture and given natural and technological conditions. Some formal institutions may work well in a given cultural setting and be a failure in other settings – e.g. some kind of state regulation may work much better in a society based on a high degree of collective values compared to a more individualistic oriented society.

When evaluating the quality of the formal institutions it is important not only to look at the rules as such – the letter of the law – but to include to what extent the rules are actually enforced – the practical implementation of the law. Effective *enforcement* is necessary to for high institutional quality. The experience from transition countries shows that it may be easy to pass nice legislation, but difficult to make the administration and court system function to effectively enforce this legislation. Long traditions of personal networks, favors to family and friends and other types of corruption with roots in the culture may be difficult to change and makes enforcement relatively weak.

The changes of institutions depend on the power of different social groups and the political processes. Closely related to this is also economic and technological development. In addition the informal institutions play an important role with most cultural values changing only slowly over time. Thus, institutions vary much between different societies, and it comes as a package with a certain fit between the formal and the informal institutions.

Still, some institutions turn to be more efficient in terms of developing business and economic growth and from this observation there have been developed different measuring sticks for the quality of institutions. Political institutions may be measured in relation to how they guarantee human rights and economic institutions in the ease of doing business. It is a difficult task to make these measures. An often used method is to make a poll by asking a group of experts in the field about their perception of the quality of institutions in certain areas in a given country. This is the case for most of indicators used by World Economic Forum (WEF 2006) and World Bank – “doing business”. Another method is to survey a high number of firms on the different barriers business activities in their country. See the World Bank “enterprise survey”. In the World Bank governance index Kaufman et al. (2006) have made a mesa-study by combining a number of different studies. They include the highest correlated results and exclude outliers. The indicators give a clear indication of quality measured in relation to democracy, equal rights, and equality before the law. Their six 6 aggregated governance indicators and some indicators from other sources are given in the appendix.

2.3.2 Political institutions:

The formal rules of the political game are given in the national constitution. It defines the rules for the political process including the formal power division between government, parliament, and judiciary with checks and balances to avoid abuse of power. Is it a democracy where the political leaders are accountable to the majority of the population or a one party system like in China? Is it a system with a strong president like in US or Russia or a parliamentary system like in most of Western Europe? How are elections organized: by proportionality or election in single constituencies like in UK? Is there a high threshold for party representation like 7% in Russia? Is power concentrated in the center or is much power given to regions and municipalities? What are the guarantees for human rights of speech, voting and association? Does the ruling government take strong positions in the media or are there good possibilities for the media and the opposition to make transparency around abuses of power?

2.3.3 Enforcement – rule of law – part of both political and economic institutions

The constitution defines the role of the state administration and the judiciary of implementing and enforcing the law. In this respect these organizations are part of the political institutions. They enforce human rights and other political institutions defined in the constitution. If the court system is not impartial, nicely defined human rights may not be enforced in practice. In this way the quality of the actual enforcement is an important part of the institutional quality. The state administration and the judiciary are the organizations implementing the formal rules not only the political, but the economic institutions as well. Therefore, the quality of these organizations, the administrative capacity of the state and the ability of the court system to impartially enforce the letter of the law determines the actual implementation of the formal institutions. Is there a *rule of law* – so the individual entities are treated equally in relation to the rules and the implementation of legislation?

To what degree does *corruption* distort the functioning of the system and the rule of law? When personal networks, favoritism takes over instead of formal rules, the informal institutions are dominating. In this way there may be important unwritten rules for the behavior of state administration and judiciary. These rules will be much less transparent especially for foreigners not having access to the relevant networks and not knowing the local traditions. In this way there will not be rule of law and uncertainty and transaction cost will increase for most players.

2.3.4 Economic institutions

The economic institutions cover the rules governing the economy. This includes rules for property rights over the resources – the distribution of ownership rights to control and rights to get the surplus from production. These rights are closely connected to the institutions for corporate governance. The economic institutions also include the rules for the distribution of rights between the state and individual entities – the degree of state regulation versus liberalization. Finally, it sets the institutional framework for economic policy including rules for the central bank and the regulation of the financial sector. The financial sector itself is also included as an institution since it functions as leverage for other markets in the economic system.

The economic institutions of property rights distinguished the former command economies with state ownership from market economies with decentralized private ownership rights. In a market system economic institutions protect property rights both against appropriation by the state and against other private entities threatening these rights with illegal means. Clear property rights are important for making trading of goods and services possible and for creating a market for control of enterprises as well as for land and other assets. Bankruptcy legislation is necessary for securing creditors' rights and the development of the financial system. More specific rules are implemented in company law, rules for company auditing and disclosure, and for the organization of corporate governance. There are quite different models of corporate governance in different developed Western economies. The market based Anglo-American model with a strong role for the stock market, the bank based model in Germany and Japan with a high degree of bank ownership and control with companies, and the continental European blockholder model with highly concentrated ownership (Denis and McConnell 2003). The identity of the dominating owners is of high importance for corporate governance and the role of the owners in the economy.

The *financial sector* can be more or less directly owned and regulated by the state. The main role is to channel funds from households and companies with surplus of savings to entities in need of funds. Main indicators are: domestic credit to the private households and enterprises in percentage of GDP and non performing loans in total loans.

The market orientation of the economy versus state regulation can be measured as the degree of *liberalization* in different areas, such as the degree of price liberalization, the degree of regulation in relation to setting up new businesses, the openness of foreign trade, FDI and other capital flows. The tax system can on the one hand be taken as a barrier to business. On the other side a well-functioning public sector may help to stabilize and develop the economic system. Strict rules for

competition and some regulation of monopolies may secure free entry. In the labor market, the state may play an important role for training, social safety net and securing flexibility. Also health, education and research may weight heavily on public expenditures. The developed market economies have quite different types and degrees of state involvement. In the US model public expenditures make up a relatively small proportion of GDP while it is high in the Scandinavian economies. Most indicators take high taxes as negative; but do this mean low institutional quality in Scandinavia?

2.3.5 Informal institutions – Culture

The informal institutions are even more difficult to classify than the formal. The unwritten rules are transferred from one generation to the next by socialization, and for foreigners it may be impossible or take many years to learn these rules. The informal institutions can be categorized in different levels from deep beliefs about fundamental questions about life and death - often closely connected with religion - to norms and preferences covering daily life. The values on the most superficial level can change rather fast following often short lived fashion trends, but deep beliefs change in most cases rather slowly. Williamson (2000) assumes that the basic informal institutions change within a time horizon of more than 100 years, while formal institutions can be changed much faster. After the transitions in Eastern Europe it is remarkable how the church has reappeared in many peoples daily life. However, these deep values have been quite strong all the time and only reappeared on the surface when the repression of religion was abandoned. On the other hand many of the routines of hoarding goods because of deficits in the shops disappeared when prices were liberalized and the shops filled with goods, though at much higher prices. The routines of neglecting customers have taken a bit longer to change, but still remarkable changes happened within quite few years.

It is a common myth that East Europeans because of the low motivation and lack of competitive pressure in the command economies developed a culture of high risk aversion and this would mean a low element of entrepreneurship in the new market economy. However, an early study (Shiller et al. 1992) showed that the basic attitudes to risk were the same as in Western Europe, but because institutions were less developed and the situation were much more uncertain people were reluctant to start up new ventures.

An important part of the informal institutions is the degree of social thrust in the society. Do you expect your neighbor, your employees, and your business partner to use all possibilities and loopholes in contracts to cheat you? Then you need very detailed and complex contracts and insurance systems before you go into transactions with them. Or do you in general expect your fellow citizen to follow strong moral rules and work for the mutual benefits when going into cooperation? In the

last case there is a high level of social thrust. This means low transaction costs and easier conditions for doing business for mutual benefits. Social thrust is often connected to homogenous cultures, personal networks, and may cause special problems for cross cultural transactions. Social thrust may be depleted in situations of drastic political and institutional change with high uncertainty about the rules of the game – in relation to the transitions in e.g. Russia you may argue that there was a moral vacuum in the years following the revolutionary changes (Mygind 1994).

It is very difficult to categorize and to develop indicators for informal institutions. The most well known attempt was done by Hofstede (1983) comparing the attitudes a high number of IBM employees in 40 different countries all over the world. Based on this study he categorized cultural attitudes in four dimensions: collectivism/individualism; high/low power distance; masculinity/femininity; and high/low uncertainty avoidance. In a later work Hofstede (1988) added: long/short term orientation. The indicators have caused much debate about the general validity of these categories – a debate not to be followed further here.

2.4 Economy

2.4.1 Economic flows, economic policy, markets

The economic system includes both the flows of production and income and the stocks of accumulated resources. Economic policy is also part of the economic system although it also includes elements of both politics and of economic institutions - a change in tax structure can both be understood as a change of the economic institutions as well as part of fiscal policy. Economic policy directed toward macroeconomic stabilization is included in the economic system while more structural policies like labor market policies defining the rules of the game on the labor markets are included in the economic institutions. However, there is a floating borderline which shows the close relation between the rules of the game, the actual policies and the results on economic variables.

The functioning of the economy and the results on flows such as GDP is determined in a complex interaction between economic institutions, culture, economic policies and resources. The economic institutions determine a set of incentives which influence the behavior of the agents in the economy. Their behavior is also strongly influenced by the informal institutions and the actual preferences they have build into their mental model of what they think is good and bad. Thus, the same set of formal institutions may influence people with different cultures quite differently. This can be the case both in relation to work effort, willingness to take a risk, consumption, savings patterns etc. Thus the formal and informal institutions are complementary – and functions as a package.

The quality of the formal institutions including their fit to the informal institutions - culture, drives the behavior and the performance of the economy. Bad working institutions make high transaction costs, low incentives for starting new production and for improving current enterprises. Thus, economic performance is closely connected to the quality of institutions lowering uncertainty and transaction costs and increasing the incentives for innovation and high effort. Economic policy play an intermediary role in this respect since a certain level of macro economic stability is necessary to promote business activity. High inflation means high uncertainty and thus lower investments and innovation. High unemployment indicates that the current resources are not used efficiently and changes in economic policy and/or economic institutions are needed. High trade and current account deficits may also be a warning for necessary strengthening of economic policy.

There is a close link between growth and economic resources. The quality of these resources determines their productive potential. When a country makes high investment in developing human capital and in fixed capital of enterprises and infrastructure it increases the potential for future growth. The actual returns on the accumulated resources depend on the quality of the institutions. The stagnating growth and crisis in the Soviet command economy in the 1980s is an illustrative example: The investment rate was very high, but the institutional setting of the command economy did not give the right incentive to allocate and exploit the investments efficiently. The result was steeply falling returns on the invested capital leading to a steep fall in growth rates (Mygind 1994).

A specific part of the economic system is the development in different markets at sector and industry level. This includes structural changes of production. The conditions for the development of a certain industry are given by the economic institutions. The degree of liberalization: licensing and other entry barriers for starting new firms, openness for foreign competition, taxation, rules and implementation of competition etc. are important for the competitive pressure on companies, which may lead to upgrading of product quality and improved global competitiveness (Porter 1990).

The macroeconomic development is to a high degree reflected in the development of different markets. However, there may be important differences between different industries dependent on specific political and institutional conditions - industries competing internationally are more dependent on the degree of openness, the construction sector more dependent on the development in the interest rate, the IT sector rely heavily on the educational development etc. This means that it is often relevant both to make a PIE analysis at the macro level and at the industry level, see section 4.

2.4.2 Economy – resources

Though some of the resources in a country are given by *nature*, normally most of them are *created assets* build through the flow of investments over a longer period. In this way there is a close connection between the flows and the stocks in the economic system.

The *human capital* is the main resource in most countries, however with big variation in size, composition and quality. The prospects for the size and growth of the population at least in the short term are quite easy to predict. In the longer run it varies with birth rate and lifetime expectancy - both sensitive to the level of income. From this the potential labor-force in certain age groups – e.g. 15-64 years - can be deducted. The proportion of the young and the old part of the population outside the working age group gives the so called dependency rate. This rate is increasing when a population turns older as it has been the case for all developed countries. However, with increasing average income and life expectancy there may a tendency also for prolonging working life, so the dependency rate should be corrected for this.

The participation rate also vary between countries with different income levels and different cultures e.g. in relation to participation of women on the labor market. Together, these numbers lead to a measure for the total *active* labor force. Still, the quality of the labor force measured by the educational level is important for estimating the income potential. This is often measured from the participation rates on primary, (basis school), secondary (high school) and tertiary education (university level) education – although the quality of educational levels varies, these numbers give a rough estimate of the quality of the work force. The level of education and the general health and life-expectancy of the population is directly related to the quality of the educational and the health systems. Both systems may be best measured from their outputs in the educational level of the population as well as by health indicators such as life-expectancy. However, the number of university-teachers, the number of medical doctors per capita etc. may also be used as indicators.

Another very important resource is the *fixed capital* in enterprises. This concerns both the *volume*, the *structure* on small and large firms and on different industries, and first of all the *quality* both as the technological level and the appropriate fit to current market demand. It is difficult to give a correct measure for this. A market measure like the stock market capitalization can be used for some enterprises, but in most countries the listed companies makes up only a small proportion of all enterprises and of total production. Often the flow of production is used as the best estimate of the potential. This also concerns the structure of industries. It is important to see the structure in relation to the value on the market. Take. the value of the old Soviet industry after jumping into the market

in the start of the 1990s. Many of these enterprises turned out to be nearly worthless, because the products and production methods did not fit to the new cost- and demand structure after the change from plan-bureaucracy-driven to customer driven demand. The result was a steep fall in production (Mygind 1994 and 2007) which came as a surprise not only for the population, but also for most economists. To estimate the value of the productive capital it must be considered to what degree it has been adjusted, restructured, to the demands of the market. A long period of protection followed by liberalization may reveal a lot of unprofitable equipment in high need of restructuring. At the same time such liberalization may open up for many new investment opportunities.

There is a close connection between the economic institutions and the incentives to build up a competitive production structure. This covers also the incentive for *entrepreneurship and innovation*. Indicators for the quality of the production structure may be measured by the added value in the goods produced by these enterprises, but also measures of high tech content in production can be used as an indicator, but there is often much uncertainty in these measures. Production of e.g. mobile phones may count as high tech production, but if the given country only makes assembly done by low wage unskilled workers, this categorization may be misleading. Flows like research and development in percentage of production or the number of new patents may also be relevant measures.

Where well developed institutions were the regulatory condition for low transaction cost, a well developed infrastructure is the condition for low transport and information costs. The *infrastructure* is an important part of a country's resources. Developed transport and communication structures mean that people, goods, services and information can flow around within the country and to the outside world at relatively low costs. This is important not only for costs, but also for the development of competition. The infrastructure is closely connected to the *geography* given by nature. It is much more expensive to build highways in the mountains than in the lowlands, and easy access to the sea contributes to foreign trade (Sachs 2003). In general, the conditions given by nature are very important for a country's resources. This concern: *location* related to other countries; the conditions for developing the infrastructure; *raw materials* extractable from the underground; and the *climate* and land conditions opening up for different types of *agriculture; forestry and energy* production (wind, water, sun). The exploitation of the potential of nature and the possibility for overcoming geographical barriers depend on the technological opportunities. A change in technology like the development in telecomm and IT has opened up for new opportunities in quite remote areas.

Finally, it is important when measuring the resources to include the *human destruction and depletion of natural resources*. Oil-production leads to a fall in the oil reserves and thus may not make a

country richer in the long run. At the same time the production and consumption of a given commodity may lead to pollution and destruction of nature. This results in a fall in the value of this nature and the income and living conditions it can give future generations. This means that some kinds of production which today is measured as an increase of GDP in reality means a fall measured by a broader based GDP which includes the destructive effects on the environment.

2.5 Surrounding world

The surrounding world has not been included as a separate box in the model in line with the PIE-systems, because the impacts from the outside world can be included in the analysis of each of the three sub-systems. Still it is worth mentioning some main interactions with the surrounding world:

International relations and political developments in other countries are important for the actual problems and the political agenda in a given country. International organizations, security issues, conflicts and alliances with other countries etc. have a direct effect on national politics. Different social groups may go into different alliances with groups in other countries.

The change in political and economic institutions is often inspired by other countries. Different kinds of international organizations may have direct influence not only by setting benchmarks e.g. in human rights questions, but often countries go into international alliances and agreements that bring direct change in their institutions. The development in regional cooperation - most developed in EU, but also in other regional organizations like NAFTA, MERCOSUR or ASEAN - means that the member countries have to adjust many of their institutions to common rules. This is also the case for membership of the WTO. Organization like IMF and the World Bank often in their role as demanding creditors may also make strong pressure on countries both in relation to development of their institutions and on economic policies.

The national economy cannot be separated from the international economic development. Foreign trade, capital flows, FDI and other forms of economic cooperation make the foreign dimension an important part of economic policy and successful foreign economic relations contribute to economic growth. Foreign trade and FDI are important indicators for these relations. The development in FDI and portfolio investments can itself be used as indicators measuring foreign investors' expectations to the economic development and their estimates of the quality of institutions (Bevan et al. 2004)

3. The dynamics

The dynamics of the model lie as well within the three subsystems as in the interaction between the systems and in relation to the surrounding world. The dynamics within the subsystems are mainly from social groups to political process in the political system; between the economic and political institutions and between the formal and informal institutions in the institutional system; and between macroeconomic flows and resources in the economic system. Even within the different parts like in economic policy, or in the package of economic institutions there are important dynamics and complementarities, where a change in one part induces a change in the other. In this section the focus will be on the overall dynamics between the three systems some of which can be illustrated by virtuous and vicious circles of development. I must be emphasized that the specific dynamics and weight and direction of the causalities depend on the specific conditions in the given society:

Dynamic development can come from several sources, but in many cases the initial process may start a chain of changes where it may be difficult to distinguish what comes first - the chicken or the egg. Technical developments in the economic system may change the economic performance and have effects on income and living conditions for several social groups. This may trigger political change and then changes in institutions accommodating further technological change. The development around the early industrialization, the democratic revolutions and the liberalization of the Western economies is the classical case. For IMF (2005) the history of industrial development of USA and Western Europe is closely connected to the constitutional revolutions introducing democracy in USA 1789 and most of Western Europe around 1848. This change in political institutions was followed by reforms of economic institutions securing property rights and rule of law leveling the playing field and opening up for entry of new firms resulting in intensified competition.

This process made the base for the Western advantage in contrast to the economic development in Eastern Europe, Latin America, and China who got caught in a vicious circle of poor institutions and lagging economic performance. The political elites had quite unconstrained power and used their position to extract rents and restrict entry and competition which could challenge their position and wealth. Such a process may result in a negative circle of stagnation where some privileged groups monopolize political power, conserve outdated institutions to consolidate their position, and suppress social groups who challenge their power. This may lead to low efficiency in the economic system, but can be reproduced because of access to a constant flow of easy accessible natural resources like oil. IMF (2005) finds that countries with large natural resources tend to have fewer institutional transitions because rent extraction by elites work as a strong barrier for change.

The development in IT-telecommunication, transportation etc. has been an important trigger for the current globalization process with political changes toward more international orientation, more open economic institutions, global competition and increasing international economic integration.

Important initial changes may also occur in the informal institutions. Take the early development of Christianity or Islam which was an important part of the political processes and power games in the centuries after the collapse of the Roman Empire. Still the egg and hen modification is relevant: change of formal institutions and technological changes were also interacting in these processes. Change in attitudes like the national awakenings in the late 18th and in the 19th century also played an important role behind the democratic revolutions in USA and Europe.

A virtuous circle – a positive self-enforcing circle – can occur if demands from social groups lead to political changes, which again drives institutional reform. If these changes are successful they improve the incentives and functioning of the economic system. This may satisfy the demands of important social groups and consolidate the power of the reform oriented politicians who then can make further reforms and institutional changes. The gradual market oriented reform process in China has to a high degree followed such a virtuous circle (Mygind 2007b).

These circles go mainly clockwise in figure 2, but there are also interactions with the opposite causality – e.g. when some political processes lead to a change in political institutions which again changes the power-structure supporting further political change. An illustrative case is the development in the Soviet Union when Gorbachjov's gradual democratization led to a strengthening of the reform wing - including the election of Jeltsin as the leader in Russia (Mygind 1994, chapter 7)

The development in the Western market economies and the recent development of transition in Eastern Europe are cases where the political institutions change before the economic institutions. However, in East Asian countries such as South Korea, Taiwan and Singapore market orientation and industrial take off happened in a period dominated by authoritarian regimes. After some years of high growth there was a change in political institutions with development of democratic systems. This example shows that the dynamic forces may be different depending on the conditions in the different systems. Thus it may be argued that special Asian cultures with high respect for authorities, long time-horizon with a very high savings rate played an important role in this process. An interesting question in this content is whether the development in China will follow the same pattern of democratization when the income reaches a certain level for a broad part of the population?

4. Use of the PIE-model

The PIE-model is mainly made for analysis at the level of society. However, such a macro analysis can be supplemented with a more industry specific analysis related to the demands of a firm wishing to investigate the potential in a specific industry. Such industry analysis may include other industry related tools like Porter's Diamond (Porter 1990) for analyzing the competitiveness of a given industry or Porter's Five Forces (Porter 1980) for analyzing entry into a given industry. The PIE analysis could be done in two rounds: first at the macro- and then at the industry level, or the macro analysis could have subsections for more detailed industry-level analysis. In the macro PIE analysis you analyze e.g.: general wage-level, general market volume, exchange rate, etc. In the industry level PIE you analyze: specific political initiatives and risks in relation to the specific industry, the role of competitors in relation to the political system. At the institutional level specific health and safety regulations or trade barriers for this industry may be relevant to analyze. In the economic system you may analyze specific industry developments of wages, availability of labor with the necessary qualification etc. A deeper analysis of competitors may also be included.

The weight between the different elements of both the macro and the industry analysis also depends on the strategy of the company. If the focus is to offshore production or use cheap factors in the host country, the focus will be on elements such as wage development, the quality of labor, or exchange rate developments - still these factors must be seen in the political and institutional context. A long run FDI decision to develop e.g. the pharmaceutical market in a given country with location of production in this market makes it necessary to estimate the long run trends, opportunities and threats both at the level of society and at the industry level. Thus, the overall PIE analysis must focus on long run market potential, long term political stability, long run institutional trends, long term development in wages and purchasing power. The industry-focused analysis will focus on legislation in relation to drugs, IPR, and political development that may change this legislation, labor supply, education in medicine, etc. The quality of the infrastructure will play an important role for the exact location. The industry analysis may focus on other players both existing and potential new entrants.

The time horizon of the analysis depend on the specific purpose - an export decision without binding contracts into the future may be based on developments within a rather short time horizon, while FDI decisions usually point several years into the future. Note, however, that especially the institutional indicators are more stable than macroeconomic variables and therefore the PIE-analysis is best fit for longer trends.

Appendix – list of main indicators and some sources (preliminary - to be extended)

The intention behind this list is to give some ideas of variables that may be included in the analysis and to list some sources and types of available indicators. A specific country analysis shall also include relevant national sources: Statistical offices, central banks, government etc.

POLITICS

Social groups

- Employment in different sectors,
- Income distribution, before/after taxes and transfer incomes
- Wealth distribution
- Age distribution
- Distribution on ethnic groups

It is important to try to track the dynamics in strength, conflicts and alliances, and to specify the relation to the development in the economic system.

Possible sources: WDI-online, OECD (both through CBS library), National statistical offices

Political processes - politics

- Size of main parties represented in parliament and their relation to social groups. Parties may be defined on several dimensions: left-right scales in relation to liberalized markets versus state regulation; nationalism versus international openness; secular versus religious.
- Current government
- Other important organizations if relevant, e.g. unions, religious organizations,
- The role and possibilities for the opposition, the role of the media
- Upcoming elections, possible shifts in power

Possible sources: EIU country surveys, EIU profiles (CBS Library), overviews in Freedom House

The political processes are very complex and it is extremely difficult to boil this down to simple indicators. However, political scientists make different categorizations, and political risk estimates are made to help international business in their location decisions. Indicators may include:

- **Political stability and absence of violence** - risk of government destabilized or overthrown by unconstitutional or violent means. (World Bank governance index, Kaufman et al. 2006).
- The degree of **political competition** – to what extents can the ruling government be challenged by a strong opposition, number of veto-points (World Bank 2001)
- Freedom House, **freedom of the press**: including legal-, political-, and economic environment (including ownership).

It will often be necessary to give a short historical background for the current political situation to understand further dynamics.

The analysis must be seen in close relation to the political institutions.

The analysis could lead to different political **scenarios** within the relevant time horizon. This include an estimate of the **political risk** in relation to the (industry, company strategy etc.) – the risk that political changes may adversely influence the company.

INSTITUTIONS

Political Institutions

- **constitution** defining formal power division: president, parliament, judiciary - checks and balances - strong presidency/parliamentary democracy, one party system etc
- **rules for elections** - thresholds, proportionality/constituencies etc.
- **Degree of centralization**: Relation between Center – Regions - Municipalities
- **Human rights**: freedom of press, speech, vote, association

Possible sources: EIU country profile, Freedom House – country descriptions,

Indicators:

World Bank governance index (Kaufman et al, 2006)

- **Voice and accountability**: citizens participate in selecting government, freedom of expression, association, free media
- **Government effectiveness**: quality of public services, civil service and its independence from political pressures, quality of policy formulation and implementation, and credibility of the government's commitments

WEF (2007) Global Competitiveness Report, based on expert poll

- **Freedom of press**
- **Public trust of politicians**
- Pervasiveness of **illegal/legal donations** to political parties

Freedom House: Freedom in the world indicators, yearly, covering all countries including disputed areas, expert poll, point system 0-40 for 7 areas:

Political Rights Electoral Process, Political Pluralism and Participation,
Functioning of Government

Civil Liberties Freedom of Expression and Belief ; Associational and Organizational Rights;
Rule of Law, Personal Autonomy and Individual Rights (economic institutions?)

Enforcement – rule of law - corruption

- **Rule of law**: securing the same conditions for all entities in relation to the law
- Efficient **enforcement** of rules through:
 - State bureaucracy with high administrative capacity
 - Independent and qualified judiciary
- **Limiting corruption**
 - Bribe of public officials for private gain
 - Capture of the state by private interests
- covers **both political and economic** institutions.
 - Can be analyzed both on general and specific level
 - may vary between the different institutions

Indicators:

World Bank governance index (Kaufman et al, 2006) (some overlap with political institutions, but these are first of all important for the actual enforcement of the economic institutions)

- **Regulatory quality**: ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development
- **Rule of law**: confidence in rules, quality of contract enforcement, the police, and courts, as well as the likelihood of crime and violence
- **Control of corruption**: public power exercised for private gain, including both petty and grand forms of corruption, as well as “capture” of the state by elites and private interests

WEF (2007) Global Competitiveness Report, based on expert poll

- **Judicial independence**, irregular payments in judicial decisions
- **Favoritism** in decisions of government officials

- **Organized crime**
- **Business costs of corruption**

World Bank: enterprise surveys –

- **Corruption:** costs % of sales – frequency - bribes for government contract.
- **Courts** – confidence – time - resolutions

Transparency International: **Corruption Perception Index**, expert poll, www.transparency.org

Economic Institutions

Property rights protection, ownership structure, privatization, corporate governance

- protection against appropriation from the state,
- protection against private entities taking over the rights through illegal means,
- protection of minority owners
- protection of creditors, bankruptcy legislation
- Who are the main owners of the enterprises (state, banks, foreign investors, concentrated domestic, diversified, managers, employees),
- Other rules for good corporate governance, disclosure, auditing, role of board often included in company law and some times supplemented by soft law (corporate governance code)

Indicators:

EBRD Transition Report (2006) - for 27 transition countries.

- index of governance and enterprise restructuring (overlaps with economic system)
- indicators for progress in privatization

World Bank, doing business: protecting investors

WEF (2006): Efficacy of corporate boards/protection of minority shareholders/strength of auditing and accounting standards

Djankov & La Porta et al. 2007, anti director dealing index, aggregate index for quality of shareholder protection over a variety of indicators.

State regulation versus liberalization - type and degree of state regulation

- regulation of prices
- tax systems,
- barriers to business – licensing – red tape?
 - need and trouble for getting license and other procedures to establish private firms
- competition rules, free entry?
- regulation of foreign trade:
 - direct regulation: licenses and quotas, tariffs and taxes
- exchange rate
- regulation of capital flows including FDI
- Labor market regulations, flexibility?

Indicators: direct measures like:

- share of regulated prices (in a basket of good e.g. related to the consumer price index)
- Tariff revenue: % of imports
- Actual flows: Openness: Foreign trade, exchange rate, FDI, capital flows
- Share of foreign trade in GDP = (exports+imports)/GDP correct for small country bias!
- Conditions for FDI (UNCTAD)

World Bank: **Doing Business**, measures of business regulations and their enforcement across 175 countries: starting a business, dealing with licenses, employing workers, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts, closing down a business. (yearly expert poll) www.doingbusiness.org

World Bank: **Enterprise survey**. Data on more than 66,000 firms in 98 countries, information on firm characteristics, business perceptions, and indicators on the quality of the business environment. 150 business environment indicators. Every 3 years in each country www.enterprisesurveys.org
EBRD (2006) yearly indicators of liberalization of prices, trade, etc. for 27 transition countries,

Financial markets

The structure and stage of development of the financial sector in relation to:

Banking: Ownership structure, weight and development of banking, indicators:

- Asset share of state owned and of foreign owned
- Domestic credit to private sector (%GDP) households/enterprises
- Non performing loans (NPL) in total loans
- Interest rate spreads (indicator for competition)
- EBRD index of banking sector reform

Stock markets, indicators:

- Stock market capitalization (%GDP)
- Stock trading volume in % of capitalization
- EBRD index of reform of non-bank financial institutions

Other financial markets, indicators

- EBRD index of non-banking financial sector

World Bank, Enterprise survey, enterprises' sources of finance.

Informal institutions - culture

Just the fact that it is informal makes it much more difficult to give indicators, and the indicators actually given have been much discussed.

Some description of the importance of religions, ethnic group is relevant (but may overlap with social groups):

Some indicators often used are given by Hofstede (1983):

- Collectivism/individualism
- Power distance
- Masculinity/femininity
- Uncertainty avoidance
- Long run versus short run orientation (Hofstede 1988)

ECONOMY

General sources from OECD, World Bank, IMF and EIU country profiles + local statistics

Macro-economic flows:

Main macro economic variables

- GDP, GDP-growth rate, GDP/capita, (fixed prices)
measured in USD or Euro (and PPP with correction for differences in domestic price levels)
- Savings-, Investment % of GDP,

Macroeconomic stabilization and economic policy indicators

- Inflation rate
- Fiscal policy: budget deficit, public debt
- External balance, X, M, trade-balance, current account, foreign debt
- Exchange rate regime, development in exchange rate
- Monetary conditions, interest rate,
- Foreign trade, main partners, growth of exports and imports, (X+M)/GDP.
- FDI: inflows, outflows, stocks and institutional quality promoting FDI, see www.unctad.org

Labor market

- Employment, unemployment rate
- Wage per worker, real wage growth
- Labor productivity

Other market variables – local statistics on specific industries.

Economy - resources

Human capital

- Population, size, growth,
- Dependency ratio: young+old/working age population (15-64 years)
- Lifetime expectancy, WEF
- Education, primary, secondary, tertiary enrollment, WDI
- Quality of educational system, WEF
- Quality of public schools, WEF

Fixed Capital, structure of production

- Enterprises structure, small, medium, large/distribution on different sectors
- Indicators for technological level, patents/R&D in % of GDP/employment in high tech
- Research and Development /GDP (divided on private and public)

Geography

- Endowment of primary commodities, like oil, coal, metals and minerals
- Agriculture, forestry, fishing,
- Climate, Coastline, mountains, low lands rivers,

Infrastructure

- Overall infrastructure quality WEFs
- Fixed line/mobile penetration rate
- Internet penetration rate
- Etc - see WDI-online
- Indicators for quality of roads, railways, harbours etc

Environmental impact (see eg. WDI-online, WEF, Stern Report)

Industry analysis: Porter's Diamond for industry competitiveness and Porter's Five Forces for entry

SURROUNDING WORLD

Most indicators are given in relation to the PIE-system, but some remaining parts may be separately commented in a specific section.

Politics – relation to other countries, alliances,

Institutions - role of international organizations.

Economy – comments on role of different countries and regional groups in relation to trade, currency exchange and capital flows including FDI.

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