Initiative for Policy Dialogue (IPD) – Japan International Cooperation Agency (JICA)

Report on the IPD – JICA Industry/Industrial Policy Task Force Meeting

Jordan, June 5-6 2014

Table of content

Report on the IPD-JICA Industrial Policy Task Force Meeting

Jordan, June 5-6, 2014

Introduction

A meeting of the Initiative for Policy Dialogue (IPD) – Japan International Cooperation Agency (JICA) Task Force on Industry/Industrial Policy was held in Jordan on the 5th and 6th of June 2014. As a side event of the IEA World Congress the meeting was also designated as an IEA roundtable. The Task Force, which brings together researchers, practitioners and policy makers from across the globe, provides a space for discussions on the role of active industrial policy in economic development and seeks to arrive at practical lessons for policy implementation. Participants in the meeting presented papers on a wide variety of topics, when were then discussed in open plenum.. The meeting comprised twelve sessions.. The twelfth session being a panel round in which participants summed up the debates, drew conclusion and offered their take on the lessons learnt during the meeting. A short closing session concluded the meeting with a roundup of the next steps..

This report provides a brief summary of the main themes of presentations, discussions and findings of the meeting.. An edited volume containing all of the key papers is forthcoming through Colombia University Press. In the interest of facilitating a free and frank exchange of views, discussions are reported following Chatham House rules broadly, whereby contributions are generally not attributed to individual discussants (with the exception of views in the public domain). Moreover, discussants took part in a personal capacity and any views expressed are those of individuals.

Special thanks go to the organisers of the meeting and in particular to JICA, whose generous support made the meeting possible.

Session I - issues and purpose

Presentation 1 – Creating a learning society (Joe Stiglitz)

The opening presentation of the meeting was given by Joe Stiglitz and drew on his new book 'Creating a learning society', which deals with some of the main themes of the meeting, namely that successful and sustained growth requires the creation of a learning society, i.e. a knowledge economy, and that markets alone cannot do this. Rather, systematic government intervention is required.

Per capita income only really started to rise in the modern period, indicating a transformation of society, first in Western Europe, followed by North America, then parts of Asia, and now in emerging markets. The question at hand is how to facilitate that kind of transformation? The book focuses on just one feature of that transformation, that is, the increase in learning and therefore productivity. Rapid change, based on learning, is a feature of only the last 250 years. This echoes Robert Solow and his famous residual that captures technological change not capital accumulation. Even now there are big differences between best practice and average practice. The catch-up process is one of catching up to best practice.

While Schumpeter was right to emphasise change, he overemphasized the role of competition: it is is not enough to ensure innovation. Markets where innovation is important tend to be not efficient. Basic economic welfare models assume that technology is exogenous. This was a necessary assumption for the results of those models to hold. But knowledge and information are basically public goods. Markets where knowledge or information are important will not be constrained Pareto efficient. This is especially important for developing countries. The gap in resources, which motivated the foundation of the World Bank, is arguably often less important that the gap in knowledge.

Market failures in such markets are rife, due to spillovers, and the public good character of knowledge and information. Also there are inefficiencies in markets for finance and risk. What should government do, if these markets must be presumed to be inefficient, but are vital for increasing standard of living? Policy should then focus on raising capabilities and not on improving static efficiency. This is especially important as there are complex sets of trade-offs. This is the central issue highlighted by the book.

These ideas have not yet permeated the mainstream of economic thinking, as can be seen from looking at intellectual property rights. The logic of such rights is based on the notion of giving up on static efficiency (as the marginal cost of knowledge to the next user is zero) on the presumption that this buys a larger production of knowledge. However, poorly designed intellectual property rights regimes actually impede the production of knowledge. The book contains a model with knowledge flowing into a common pool, with intellectual property rights privatising ideas from this common pool. The situation is analogous to common resource problems, but of course more complex. The pace of innovation in the model is partly determined not just by incentives, but also by the size of pool of ideas that can be drawn from, i.e. the opportunity set. In equilibrium, stronger intellectual property rights reduce the size of the pool, hence slowing down innovation.

One of the main theses of the book is that the focus on static efficiency so prevalent in the Washington Consensus undermines the capacity of countries to learn. Given the importance of learning, the central question for development becomes: what should governments do to promote learning? There are many dimensions to this question, including, crucially, learning to learn. Almost every aspect of society is affected. The book tries to give a 'learning perspective' on many of these issues. Many policies that make sense from a learning perspective are of course also supported by other arguments.

Stiglitz gives the example of macroeconomic stability. There are many reasons to advocate macroeconomic stability. But from a learning perspective, downturns make it difficult for firms to learn. In downturns they cut R&D expenditure and learn only how to survive, not how to learn.

Some sectors are not just better at learning, but also have more spillovers, not just in terms of technology, but also in terms of institutions. Where are the spillovers greater? Technological change has become globalised, meaning that an improvement in a technology does not necessarily affect just the sector it originated in, but may affect other sectors with similar technologies. Externalities and spillovers may be stronger *across* industries. For instance, just-in-time inventories are basically a management technique that helps find deficiencies in the production process, and are used a wide variety of sectors.

If we can identify sectors with large learning capabilities and large spillovers, they will normally be underserved by the market and direct government intervention is needed. This is not the same as the familiar infant industry argument. In fact, the infant industry argument is compatible with thinking that, in a competitive global environment, countries do not necessarily need to develop innovative sectors themselves, as prices will still fall as long as other countries produce innovative goods. But countries that import, rather than produce, technologically sophisticated goods will not benefit from the externalities associated with that production.

Such results depend just on imperfect spillovers between countries. In the book, some formulae similar to Ramsey optimal tax formula are derived, though they of course depend on different things. The model presented so far even provides an argument for protection. Take for example the case of a hypothetical Korea. Assume agriculture has no learning and few spillovers and the country has an initial comparative advantage in agriculture. Traditional IMF/WB advice would be to specialise in agriculture. Whereas an advanced country has spillovers flowing into agriculture from manufacturing, the comparative advantage for a developing country does not change. This is the opposite of what Robert Solow says, who famously assumed convergence over time.

In this scenario, what should the country do? While subsidies and quotas are both likely to be in breach of WTO rules, they would be sensible economically. In the short run the country will be worse off, but in the next period the production possibility frontier has moved out and the country is better off, even taking account of the distortion caused by the quota. What happens if the country is not allowed to have either subsidy or quota? Then the exchange rate should be manipulated. This will lead to a current account surplus. While some would argue this is a waste in a poor country, the learning advantage actually exceeds the opportunity cost of spending the money, at least in the world of the model. In the real world, this may not be true, as the world does of course change, but the country may still sensibly want to accumulate reserves for a while and then spend them later. The questions then becomes empirical, namely to find the largest spillovers.

The book also contains a long discussion on the political economy of learning and government intervention. Greenwald and Stiglitz disagree in their politics. The difference is

in what precise form government intervention should take. Greenwald favours simpler, more broad-based interventions, e.g. exchange rate manipulation.

Another important example of the effect of learning is financial market liberalisation. Such liberalisation can be viewed as importing the service of allocating capital, by allowing foreign banks to operate domestically. But learning how to allocate capital and manage risk is an important skill, and not one that Western banks have proven adept at recently. This skill should be learnt locally, by actually going through the process of allocating capital, which is how the tacit knowledge involved is acquired.

Lastly, a learning perspective can also be usefully employed to look at migration. On the one hand learning extends the benefits of migrations, as knowledge flows back with returning migrants. But on the other hand incorporating a learning perspecitive also raises costs of migration, if the most talented learners leave, which is the classic brain-drain argument. The IPD has developed the concept of 'cultural remittances', which can be optimised by countries with the help of a well-developed policy on both in- and out-migration.

Q & A

In the discussion following the presentation focused on learning by doing, the contemporary importance of Kaldor's growth theory, the decreasing importance of sectors as targets for policy, the role of development banks and social actors involved in learning, such as trade unions. It was made clear that *learning by doing is vital, as p*art of the idea behind the learning society is about interaction and a new theory of the firm. In firms, knowledge is contained internally but the price system is not used.

Stiglitz suspected that mainstream economists dismiss Kaldor for ideological reasons not because of evidence against his ideas. He clarified that sectors should be defined by production technologies rather than final products;; a long-term perspectiveis vital to learning in large companies.

Session II: dynamic vs. static efficiency

Presentation 2 – Structural dynamics and economics growth in developing countries (Jose Antonio Ocampo)

Jose Ocampo's thinking on the interconnections between structural dynamics and economic growth draws on two distinct traditions: on the one hand Latin American structuralism, as exemplified by Raul Prebish, that is, related to *dependencia* ideas about centre-periphery dualism, but more complex, and on the other hand, neo-structuralist economics, particularly of the Kaldorian and Kaleckian varieties. The starting point is an understanding of the world economy as a hierarchy, reproducing inequalities over time. Changing a country's position in the hierarchy is very complex.. Even if activities are more important that sectors in trading with the global economy, sectors remain extremely important in understanding these structural dynamics.

The difference between static efficiency in resource allocation, and dynamic efficiency, that is changes in the structure of production, is best understood by looking at the histories of Latin American economies, which for a long time maybe were statically inefficient, but they grew. In contrast, there has been disappointment with more open, less interventionist economies. An example is Mexico, which exports lots of manufactures in gross terms, but is amongst the least dynamic Latin American economies.

An answer to this riddle could be linkages between growth and productivity (following Kaldor) and between firms and sectors (after Hirschman). To give an example, the value added in Mexico in terms of promoting growth is very low, compared to China which acts as regional manufacturing centre for Asia.

Fundamentally, economies grow through structural change. "Balloon" theories of growth, whereby economies simply expand, are completely wrong. When structural change stops, growth stops. From the above discussion we have three stylized facts:

1. The world economy is a hierarchy, which changes very slowly at best
2. We see "dual divergence", rather than convergence.
3. There is a high variance of growth experiences in the developing world (divergence, stagnation at low or middle-income levels, truncated convergence [fast growth, then stagnation])

Structural change is a repetitive process of creative destruction. The pattern of specialisation in this seems to matter. The dominant feature of these processes is path dependence, which

is a direct outcome of learning. Opportunities are determined by production experience. So comparative advantages can be created, but, on the downside, any lost production experience has a cumulative effect. Moreover, non-dynamic markets have a fallacy of composition effect, as entry is easy due to limited scale economies, as can be seen for instance in agriculture. Success is experienced here only in terms of increasing market share, but with falling prices. By contrast, dynamic export markets are due to high income elasticities of demand, economies of diversification (high and rising demand for diversity of design) and transfer of activities to developing countries. Sectors with large technological content tend to have high dynamic comparative advantages.

Most countries have failed to extract sustained growth from a specialisation pattern based on natural resources or low-tech manufactures. Success in such activities also decreases the opportunities available for other goods. Most fast-growing countries have been increasing market share in mid- or high-tech manufactures. Looking at countries classed by export growth shows clearly that high-tech manufacturers grow fastest. This is due to the interactions between two basic forces: innovations on the one hand, and complementarities, linkages or networks on the other.

Critical is the mix between the creation and destruction of activities. For a developing country the challenge is to transfer activities copied from others into its own economy. The dynamics of copying are different from 'pure' innovation as one faces competition from established producers. Firms need help to break into established sectors and networks of international trade. This is what makes it so difficult for developing countries. How much value added can be realised from exports depends on context. On the demand side there are macroeconomic multipliers, and on the supply side there are positive externalities, which form the basis of meso-economic dynamic economies of scale.

So there is a clear interplay between learning processes and complementarities. If both are strong, they led to deep growth. For low-income countries weak learning and strong complementarities can create activities which absorb a lot of labour and may actually be good thing. An example is coffee in Colombia. In some contexts this may be better than trying to enter high-tech manufactures. By contrast, strong learning and weak complementarities give few development opportunities.

Following Kaldor, available capacities are usually underutilised, resulting in elastic factor supplies.. As developing economies are characterised by big structural heterogeneity, growth can happen by movement from non-dynamic to dynamic sectors. This mean the normal interpretation of productivity and GDP growth is wrong. Low productivity does not cause low growth. The causality rather goes from production growth to productivity growth and not vice versa, as the neoclassical view would suggest. A new innovation will raise both productivity and GDP growth, although the effect may be temporary. Market reforms can actually lead to high productivity growth and *lower* production growth, if reforms cause a few high-productivity sectors to grow, but on average labour shifts to lower productivity. Latin America is the prime example here.

High quality infrastructure and human capital are framework conditions. Beyond that policy must support the structural transformation of production and support firms to break into established production systems. However the creation of linkages must be taken into account as, without linkages, the industries created will remain shallow. In terms of policy, structural transformation, i.e. learning in new sectors and breaking into existing ones, should be accompanied by appropriate macroeconomics conditions and (real) stability.

Industrial policies must be designed to encompass both horizontal and selective aspects. Reciprocal control mechanisms must be built into the policy design. This is an ongoing process that is contested and not at all smooth. Structural heterogeneity is and will be a persistent feature.

Q & A

Contributions from discussants focused how sectors should be classified, as this can be done with regards to their overall role in capital accumulation, with regard to technology or with regard to inputs. Others pointed out the vital role of domestic, rather than foreign, firms in promoting learning, while still others pointed out that the creation of a capitalist class is a difficult institutional challenge for any country.

Ocampo responded that in the absence of economic data by activity, sectors remained very useful for empirical work. He pointed out that while domestic firms were important, learning could also occur through TNCs and that what seemed to matter most was the

commitment of the company in question. He also expanded on the role of institutions by saying that institutions always also embody learning and that the destruction of such institutions, e.g. in Latin America , resulted in the loss of a lot of knowledge.

Session III: complexity and industrial policy

Presentation 3 – Complexity and industrial policy (Luciano Pietronero)

The presentation focused on an attempt to test ideas about the complexity of products quantitatively. How a measurs for intangibles can be arrived at? The philosophy starts from a simple premise. It begins by looking at 'fitness' or 'quality'. So if fitness is above average for people on the same income, the prediction is that firm will grow.

The first attempt to do this used the COMTRADE database, as there is no complete database of all production. COMTRADE, despite its weaknesses, was used as it provides homogeneous data. The analysis focuses on the quality of exports, rather than incomes. Complex products are differentiated from simple products, where complex products are defined as products that can be produced only by few countries. However, competitiveness at country level is not due to specialisation, but diversification. Top countries produce both simple and complex products. Diversification breeds resilience.

Pietronero and his team have developed metrics for both fitness and complexity. The relationships are not linear, it is limited by the lowest-income country that can produce the product. Fitness is defined as the number of products made (proxied by exported products from COMTRADE), weighted by the complexity of those products. Complexity is high if a product is made by a few countries of high fitness.

The dynamic economic ecosystems start from countries, moving to (regional, etc.) sub-systems, for which it is difficult to get homogeneous data though. These ecosystems produce countries that are diversified, and companies that are specialised. From an analytical point of view a unified database on who produces what would be ideal. Even with available data though, the resulting algorithm can be tested by inserting it into a model that uses directly

measured data. The test turns out to be algorithm dependent, i.e. signal strength depends on choice of algorithm.

The results can be used for predictive purposes. For instance, plotting log GDP against log fitness in 1995 shows China as an outlier with both high fitness and low income, as opposed to the oil producers for instance. The clear prediction is growth for China. Examining the data using coarse grained analysis, it is obvious that economic complexity is highly heterogeneous. Regression methods would mix the dynamic properties of different systems and loose information as a result, whereas dynamic systems approaches retain this information. This is a well-known fact from weather forecasting.

The data can be used to speak to other, non-trivial questions. For instance, one could ask whether corruption will hinder growth in Nigeria? Just looking at the place on the map, after a certain limit of fitness corruption seems not to matter. Nigeria is well below this threshold though, indicating that corruption will indeed tend to retard growth. The predictive power of the system increases better with higher levels of fitness.

The data can also map product networks. To do this, one looks at whether two products are generally made together in many countries. One can then look at diachronic evolution and synchronic vicinity. Using the product space it is possible see that the evolution of product output at country level does not make jumps. Industrial policy should take this into account.

The team plans to extend the database further over the course of 2014. Already the database has been extended to 60 years, and the product space is now more systematically defined. There are further interesting applications. For instance, one can construct a probabilistic model where capabilities are randomly assigned. The probability of a capability needed for a product follows a power law distribution. The resulting poverty trap model looks a lot like real data.

Moreover, there appear to be overlaps between economics and ecology. The great divergence and the Cambrian explosion both are characterised by “triangularity” and “nestedness”. The method can also be used for growth decomposition. For instance, one can look at the process of Japan catching up with the US. Decomposing countries into high and low fitness shows that countries with high fitness tend to grow faster.

Q & A

Questions focused on how country size is taken into account, the weakness of data in capturing only exports, the linearity of the relationship between fitness and growth, and the possibility analysing the real technical content of products made.

Pietronero clarified that while size is taken into account through the use of thresholds the model is slightly biased against the fitness of small countries. He made clear that the data is used only for lack of alternatives and that is of course has weaknesses. Similarly, the linear model was employed as it is the simplest formulation that fit the data, and that data quality at present was not good enough to warrant a more complex formulation. Different algorithms should be measured against one another to see which is best, not against their data inputs.

Session IV: technology, equity, social capital and industrial policy

Presentation 4 – The new context for development around natural resources (Carlota Perez)

The main idea underlying Carlotta Perez' presentation is the change in circumstances since the basic ideas about development were developed in the post-war period and the implications this has for ideas around the usefulness of natural resources in development. Especially important has been the new awareness of the importance of knowledge and innovation for development.

Development opportunities for any given country are a constantly moving target. Current successes cannot be replicated, as they depend on yesterday's opportunities. What is important is identifying tomorrow's opportunities today. How should this be done? By looking at strong or weak trends? The focus should be on still small surprising opportunities.

For instance, in the 1870s both Germany and the US caught up with Britain through heavy industry. The same technology allowed for counter-seasonal trade, which raised the prospects of Australia and other countries. Western Europe then moved to mass production,

which Latin America was able to emulate with protected ISIs. More recently, the idea is that there is a double technological opportunity of the growth of ICT, which explains the growth spurt of the Asian Tigers.

The problem is though that no opportunity lasts forever. Countries have to jump, or their growth experience will be truncated. To able to take advantage of current opportunities requires capabilities built up in the past (both technological and social), as well as political and entrepreneurial will, and good timing. A detailed example of this can be seen in Latin America's ISI experience. The learning was concentrated in the complementary activities and the processing industries. So Latin American countries can now take advantage of natural resource activities, due to their past learning. Most countries in sub-Saharan Africa do not have the same opportunity. The lesson is that ISI was only a catalyst, which could not have lasted even with continued protection. The Asian leap began with ISI but soon took advantage of the ICT revolution based on learning in ISI. So can Latin America in the 2010s jump through specialising in the processing of natural resources? And can this prepare Latin American countries for the next opportunity, and the next leap?

Ideas about natural resources have changed. Up to the early 20th century they were considered an advantage. Only thereafter did they come to be considered a burden. Current discussions are full of references to Dutch disease, the resource curse, etc.

But in the 21st century natural resources can become a developmental advantage once again. Price trends seem to point upwards, albeit with continued volatility. While corruption remains a problem, the opportunity is the long tail in products caused by the hyper-segmentation of commodities, which in turn requires a long tail in materials. Markets in consumer-focused commodities will tend to grow with global middle class growth. And technological dynamism is much greater than it used to be, spurred by ICT. The main type of innovation has changed from process innovation, which aims to lower the costs of homogeneous products, to product segmentation.

What then is the potential for technological catch-up? Multi-national corporations are now organised much more in global networks, partly to ensure final product quality. The growing East-West competition for resources increases the bargaining position of

developing countries. Access to markets is made much easier by the great variety of distribution outlets and transport systems for different quantities and qualities of products. The hyper-segmentation of commodity markets also makes long tail products much more stable in price. It follows that the move in understanding should be away from supply-defined industries to user-defined sectors (e.g. the health sector, the sports sector). Not all natural resource producers have the same opportunity though. Latin America can benefit from past learning, good infrastructure, and lower population density, when compared to Asia. It is limited by pervasive poverty, corruption and unchanging power structures.

A successful strategy to harness natural resource-based growth and development would comprise a whole natural-resource-based network. Natural resources here have to be understood very broadly, including a wide network of ancillary services. Forces driving natural resource growth include overall market volume, market requirements and market context, as well as benefits from ICT. There are however limits. While processing activities require increasingly qualified personnel, they are not intrinsically labour intensive. The answer could be a dual-integrated model with engines of growth for the global market (to earn foreign exchange) and a separate set of policies for interconnected local economies using SMEs, the latter aiming to raise the quality of life, especially in rural communities and urban shanty towns. Both can be based on natural resources.

The next leap will require a lot of learning and capability accumulation that can come from learning in natural resource processing now. The obstacles to natural resources have not gone away, but the risk of missing the boat may be greater than in the past. Latin America in particular cannot compete with China in manufacturing, but it could compete in natural resource processing.

Q & A

During the discussion participants took issue with the characterisation of the situation in Latin America during the 1980s, pointing out that Latin America was undergoing a macroeconomic crisis induced by external shocks. Others questioned whether capabilities in resource processing could be easily created. Some participants noted that the potential for capability building depended on the type of commodity in question and the size of the overall economy.

Perez replied that of course the situation was different in different countries but that virtually all Latin American countries had manufacturing experience from ISI in the past, meaning they have the opportunity to create linkages and networks. Of course the exact size and nature of this would depend on the size of an economy and the ownership structure in the commodity-producing sectors.

Presentation 5 – Equality and creative destruction under the Northern Lights (Kalle Moene)

The talk dealt with the role of broad-based social equality in fostering processes of creative destruction and therefore economic dynamism. In particular the talk focused on the example of the Scandinavian countries. Of course Northern European countries are somewhat idiosyncratic. Taxes are high, wage differentials are small, and trade unions are strong. By US perspective they should be headed for a macroeconomic catastrophe. But, growth has been strong and comparable to the US, while inequality remains much smaller.

The basic message is that there is a reinforcement mechanism embedded in social equality in the sense that when the wage distribution is compressed, other factors also move towards wage equality. This reinforcement mechanism also works in the political system, for instance in welfare state expenditures. This runs counter to mainstream perception of economic and political processes. What Schumpeter called the essence of capitalism, that is, creative destruction, is also the essence of social democracy, as a way of organising an economy. Social democracy has evolved. It was not created by design. It was trial and error, not optimal design at a drawing table. Stability comes from political and economic competition. The fierce competition from other countries, which compelled Scandinavia to strive for efficiency, had a major influence on equality in the Nordic countries.

In the 1930s the main reaction to the economic crisis engulfing Europe was fascism. In Scandinavia however, it was easier to mobilise people collectively for social responses. Those working in sectors in most exposed to foreign competition had to take wage cuts. A coalition emerged between employers and well-organised workers in export-led industries. They threatened workers in non-traded industries with lockout, forcing workers into joint wage setting at lower levels. Competition from outside crowded out some competition on

the inside and lead to greater cooperation. Once wage-setting is coordinated, many wage differentials are eliminated. Lower paid workers gain a higher share of the vote.

The implication of lower differentials for creative destruction is that modern enterprises are comparatively more profitable due to compression from the top *and* the bottom to the income distribution. As a result investment in more modern technology rises. In this way the lowest wages can be raised without creating unemployment. The productivity difference between high and low productivity units also becomes compressed. Moreover, there is an economic reinforcement mechanism that eliminates low productivity units, making developments in direction of wage compression stronger. Against Picketty, this was done by raising profits through compressing wages. Average productivity rises, while maintaining full employment. The functional distribution of income however remained highly unequal. Trade unions accepted this as they considered these retained profits savings for reinvestment. However, this is very difficult to replicate in other countries as it is not easy to convince people of this politically.

The economic mechanism spills over into social policies. The welfare state is not a machine that takes from the rich and gives to the poor. Rather the state offers the provision of goods and services that the market fails to provide or provides too little of. These goods are normal good within classes, but inferior goods across classes. Rich people satisfy their demands for these goods in other ways and also have different risk profiles. So, when wages are compressed the majority of people are made richer. In Scandinavian countries politicians cannot win without satisfying demands for popular social services.

Presentation 6 – Social capital and industrial development (Go Shimada)

Go Shimada presented a preliminary analysis, with further analysis to follow at the next Task Force meeting. Following Knack and Keefer (1997) economic growth is closely associated with growth in social capital. However the precise mechanism remains a black box. A number of studies found that social capital fosters innovation, but no one has yet looked at social capital and productivity improvement. As the level of sophistication of a product rises, innovation and technical know-how become more important.

The study uses the World Value Survey to test the role of social capital. Trust rises with value added per worker. There is also a weakly positive correlation between TFP and social capital. Regressions controlling for GINI still find positive correlations for primary, secondary and tertiary sectors. There appears to be no clear correlation between general trust and family trust. Family trust described a situation where insiders are trusted, but outsiders are not. However regressions controlling for GINI find negative relations between family trust and value added per workers. Neither confidence in the civil service nor confidence in government has a clear relation to value added per worker.

The results imply that higher general trust is good for a learning society, but further study is needed. A more in-depth analysis will be made on micro data using companies.

Q & A

Discussants questioned trust was an appropriate variable to focus on, given that it may in fact be in need of being explained itself. Others pointed out that it would be very difficult to identify separate effects for trust and inequality and pointed to the difficulty of establishing whether the causal relation ran from trust to growth or vice versa. Shimada accepted that these were interesting problems, but pointed to the large literature on the issue which had established as the relevant variable of enquiry. He pointed out that while study only controls for the Gini coefficient, other variables could be used such as social cohesion.

One participant was critical about the definition of trust used in surveys, pointing out that measurement and concept validity may be questionable. Shimada made clear that this was a central question and clarified that past literature has therefore used measures trying to capture other civil norms and check the trust variable against those. Trust is then used as a proxy.

Session V: competitiveness – static vs. dynamic

Presentation 7 – Industrial policy revisited – a new structural economics perspective (Justin Lin)

Justin Lin's presentation focused on a method for designing industrial policy based on Lin's notion of new structural economics. Lin began by pointing out that while industrial policy is

vital for transformation, it had also failed in many settings in which it had been attempted. The question is why it has failed and how it can succeed?

A sector-targeted industrial policy is necessary to achieve dynamic structural change. However, this fails if industrial policy targets sectors that are too ambitious. Successful industrial policy should target sectors where a country enjoys a latent comparative advantage. Historically, successful countries have followed countries with similar endowments structures and somewhat higher incomes. Using such comparators, a growth identification and facilitation framework (GIFF) can be constructed for any given country.

Main thesis of the presentation is that the industrial structure of a country is endogenous to its factor endowment, which is given at any specific point in time, but changes over time. This endowment structure determines both the economy's budget and its relative factors prices, which in turn determine the comparative advantage of the economy. Therefore the ideal industrial structure at any time is endogenous to the endowment structure of the economy. Income growth then means upgrading the industrial structure and the endowments. Improvements in hard and soft infrastructure help reduce transaction costs.

Not straying too far from static comparative advantage broadly is the best way to achieve dynamic comparative advantage, as this generates the highest returns on capital, thereby allowing a country to improve its capital endowment along with its institutions. This requires first mover firms, as both gaining and losing in new markets generates valuable information. For the first mover however gains and losses are asymmetric, so losses have to be compensated or no one will move first. The state must address these externalities and solve coordination problems. However government resources are limited and must be employed strategically.

In the past where industrial has failed, it was because it was too ambitious and sought to target sector that were non-viable in the competitive market. Firms in such sectors cannot survive without protection. This led to a lack of competition and rent seeking. Industrial policy should target sectors in which the country enjoys a latent comparative advantage, meaning sector in which factor costs of production are low but transaction costs are too

high. Governments can then step in to lower transaction costs, thereby making the industry competitive, allowing for quick successes.

Looking at history, successful countries have targeted dynamic countries whose income was about 100-200% higher than their own as comparators. For countries with similar endowment structures, the forerunners in successful and dynamic industries provide a blueprint for a developing countries' industrial structure.

Lin then laid out the basics of his growth identification and facilitation framework (GIFF), which consists of six steps:

1. Governments should choose a fast growing country with a similar endowment structure and income up to 2x higher than their own, or a country that was similar about 20 years ago as a comparator. Sectors with latent comparative advantage should be identified.
2. Next governments should ascertain whether private domestic firms are already active in those sectors. Governments should locate constraints to expansions, quality upgrading or firm upgrading. State action should be used to remove constraints. This harnesses existing tacit knowledge
3. If there are no domestic firms, FDI should be sought from countries identified in step one. Alternatively, government could organise a firm incubation program
4. Governments must also pay attention to spontaneous self-discovery by private firms and scale up successful private innovations
5. In countries with bad infrastructure and business environments, special economic zones or industrial parks can be used to overcome barriers to entry, pull in FDI and encourage clustering
6. Governments may compensate pioneer firms with tax incentives for a limited period, direct credits for investments, or access to foreign exchange. This compensates for the externalities

In this way every country has the potential to grow dynamically for decades, as long as government follows the right industrial policy. Low-to-middle income countries should stop

using high income countries as a reference, as is the norm in the drive to improve business environments in neoliberal policy.

Q & A

The presentation sparked a lively debate. Participants questioned whether it was justified to assume states have the capacity to follow such advice, whether the same political economy problems that supposedly plague sectoral policy would not also affect horizontal policies, and how private firms could be made to give returns for the privileges they receive. Lin clarified that his scheme was sufficiently simple for any government to adhere to.

Others questioned whether the notion of comparative advantage used was not so simplistic as to have become circular, and pointed out that tacit knowledge means that today's institutions may not be able to solve tomorrow's complex problems. One participant questioned whether any country in the world today could be said to conform fully to current comparative advantage. Lin replied that when countries compete with one another then comparative advantage depends on specialisation, as no country can specialise in everything. Comparative advantage depends not just on factor costs (from endowments) but also on transaction costs, including for instance limited access to finance or a lack of human capital. Transaction costs capture many of the problems raised by discussants.

There was a debate about the validity of using PPP figures making these comparisons, with some participants arguing that market rates should be used while Lin insisted that the difference resulting from using other methods was small. Some participants argued for a dual track approach to structural transformations whereby countries should adhere to comparative advantage in some sectors but defy it in others, allowing them to adopt future technologies and move into sector not currently indicated by their endowment structure, such as capital- or knowledge-intense sectors. Lin used the example of Chine, which had a very heavy industrial structure, saying that it had now become the factory of the world by following a dual track approach. It kept giving protection to old sectors while developing new ones with latent comparative advantage.

Session VI: latecomer catch-up and varieties of industrial policy

Presentation 8 – Changes in industrial leadership and catch-up by the latecomers (Keun Lee)

Keun Lee's talk identified the mechanisms of latecomer catch-up and discussed the drivers of successful catch-up. It is clear from history that changes in industry leadership are a frequent phenomenon in many industries. The question is, why do these phenomena occur? Product life cycle theory cannot explain this.

Rather one needs to focus on leapfrogging and the window of opportunity for catch-up.. These windows of opportunity for latecomers can be down to several different reasons. Downturns in business cycles, for instance, provide small windows of opportunity for latecomers. Clear cycles can be identified over time. Catch up cycles depend on having a window of opportunity, the response of the incumbent and the relative advantages and disadvantages of latecomers. Latecomers suffer from high initial costs, but can take advantage of existing technology, or even attempt to improve on existing technology.

There are three clear strategies used by latecomer engaged in catch-up: path following, stage-skipping, and leapfrogging/path creation. In all cases though, catch up is risky and can fail, even with government backing. Examples include the catch up cycles of Japan and the US, and later Korea and Japan in the steel sector. The driving forces of leadership change are mostly due to technology windows, although demand windows are also important. Incumbents can also lose their position due to making mistakes. Incumbents who have high productivity in current technology often do not want to adopt the newest technology.

Downturns are windows for stage-skipping while upturns are windows for leapfrogging as incumbents become more complacent. Of course there are sectoral differences in terms of the most frequent types of windows and the catch-up cycles witnessed. There are also perverse effects of catching up, such as rising wages, where low wages were an initial reason for success. A series of simulation experiments demonstrate the mechanics and sensitivities of the catch-up cycle.

Q & A

During the discussion participants wanted to know how leapfrogging would occur during an upturn, given that these increase turbulence and risk. Others were interested in the distinction between leadership in production and leadership in branding, and whether the patterns of catch-up change across industries and across time.

Lee answered that during an upturn and incumbent would have more confidence in their technology as they are growing and making money, making them more prone to underestimate the risk of being overtaken. He made clear that catch-up was indeed incomplete without brand ownership, which was the final, and most demanding, stage of catching-up. Lastly, he made clear that even within the same industry the reasons for successful catch-up can change over time.

Presentation 9 – Varieties of industrial policy (Antonio Andreoni)

Antonio Andreoini's paper identifies and classifies different types of industrial policy by looking at a mixture of theory and practice, going beyond economics to look at engineering. Currently, the world is experiencing the third wave of industrial policy, with a new set of policy rationales. The debate focuses on three areas: market failures indicating horizontal policies, structural coordination problems indicating selective policies, and national systems of innovation and evolutionary advantages.

Variety in industrial policy comes from different national contexts, variety in policy design and implementation frameworks, and variety in policy regimes. The paper looks mostly at policy design and implementation frameworks, using the US, Germany, Japan China South Africa and Brazil as case studies[1]. These countries all use different models of industrial policy. An industrial policy model is defined by having either plan-based strategies or initiative-based measures. The implementation may be top-down/centralised, bottom-up/decentralised or mixed/multi-layered. Industrial policy in this context should be understood as a "package of interactive measures" (Stiglitz).

The paper uses a policy package matrix showing different intervention levels against various "factor inputs" in the national manufacturing system, as well as global manufacturing systems and markets. Transformation cycles are important, as policies can be

[1] The discussion of South Africa had to be skipped due to lack of time.

subject to meta-trends where policy packages may overlap across different transformation cycles.

The US uses a complex, multi-layered model, which is initiative-based at the federal level. The federal system aims at rebuilding framework conditions and boosting advanced manufacturing R&D. The US is in the process of re-developing its technology infrastructure by providing very selective support, in particular through the defence sector. A lot of R&D is actually public procurement. Companies are commissioned to build certain technologies.

In Japan the focus is on restructuring the manufacturing sector and assessing the global market situation. In particular there are concerns about the traditional industrial organisation (*keiretsu*).

Germany at the federal level focuses on education and R&D, and on trying to anticipate future market trends. SMEs are supported in a very wide variety of ways. Manufacturing firms are traditionally been supported by a decentralised institutional infrastructure, in which the different institutions all have multiple functions.

Brazil has one of the most sophisticated policies in agricultural technology, elaborated in three consecutive plans, starting in 2004. A fascinating case of an intermediate institution is provided by Embrapa. Currently, a version of Embrapa aimed at manufacturing is under discussion.

China has historically relied upon national five-year plans, but increasingly new transformation cycles are moving down to the state level. A recent spate of MIT studies still found little evidence of endogenous innovative capability. But the latest reports show a rich ecosystem of specialist contractors and component suppliers.

There are shifts evident across countries towards focusing on systems rather than sectors, with more focus on 'selective learning' rather than general capabilities. At the same time awareness of the importance of industrial commons is growing. While multi-layered systems are more flexible, they run the risk of incoherence. But there is evidence that countries can learn policy coherence over time.

Q & A

Comments by some participants focused on the role of the city as an effective political level in case of national gridlocks on policy. They also brought up the issue of barriers to entry. If barriers to entry are low for a given sector, then so are the returns, which is why many businesses try to create barriers to entry. This is also done at the level of countries, with the US for instance using intellectual property rights to create such barriers. A discussion should be had on whether the creation of such barriers should be part of industrial policy. Other participants mentioned the benefits of public-private partnership in conducting R&D, as not only was R&D a great learning device for companies, but also projects with much longer life cycles can be tackled. Another participant wanted to know whether the paper distinguished policy plans from actually implemented policies.

Andreoni agreed that cities are an interesting scale, as are policies that look more at technologies in regional industrial ecosystems. He gave examples of how research can be organised through different means in different countries, with Germany relying more on public-private partnerships and Japan more on public procurement. The targeting can be done very successfully. In the US for instance the DoD receives 15% of the national budget and has developed sophisticated metrics on when and how to intervene.

Responding to questions about policies planned vs.implemmented,, Andreoni explained they had selected policies that actually have been implemented and that the paper had consciously limited itself to policies pertaining to the manufacturing sector.

Session VII: the developmental / entrepreneurial state

Presentation 10 – Rethinking the developmental state (Ha-Joon Chang)

Ha-Joon Chang's presentation dealt with the role of developmental states in the 21st century and tackled some wide=spread misconceptions about the role of governments in facilitating structural transformation and economic development. He began by acknowledging that a narrowly defined developmental state is maybe no longer relevant, as all countries are different. But looking at other countries' experiences is still useful. So we should embrace a

broader definition of the developmental state. A variety of different types can readily be identified. The "classic case" of a developmental is characterised by a powerful central planning agency, backed by right-wing political hegemony. The Scandinavian case is very different but has already been discussed at the meeting. The USA had been home to "developmentalism" prior to WWII, and after WWII it became a 'hidden' developmental state. In fact, the US military could perhaps be considered the most successful SOE in history. Currently, there is widespread recognition of the importance of industrial policy, if not necessarily of the importance of developmental states or "developmentalist" industrial policy.

Next, Chang asked whether industrial policy should follow comparative advantage. He noted that in the short run free trade may be good, but that over longer time horizons things look different. In the medium term, freer trade may not offer net benefits. And in the long run comparative advantage should be deliberately defied. For example, when Japan started in cars its production was tiny compared to the US. Chang agrees with Lin that such defiance of current comparative advantage is risky and the chance of failure is higher than when adhering to current comparative advantage. But with lower risk, the fruits from success are also lower. Moreover, sometimes a country's comparative advantage is the product of another country's industrial policy, especially where these were enacted during colonial times.

Chang went on to ask whether countries need export orientation. While export success is vital for economic development, this does not mean that developing countries should have free trade. And export success often requires significant industrial policy even in industries that conform to comparative advantage, as export markets have high fixed costs of entry. Industrial policy can and has facilitated access. Continuous support in exports requires defying comparative advantage, which again requires industrial policy. Korea went from following comparative advantage to being able to defy it. The framework should be gradual, but new export industries need to be developed constantly. No one back in the 1950s could have imagined what Korea would become.

Chang addressed the question of whether all industrial policy should be horizontal and concluded that the distinction is somewhat artificial. Every policy choice has discriminatory

effects, including education and infrastructure. Relatedly, the view that industrial policy should only correct market failures is ill-founded as the definition of a market failure depends on one's economic theory. For Schumpeter for instance perfect competition was stasis.

There are many different ways to 'do' a developmental state and to solve the attendant political economy issues, even within East Asia. The lead agency for instance could be planning board, a line ministry, a coordinating committee, a sectoral agency or a SOE. Many different government agencies are needed for a variety of roles including R&D, and extension work amongst others. In particular the partnership with the private sector is important, especially for long-term finance. Again this can be delivered in a variety of ways. What is clear is that successful industrial policy needs leadership commitment, coherence and discipline. But in the real world "good enough" solutions to political economy problems can work. No one should wait for 200 years until they have appropriate institutions. Today's burgeoning cases (e.g. Ethiopia, Rwanda, Ecuador, and Uruguay) show this.

Another argument used to discredit industrial is the idea that while such policies may be desirable, they require substantial bureaucratic capabilities. This is the notion that industrial policy is exceptionally difficult and somehow requires very talented civil servants. But Japan's industrial policy, for example, was designed by lawyers and the county had few trained economists. Learning-by-doing requires actually tackling difficult problems.

But is this all not too risky? It is said that if you are not failing, you are not trying hard enough.. Business people do irrational things all the time, see for instance the writings of Schumpeter. This is entrepreneurship. Of course one has to be realistic and pragmatic in terms of how to reach one's goals, but one must set ambitious goals.

Q & A

In the ensuing debate, one participant pointed out that the data presented by Chang could also be used to support arguments in favour of adhering to comparative advantage, also questioning the risk-return relation postulated by Chang, claiming that the curve would rather resemble an inverted u-shape. The participant pointed out that the ability to stop

underperforming projects was vital to contain costs and that larger projects required larger political investment, making it less likely that politicians would willingly admit failure.

Chang conceded that the point about the political costs of projects was well-taken, but argued his point had not been to forgo low-hanging fruit, but rather that a mixture of projects was needed and that some of these would have to be large enough to create comparative advantage, rather than just follow it.

The debate continued after Robert Wade's talk.

Presentation 11 – The development state: new perspectives (Robert Wade)

Robert Wade's presentation dealt with the political implications of the rise of the BRICs states in terms of competing approaches to economics management and global governance. The key question is what kind of changes the BRICs states want in international organisations? Will they try to kick away the ladder or will they push for changes to make development easier? Wade's main hypothesis is that in the next 20 years the BRICs states will want changes to better accommodate their domestic market institutions. They find the liberal market model (LMM) restrictive in terms of industrial policy and they will make use of the developmental state model (DSM). Western powers will try to retain the "consensus" on the liberal market model. The result will most likely be (soft) fighting now and in the future, as well as a gridlock in global governance.

Examples of disagreements happening right now include the Stiglitz Commission of the UN General Assembly in 2009, the World Bank "voice reform" of 2010 and the new president 2012, the IMF "voice reform" in 2010, UNCTAD XIII in 2012, and the G20 with G7 in the driving seat.

The LMM requires a small state in terms of its economic role, so as to maximise the scope for private profit seeking, and integration with international economy (where maximum integration is considered optimum integration). Corporate government should be open to foreign take-over, and capital markets free of state control. Labour relations should exist, and be fought over, firm level only, with no real role for trade unions.

In contrast, in the DSM the state has a large and direct role, and features an elite bureaucracy with a moral commitment to public service. Industrial policy in the DSM focuses on the capabilities of domestic firms and major international firms, with only thin markets for corporate control, and companies in the hands of national capital. Capital markets are largely controlled by the state, and labour relations are split between a regulated sector with tame unions, and unregulated sector. The exchange rate is kept undervalued, innovation and diversification is state-tolerated, and the state gradually builds state-financed R&D. The DSM was pioneered by Japan and France, in diluted versions, up to the 1970s. Even the World Bank embraced such ideas until the 1970s. Since then there has been a Western pushback and the DSM became marginalised and discredited.

The question remains: given the LMM, why was the DSM successful? It is interesting to look at mainstream "explanations" of this apparent contradiction. For example, Bill Easterly could not explain why DSM countries fared so well, a fact that to him, as a staunch defender of free-market ideas, was "mysterious". Wade sees in this a great example of economics as a secular religion.

When considering the future of DSM, several different types of the DSM must be distinguished: in what Wade calls DSM Mark I, the capitalist state leads the diversification of an autonomous industrial base. This approach is now much less viable for most developing countries, though those with large internal markets still embrace it. The DSM Mark II can use "less constrained" WTO rules, and countries can bargain hard with MNCs to bring in selected parts of global value chains. Korea, for instance, has been very successful in this. A government that is ideologically committed to the LMM simply will not even attempt do this. But the Global Trade Alert dataset suggests that since 2008 many states have increased the quantity of selective industrial policy measures, often disguised as 'green' policies.

There is a growing awareness that the LMM is a recipe for *not* catching up. For instance, Wade asks how many non-Western countries have become developed in the last 200 years? Even on the broadest possible definition of all terms in that question the answer is ten, at most. In fact, Wade a more accurate answer is seven.

Emerging market states are consequently pushing for more scope for DSM in international organisations. The West may respond by downgrading the international organisations. Examples of such downgrading may include the de facto replacement of such organisations with mega-regional trade-agreements such as TPP and TTIP. The BRICs countries are already building by-pass institutions for current international institutions.

Q & A

The discussion touched on many topics around developmental states, and also continued to explore themes raised in Ha-Joon Chang's presentation. One participant declared the concept of market failures bizarre, saying that if taken seriously the whole world would have to be considered a market failure. Interventions should be based on clear carrots and sticks rather than nebulous incentives.. Another participant commented that while industrial policy had been attempted by many countries there was only a relatively small number of success stories, meaning that we require a much deeper understanding of what drives failure as well as success. Another took issue with the 'liberal' label attached to Wade's LMM, pointing out that free market ideology often amounts to little more than a hidden pursuit of industrial policy which serves only the business interests of elites. Another participant remarked that the general orientation was not so much a 'choice' as the result of complex pattern of mutual adaptation between the state and the economy.

Several participants questioned whether emerging market economies really did want to change global governance structures in favour of more state-led development. They suggested that these states were simply seeking wider recognition of their rights to their own development paths and questioned the south-south cooperation Wade had implied.

Several participants asked about the political foundations on which successful developmental states can be erected, while one participant questioned the label itself, saying that really all that is meant by it is an organised state with a long-term orientation towards promoting economic development. The same participant also highlighted the costs of failure in industrial policy are especially serious, given that public funds are involved.

Chang explained that from his point of view comparative advantage should be a baseline and most things you do should be in line with it, but that beyond that it was absolutely

necessary to take calculated risks. Of course there is a risk of failure, but then private businesses fail all the time. Why should the public sector be expected to be free of failure? In reality all states undertake some type of industrial policy, even the most 'liberal'. The US in particular has been very successful at convincing other countries it does not have an IP. Chang insisted that differences of opinion about industrial policy are not simply about semantics, but are rooted in substantive differences in the economic theories people use.

Regarding the political nature of developmental state, Chang dismissed the idea that states with 'bad' institutions should not undertake industrial policy. Rather, institutions of cooperation are built over time and big changes are possible and have been made in the past. Structure does not determine the outcome. And historically there seems to have enormous diversity between countries, and different models of the developmental state worked differently for different country. All one can do is put out some general principles, rather than saying 'you need this kind of state'.

Wade explained that his DSM Mark II was precisely meant to reflect states that try do what they can given the current structures of global governance. This does not mean however that states are not trying to change these. Wade pointed out that while it was good to emphasise the diversity amongst emerging market economies, one should not lose track of their commonalities either. Cooperation amongst these states is growing stronger and the stronger it grows the more it will challenge the liberal market model. Even under current governance structure states still retain room for manoeuvre in terms of industrial policy. The point is that a state wedded to a liberal policy regime will not even attempt to use the available policy space.

Session VIII: a WTO issue

Presentation 12 – Bonds that bind: a product space approach to some industrial policies and the WTO (Wouter Jongbloed)

Wouter Jongbloed's presentation dealt with increasing number of constraints that developmental states run into in formulating industrial policy, especially those imposed by the WTO. He discusses this by using a product space approach to analyse the problem.

The focus is on efficient resource allocation in production. Jongbloed uses a definition of product proximity based on Haussman, Hidalgo and Luciano. The product space is understood as networked connections of nodes, which show differences in density.

The paper looks mostly at specialisation and diversification. At a deeply disaggregated level of their distribution effects, a K/L approach works reasonably well in explaining the dispersion of products across countries, for instance when comparing Italy and Bangladesh. But at the level of the state, i.e. a more aggregated level, capability seems more important. So some aspects confirm broadly to the Hecksher-Ohlin model, in that rich countries add market share, but others do not.

There is a difference between catch up, that is, optimisation growth, and frontier growth, or transformative growth, meaning adding more edges to nodes. Once a country has a complete footprint in terms of edges to nodes, it has every incentive to 'get the prices right'. But when a country is catching up you, it has every incentive to get the prices wrong.

The country product footprint should be used to differentiate "commercial" policies, which seek to increase market share increase and "developmental" policies, which seek to add nodes. But WTO case law has an implicit K/L bias built into it. Jongbloed gives the example of export restrictions on Chinese raw materials, which would be commercial, and Chinese rare earth, which would be developmental. The WTO can, should, and will embrace this. But currently it is moving the other way.

Due to time constraints, there was no Q&A session for this presentation.

Session IX: transformation / industrialisation

Presentation 13 – Industrial strategy: towards a learning society for inclusive and sustainable development (Akio Honoso)

Akio Honoso's talk focused on JICA's vision of inclusive and dynamic development, which aims to ensure human security. There have been several reports on inclusive development, e.g. the Report of the High Level Panel of Eminent Persons on the post-2015 Development Agenda and Stiglitz's new book. The WDR2013 (Jobs) is also important in this respect, as are the ADB's FIGI and the ADB's *Asia's economic transformation*. The talk will dealt in detail

with three pillars of inclusive growth, the first two of which are intrinsically connected. The pillars are:

1. Sustained economic growth
2. Social inclusion to ensure equal access to economic opportunities
3. Social safety nets

The relationship between opportunities and the capacity to respond to them is complex – this is the opportunity-capacity nexus that relates to all three pillars. For growth and opportunity expansion the transformation of the economy is central. But the transformation agenda is very diverse across countries, depending on their level of development. Still, four effective approaches can be identified:

1. Industrial strategy
2. Taking full advantage of externalities of transformation
3. Strengthening resilience to cope with risks – this could also produce new activity
4. Continuous efforts to strengthen the capabilities and skills of workers, farmers and others

These can all be mapped onto the opportunity-capacity nexus. For instance, approach three combines all three pillars.

Leading industries can play a crucial role, as is laid out in a previous paper, which is available on the JICA Research Institute's website. Governments can trigger transformation processes, as is identified in several case studies. For this public institutions need to be insulated from political changes. The focus must however still be on those who, for different reasons, are unable to participate in the transformation process.

Externalities can be used to make growth more inclusive. Many jobs can be created by making use of externalities along value chains. But the market alone cannot achieve this. Especially local governments and research institutes have a role to play, see for instance Cerrado in Brazil. Externalities exist also in infrastructure. An example is the Greater Mekong sub-region, which includes six countries across an economic corridor.

Strengthening resilience can also lead to new economic activities, for instance by using integrated approaches to disaster resilience. An example is low-cost earthquake-resistant housing. Another example is agro-forestry in desiccated regions of Kenya. The risk of urban slums can be reduced through re-urbanisation programmes. Land readjustment here proceeds through a public-private partnership.

Lastly, capacity development is one of the most important approaches followed by JICA. The core of capacity development is mutual learning. The prime example here is Kaizen, which, unlike many management tools, is participatory. Kaizen produces incremental innovation in production processes. Kaizen assistance has been rolled out to 29 countries, including recently to Ethiopia. Similarly, the One Village One Product (OVOP) initiative aims at self-discovery for rural people. It is designed to be an entry point for a learning society.

These are four approaches used by JICA to make transformation inclusive. A clear industrial strategy to create a learning society, at both national and regional levels, will be essential for to create such inclusion.

Presentation 14 – The 2014 African transformation report (Yaw Ansu)

Yaw Ansu presented the thinking and analysis behind the ACET African Transformation Report. The aim of ACET is to promote economic transformation in Africa. This talk focused on highlights from the 2014 African Transformation Report. Africa here refers to sub-Saharan Africa.

Recently, Africa has been growing rapidly. However, This growth requires more work to be sustained. GDP per capita growth now is the same as in the 1970, which was followed by decline. How can such decline be avoided in the future? The answer is economic transformation, meaning diversification, competitiveness, productivity increases and technological upgrading. Vital to all of this are improvements in human well-being.

The report aims to shift the debate from poverty reduction to economic transformation. To add to the empirical debates, the report constructs a tool to track such transformation. This is done in two ways. On the one hand, eight comparator countries are chosen from outside

Africa, on the other hand 15 African countries (representing ca. 80% of the population of Africa) are chosen for analysis. Comparator countries are chosen to be early exporters, including Korea, Brazil, and Vietnam.

Growth theories are only suggestive of pathways to transformation. Important in this respect are low-hanging fruits, including labour-intense manufacturing, agro-processing and natural resources. For each country, the transformation record is looked at, and agents of transformation in the state and in the private sector are mapped. Lastly, low hanging fruits are identified.

The report finds that over the last 40 years the structures of African economies have remained largely unchanged, especially in terms of diversity in production and exports, productivity in agriculture, and export competitiveness (excluding extractives). From all of these indicators, and others, the African Transformation Index is constructed. On the index Mauritius does very well, Botswana less so. Despite recent growth successes, Ghana and Ethiopia both still rank quite low. The report is addressed mostly to policy makers and the development community. Despite past growth, more needs to be done, as Africa is lagging in transformation.

In the last 40 years there have been two paradigms: state-led ISI and then market fundamentalism backed by SAPs. Learning from both paradigms, and from comparators, the main lesson is for the state and the private sector to form a partnership in transformation. The state sets a strategy and a vision, but the private sector must invariably lead. The state must engage in market-friendly industrial policy, although the report says this in not so many words, so as not to antagonise the established orthodoxy. Referring back to the Lin-Chang debate, Ansu suggest this partnership should take advantage of low hanging fruits, *as well as* making bold and informed bets.

While exports were critical for East Asia, the world has changed. Exports remain important, but instruments must adapt. Products must be based on current comparative advantage for instance. The fastest growing export markets for Africa are in China, Brazil and India. Exports to the OECD are not expanding much. However exports to China are mostly primary commodities and fuel, with only a very small share of manufactures.

One driver of transformation will be the development of human skills. By 2050 Africa will have a larger labour force than India or China. Enrolment in primary schools in growing, although quality remains a problem. Secondary, TVET and STEM enrolment rates are low compared to comparators though, and graduate unemployment remains a problem. The fact that Ghana now has an unemployed graduate association is illustrative in this regard.

Ansu identifies a number of different pathways to transformation countries can take. These need to be both long term (focused on building STEM capacities) and short term through the attraction of FDI. For instance, garments and components assembly have both not happened in Africa. While manufacturing FDI has been rising, it is heavily concentrated in few countries. Agro-processing is another potential pathway, and well-managed natural resources should be considered a blessing, not a curse. There are of course problems in agro-processing, which will be addressed in future reports. Agro-processing must include both traditional and non-traditional exports. The large food imports in many African countries can be a major, and still largely untapped, opportunity. Oil, gas and mineral deposits can also be harnessed for transformation, if technology is upgraded, and revenues are transformed into other assets. The political economy challenges of public revenue management can be solved. Lastly, tourism remains a low-hanging fruit for many countries, and more can be done to expand this potential.

Presentation 15 – Patterns of industrialisation and effects of country-specific conditions (Nobuya Haraguchi)

Nobuya Haraguchi's talk dealt with the long-term transformation of manufacturing and the irregularities that result from country-specific factors. The paper aims to fill a gap in the literature, as there are very few comparative studies looking at structural transformation in manufacturing. The model used in the paper studies real value added per capita, and other variables, with GDP in square and cubic forms. The model can be used to map industrialisation patterns across different industries over time.

As countries move to high income levels confidence intervals rise, but up to levels of around $15,000 per capita the paths are quite tight. When countries move towards higher income, labour-intensive industries tend to dominate until an income level of around $8,100 per capita, at which point capital-intensive industries tend to take over. Patterns are similar for

large and small countries. The difference is that in small countries labour-intense industries tend to slow down much more rapidly.

Looking at growth against GDP per capita for different industrial countries, most industries tend to grow relatively slower. Exceptions include machinery and equipment, and electrical machinery and apparatus.

To get a better view of the big picture it is necessary to expand the focus from looking just at value added, to looking at employment, value added and labour productivity together. Apparel, for instance, generates very high employment growth rates at low income levels. Textiles however begin to decrease employment quite early in the growth process, at which point employment in the sector tends to fall rapidly, whereas levels of value added are maintained for longer. In contrast, in the apparel sector value added and employment growth decrease together. Rubber and plastic can sustain employment, value added and labour productivity over long period of the growth process.

The data used contains industry and country-specific effect, as well as time effects. For instance, high population density has positive effects on many industries. An example is the value added per capita in textiles, which falls over time for all income levels, though the reduction is strongest for medium income levels. Most industries have been intensifying capital use over time.

Countries overall follow the estimated pattern of value added per capita against GDP quite well. Deviations from the regression path can be estimated using fixed effects. The data shows that the speed of structural change has been generally increasing for those countries that are managing structural transformation, as can be seen by comparing China and Pakistan for instance. It seems that comparative advantage is driven by technology in time, but country-specific and time effects can explain both the deviation from common transformation paths, and the different speeds at which countries move.

Q & A

During the debate participants asked about Haraguchi whether his data was not simply reflecting differences in technology. They also asked about the division of countries into size categories? Of Hosono they asked whether diversification should be considered a result

rather than a driver of structural transformation, and how industrial policy can be used to create a process of industrialisation that is inclusive. One participant wanted to know what the particular role of JICA had been in the examples given. Ansu was asked why averages were used to compare African countries with comparator, given that this represented a loss of data. Other participants underlined the need for disaggregated data for African countries. One participant stressed that agricultural also requires activist industrial policy and this aspect should be given greater emphasis.

Haraguchi replied that in textiles for instance technologies are actually very similar across countries. He emphasised that the project included a working group on policy as well as on the data itself and that the indicators were chosen carefully to under the specificities of different industries and that size categories were arrived at by looking at the number of different industries present.

Ansu stressed that his presentation had been a high-level overview and that they did have much more disaggregated data, which was contained in the report, along with country case studies. He made clear that there are many realistic and practical ways to raise productivity, which need to be mainstreamed. He made clear that the current specialisation of African countries was a sign of weakness and that higher capabilities would allow for specialisation driven by choice. He agreed that agricultural development required smart industrial policy, but also stressed the need to support small and medium enterprises in manufacturing.

Hosono stated that the examples were mixed and that in some cases JICA's contribution was relatively small, while in others JICA had acted as catalyst. He said that JICA tries not to give directions, but rather to engage in mutual learning. So that in general JICA tries to be less of a strong agent and more of a catalyst. An exception being Kaizen, and capacity mainstreaming is part of almost all assistance projects.

Session X: development finance / banks [1]

Presentation 16 – Development finance and banks: theory and practice (Stephany Griffith-Jones)

Stephany Griffith-Jones presented the case for development banks and highlighted the role they can play in supporting successful industrial policy. The area of development finance is overlooked, as the mainstream assumes financial markets are efficient and many heterodox economists are very critical of interventions in finance in general. But finance can support development in a number of ways: it can manage savings, intermediate them at low costs, and, crucially, not cause any crises. The private financial sector has not performed these tasks well. It has not been good at financing skills, it has been very pro-cyclical (limiting long-run finance and SME support) and it has actually *created* risk. The financial sector creates additional uncertainty.

Nonetheless, a positive role for development finance is being increasingly acknowledged. One reason is that during the last crises, development banks have been effective at providing counter-cyclical finance. While at the same time a modern industrial policy regime and the entrepreneurial state are increasingly acceptable. A case can be made in the mainstream about the need for a more diversified financial sector. Having development banks may reduce financial risk in the economy overall.

Different types of financial institutions have different strengths. Large private banks are good at lending to TNCs and at providing trade credit. Public development banks are good at providing long-term finance and financing innovation, while banks targeting small businesses have an information advantage with regard to SMEs.

The design of the financial sector should not be driven by free-market ideology. There should be no either-or when it comes to development banks. In actual fact, development banks often co-finance with private banks, and most of their lending is to private firms. Collaboration does not mean that they should pick up the bad habits of private banks though.

There are of course different approaches to thinking about and understanding finance. The first is to consider financial markets intrinsically efficient. Almost by definition this approach is then against development banks. This thinking still persists in the mainstream, which has led to a lot of good (and some bad) development banks being closed. These ideas were first challenged by the theory of informational asymmetry, which could explain credit

rationing. Informational asymmetries are especially widespread in financial markets, providing a strong case for good regulation and public development banks. There are problems in all financial markets --public and private -- costs and benefit of different institutional set-up must be compared.

Uncertainty means that it is risky to go into long-term projects, which financial markets, with their short-term incentives, are very ill-suited to. Look at the Channel Tunnel for instance. The key issue is that we need institutions that are not composed mostly of financial engineers seeking to maximise short-term returns. Rather a long-run development perspective is needed. Following Minsky and Keynes, boom-bust cycles will happen even in well-regulated markets. Development Banks, especially for instance AfDB, are good at providing counter-cyclical finance, though often they do not provide sufficient volumes. Even some parts of the World Bank acknowledge the counter-cyclical role of development banks. But other parts of the World Bank have come out strongly, and recently, against public development banks.

The role of such banks includes mobilising broad and additional resources. This is related to the idea of leverage. In the West for instance, many countries are fiscally constrained by their unwillingness to raise taxes. With leverage factors of eight, through the EIB for instance, governments can make large investments with relatively small immediate public fund commitments. For instance, Germany is trying to persuade some EU periphery countries to start development banks, and is also providing funds through KfW. Even the UK Labour party is thinking of a UK investment bank.

Development banks are key to funding the opening of new sectors and deepening exiting ones. But the question remains to what extent can they 'do' industrial policy? Should they just follow government guidelines and vision, or should they actually catalyse policy?

The existence of widespread externalities provides another argument in support of development banks. For instance, the World Bank evaluates projects using a shadow price for carbon, as well as commercial criteria. The private sector is very bad at evaluating how a given project would support structural transformation. This is especially true for large international banks, which tend to lack a national perspective.

The scale of development banks is crucial. In many African countries they are very small compared to the overall economy. But KfW represents about 12% of total credit in Germany, and adding the other public banks and coops brings the non-private sector to about 50% of the banking sector. By contrast in Chile the development bank was too small to make much of difference. While small steps in the right direction are better than nothing, they are not enough.

The choice of instruments development banks use is vital to their success. Very complicated instruments take longer to implement and are often opaque. Risk can be hidden, leading to contingent liabilities for the public sector. There is a danger of an excessive transfer of risk from the public to the private sector.

But development banks not only have to manage the downside risks of their investment. It is vital for the financial health of development banks, and for the public acceptance of industrial policy, that such banks and, by extension, the state try to capture the upside of investments as well. Taking an equity share when investing in companies is a simple way of ensuring some of the upside remains with the development bank.

Presentation 17 – Development finance: the Indian experience (Deepak Nayyar)

Deepak Nayyar's presentation illuminated the rise and fall of development banks in India. He was hopeful the experience of latecomers, such as India, can provide some conclusions about what countries get right and wrong.

Everywhere lumpiness, long gestation periods and a general lack of credit are important arguments for development banks. They also play a key role in financing of infant industries. The rationale in India was similar. In about 1950 domestic savings were about 5% of GDP and the financial sector was very underdeveloped, as well as highly concentrated. In particular there was almost no capital available for long-run finance.

Development finance in India developed in three phases: first from the 1940s to the 1960s, then during the 1980s, and lastly, from the late 1990s to early 2000s. In the first phase long-run lending institutions, backed by the central bank were founded. Alongside these, institutions for the states, whose role was to lend to SMEs with backing from state

governments, were also founded. At the same time the nationalisation of insurance companies created a new set of investment institutions. These aimed to mobilise household financial savings for investment in capital markets.

The second phase saw the creation of refinancing institutions. These were aimed mostly at rural areas, housing provision and the support of SMEs. A number of sector-specific institutions were also created, including EXIM.

The third phase saw the demise of development finance in India. During this phase, the sector was devastated by impact of ideologically-motivated financial sector reform. Almost all development banks were transformed into commercial banks. As a result, lending almost stopped in the early 2000s. Rhetorically asking what remains of development banking in India now, Nayyar concludes: "Precious little".

Trends in disbursement show a rapid expansion through the 1980s and 1990s, only to then collapse in the early 2000s and recover somewhat after about 2006. The World Bank in particular insisted on financial sector reforms. Funds and concessional terms dried up for development banks, which undermined profitability. Together with other factors this made the loss-making of these banks a self-fulfilling prophecy. Falling profitability supplied the arguments needed to turn them into commercial banks.

By 2001 development banks were lending about 50% of gross fixed capital formation in India, thereafter their lending fell off very sharply. Since the early 2000s a lot of industrial finance has come from internal sources, mostly retained profits. At the same time, there is some borrowing from commercial banks, mostly driven by political patronage. The two most significant sources in the 2000s have been the domestic bond market, but especially external commercial borrowing. These firms are borrowing for investment not to finance current operations.

Despite their flaws and warts the development banks and similar institutions financed significant parts of Indian capital formation. Without these, there would have been little support for investment in private manufacturing. Now most development finance comes from the few refinancing institutions that are left. This financing is in no way driven by any coherent industrial policy, neither at national nor at regional level. Key sectors get less than

their proportionate share. Beyond lending, there is little if any engagement with firms. Even institutions that took equity were mostly sleeping partners. This is very far from the traditional role of development finance institutions in terms of promoting industrial policy.

Lessons from this experience illustrate that development finance is a necessary condition for economic development. Even in a country such as India private finance would not have materialised. And despite the institutional complexity, there was some purpose to the apparent madness. Sources of finances often came from preferential access to government finance. But, the development finance sector did not provide funds for infrastructure. As the fiscal resources of the government dried up, investment in infrastructure was woefully inadequate. A further mistake was winding up the development banks too early. Japan, for instance, restructured its development bank as late as 1999. Lastly, the absence of adequate control mechanisms invited moral hazard and collusion between banks and firms, leading to the accumulation of non-performing assets.

Presentation 18 – Back to the future: development bank redux (Anush Kapadia)

Anush Kapadia presented on the political underpinnings of successful systems of development finance. Politics, in his view, has to be brought back into the centre of the conversation. The analysis must start with the question posed by during the meeting by Deepak Nayyar: what is the nature of a state that makes industrial policy possible?

Industrial policy is understood here as an institutional matrix for generating a variety of development drivers. Development banking represents the securitization of taxation power, and is therefore inherently political.. Only a state that can reliably fund a development bank can undertake industrial policy.

Theory suggests that institutions are a form of "interrupted conflict", a temporary settlement. Macro-political battles are expressed in the configuration of financial system. These systems are complex and have their own logics. Politics can bend, but not break, the logic of these systems. Acknowledging this constraint still leaves a large bandwidth of political possibilities.

Historically, development banks can be thought of as an outcrop of financialization processes, initially as the sharing of sovereign power in order to secure a market for government debt. The 'Glorious Revolution' in England was therefore able to create a fiscal-military state, largely through increased state capacity. Reformulating Weber, a state is human community that successfully claims the apex of a hierarchical financial system because it has legitimacy in a given territory.

The literature on development banks is mostly focused on the assets/disbursement side. Another important question though is the liabilities side. So we have to look at how state banks get back the funds they have committed. A key question is whether the liability profile of development banks is politically stable.

Development finance should be seen as a set of functions, not a set of particular institutions. This view is analogous to Rodrik's attempt to save neoclassical economics by insisting that neoclassical principles never map precisely onto just one policy. Relatedly, states and markets should be thought of social algorithms, which are subject to design.

In sum, state banking has to be optimised for context. Politics always will be local. Developing the optimum fit between a credit system and a political system requires agnosticism and a spirit of experimentalism.

Session XI: development finance / banks [2]

Presentation 19 – Financing development: the strategic role of development banks and the role of BNDES (Joao Carlos Ferraz)

Joao Ferraz presented on the experience BNDES in Brazill and reflected on the strategic role that development banks in general play as tools and agents of industrial policy. The analytical references used include the financial scarcity induced through market failures and the uncertainty that plagues any long term investment. Market failures indicate three of four areas for development banks to be active in. But the actual role of development banks is much broader. Development banks can be patient, mission-oriented institutions. They are instruments of national development strategy, at any stage of development.

Every development bank is a singular institution, and there is no general role model. The World Bank compared 90 institutions in 61 countries. These differ in terms of ownership structure, target sectors, lending models, credit condition, and numerous other aspects. Depending on the stage of development of the financial industry in a country, the role of the development bank is very different. For instance in Brazil, the private sector should also finance long-term investment. Around the world amongst developed countries the idea of development banks is coming back into fashion. Crucially, these banks must exist before a crisis hits if they are to ameliorate the effects of crises. During the crisis development banks increased their lending. Their anti-cyclical role is very well established. In a crisis commercial banks forgo market share to shore up their balance sheets.

Development banks today are extremely relevant in terms of their share of lending. The ratios of development bank assets to GDP range from 19.4% for KfW in Germany to 16.3% for BNDES in Brazil, down to low levels in South Africa for instance. Moving to Brazil, the financial sector there is robust, but shallow. The ratio of credit and bonds to GDP is about 50%, which is relatively low. And the ratio of housing credit to GDP in Brazil is still only 10%, despite recently doubling. Interest rates are high and credits are short-term. BNDES is especially important in terms of its holding of outstanding loans compared to total credit, but less so in terms of outstanding loans to GDP, where Germany has a higher ratio.

BNDES includes an investment bank with a portfolio of $45.4bn, which generates a large share of overall profits. But beyond that BNDES sports a range of other instruments including direct operations, project finance, grants, and others. Last year BNDES disbursed about $89.9bn. This rose sharply because of the crisis. BNDES financing is responsible for about 25% of all investment in the country.

Contribution to policy is important for BNDES, and priorities are very fine tuned over time. For instance, in the 1950s it was about infrastructure, in the 1960s about the industrial SOEs. BNDES finances SOEs, privatised enterprises, and a host of other institutions. While it adapts to government policy, it also plays an active role in designing policy, especially in industry, innovation and infrastructure. This is especially true with regards to technical expertise for modelling complex projects.

BNDES also introduced new instruments for SMEs, and now supports some 275,000 companies – in total about one third of disbursement. Also 78% of large corporations in Brazil receive some form of finance from BNDES. In recent years there has also been a strong rise in financing innovation and some rise in green projects.

Development institutions should have a unique set of directives to follow. They should patiently face uncertainty, finance the expansion of capabilities, support public policies and long-term planning, foster a long-term financing industry, contribute to systemic stability and appropriate and distribute to society (via the state) the returns of financial investment decisions. Through getting returns on their investments such institutions also induces efficiency in the wider economy. Development banks should pursue priorities defined through political processes, and their mandate must be enforced at the highest political level. As servants of public interest they must pursue efficiency and effectiveness. They must have stable funding. For BNDES this is anchored in the constitution via loans from the treasury.

Presentation 20 – Kazanah as a sovereign wealth fund and industrial policy (Azman Mokhtar)

Azmar Mokhtar's presentation dealt with the strategic role played by Kazanah in Malaysia's industrial policy regime. Khazanah, which is Malaysia's sovereign wealth fund, has also been called a sovereign development fund, or SDF. As an SDF, Kazanah has to make money, leading it to trebling its portfolio in the last 10 years. But at the same time the fund has to deliver strategic economic outputs, including creating jobs and bringing in knowledge. Currently, around two thirds of the portfolio is in Malaysia with the rest spread around the world.

Between the years of 1998 and 2002 the Malaysian economy went through a stabilising period, which saw the imposition of capital controls. As of 2004, Kazanah assisted with restructuring Malaysian SOEs. There have been successes in 80-90% of cases, but also some failures, notably in the car industry and with Air Malaysia). Additionally, Kazanah also restructured so-called state-linked companies. A lot of the skill set at Kazanah is in using market instruments, such as managing mergers and acquisitions and reverse mergers and

acquisitions. Using mergers and acquisitions Kazanah built up scale in companies to make them sustainable.

The political leadership of Malaysia recognised that they had to overcome the middle income trap, an insight which coincided with the Lehman crises. So Kazanah was called upon to start new companies, which cannot be done through market instruments alone. A hybrid entity such as Kazanah however, can fill the gap. The management of the fund focuses on programme management, where each programme combines multiple projects. At the same time, a strategic decision was made to expand overseas investment, to both increase returns and help spread risks through extensive partnerships. Consequently, a cooperative agreement was put in place with Singapore.

The question is whether the fund serves to crowd activities in or to crowd them out. One key to ensuring the latter was the case was to focus on building entire economic ecosystems, for instance around the Pinewood studies in southern Malaysia. The fund also provides support to government institutions to plug gaps in capacity.

All sovereign wealth funds have clear goals in terms of the returns they are expected to generate, but Kazanah also tries to take a more developmental role. Managing this is not easy though and requires Kazanah to constantly seek independence within government.

Q & A

The talks about development finance sparked a wide-ranging discussion. Participants were interested in how insitutions such as BNDES and Kazanah were able to bring in such high returns while still following social objectives, and there were a lot of points made about how the accountability and independence of such institutions should be managed. Participants asked how such institutions could be prevented from making bad loans to the politically powerful and how true independence of leadership could be maintained. One participant pointed out the irony in the World Bank, itself a development bank, demanding the dismantling of such institutions.

Other participants commented on the uncertain returns inherent in infrastructure projects, which made them unsuitable to private finance and on the fact that development banks now played the same role as the very first generation of investment bankers had, who had

financed infrastructure. One participant lamented how bailout funds in the US had been given to commercial banks in the hope that these funds would be used for new lending, which they were not, and commented that development banks would be in a much better position to play a counter-cyclical role. Finally, one participant requested more details on the matrix used by banks to assess uncertainty, and whether they used TSR.

Mokthar said that it was too early to assess whether returns were indeed higher, but suggested that the ability to take a longer view, green investment and careful hiring practices gave his fund an advantage. He explained that of course the dangers of capture were always present but that as an SWF they are somewhat insulated by their long-term legal commitment to the country as a whole, rather than to any group of politicians.

Stephany Griffith-Jones highlighted that the unique advantage development banks have over central is that the former can provide long-term finance while the latter can only inject liquidity.

Nayyar explained that one of the consequences of loosing the development finance institutions had been the higher cost of borrowing. This in turn meant that for borrowers the marginal efficiency of capital had to be much higher as well. As a result commercial banks are now seeing a rise in non-performing assets. More importantly, part of the lending was replaced by loans from foreign commercial banks. These loans did not factor in exchange rate risks or take account of the overall risk of accumulating foreign-denominated debt. Now Indian companies have huge problems with external debt, and gross fixed capital formation has dropped by 5% in five years. At the same time interest rates in the domestic debt market remain high.

Kapadia argued that the entry of commercial had coincided with a political push to get infrastructure moving. Consequently, commercial banks lent to oligarchical institutions, incurring political as well as project-related risks. According to Kapadia, all these projects stopped when all the political scandals broke in the last 6 years. The lesson is that ability of a development bank to discipline recipients depends on its insulation (at least to a degree) from politics.

Lastly, Ferraz agreed that the countercyclical role played by development banks, namely allowing governments to put money in a credit system and channel it to investment was highly effective. When the crisis hit, investment tanked in Brazil while development bank lending expanded massively. He clarified that on some instruments the returns fetched by development banks are lower than those achieved by commercial banks. So precision in pricing is extremely important. Pricing for innovation is very different from pricing a shopping centre. Developmental goals and financial sustainability have to be balanced carefully. On the metrics, Ferraz clarified that tech. scale readiness (TSR) is used by people who do innovation, but that development banks like BNDES would typically invest only after the so-called 'valley of death'.

Session XII: panel discussion

The panel discussion provided an opportunity for speakers to sum up the discussions at the meeting and draw conclusions for both research and practice.

Giovanni Dosi

Dosi's pointed out that the discourse around industrial policy is changing for the better and that first advantage over the past ten years or so is that the main focus of industrial policy is now about capability accumulation. Capabilities are different from other economic goods and therefore require special intuitions to master knowledge accumulation. Dosi made clear that learning new capabilities would sometimes defying current comparative advantage and that this needed to be supported with appropriate incentives, as was demonstrated by countries that had successfully caught up. Dosi pointed to the importance of finance in nurturing infant industries and to the fundamental incompatibility of successful industrial policy and austerity programmes.

Current industrialisers also face much tougher environment in terms of intellectual property rights. However, loopholes that have been put there by special interest groups in Europe and the US, but can be exploited by developing countries.

He pointed out that the rapid industrialisation of China meant that most regions will need to protect themselves to some extent. Most regions need to industrialise, while Europe needs to

keep a healthy industry, which will allow Europe to maintain an expensive welfare system. He advocated a new consensus under which developing countries would be allowed much more managed trade to let them nurture infant industries. Part of the pact will be the removal of agricultural subsidies that support US and EU farmers.

Ha-Joon Chang

Chang pointed to the general agreement on the need for structural transformation, which involves defying comparative advantage and doing infant industry protection. He argued that this was risky, but that calculated risks should be taken.

Chang argued that we need new tools to minimise the risk of failure and that the exact delivery mechanism will differ from country to country. What is needed is clear acknowledgment of "fragmentism" in economic theory. Chang made clear that there is not just one theory, so we have to be humble about our own theories. Economists should be more pragmatic and pay more attention to real world cases.

Robert Wade

Wade drew attention to two gaps in the discussion. The first is that theories tend to focus on the national level, looking upwards. As Keynes illustrated, this can be very misleading. We have to look at the whole world economy from above.

The second gap refers to the question of what *kind* of organisation can implement successful industrial policy. How can a pocket of effectiveness be constructed in the context of a low capacity public service and how the thorny issues of political economy can be overcome?

Akio Honoso

Honoso emphasised the different levels of discussion, including national, regional, and local levels. In particular more attention should be given to cities. In Japan cities have founded funds through they take responsibility for regional finance and development.

Building a learning society from the bottom up, one in which workers, farmers, and others can participate is important for a learning society that is inclusive, and industrial policy should be designed to foster such inclusion.

Akbar Noman

Noman discussed several misconceptions in the debates around industrial policy. He noted that three important issues had been neglected or underemphasized in the meeting. First, the trade-off between growth and efficiency is often exaggerated by proponents of orthodoxy, who opposed industrial policy type interventions. Deeply flawed studies of effective protection had made a major and inappropriate contribution to this exaggeration. Second, the red-herring of the nexus of rent-seeking, corruption and institutional inadequacies which is often used to argue against industrial policies is at least as relevant to liberalization and non-interventionist policies. That nexus is a separate issue/problem not something inherent in or confined to state-led development..(e.g., the political economy of rent seeking is at least as valid for privatisation as for protection). Third, .the generalized "good governance" agenda that has emerged which focuses on the governance/institutional reforms important for neo-liberal or non-interventionist policies as opposed to the institutions needed for "growth-enhancing" governance as Mushtaq Khan posits. This latter type of governance agenda calls for much greater attention to the institutions underpinning industrial policy (e.g. DFIs).

.

Joseph Stiglitz

Stiglitz pointed out that while it was correct to consider the risks associated with industrial policy one should not forget that *not* engaging in industrial policy was also risky as a country could end up with a slow growth and uncompetitive economy.

A similar point can be made with regard to failure. All human instructions are prone to failure and we don't have a choice about being human or not being human. Markets often fail too and there is a subtle question about who bears the cost. Often the cost is socialised.

Stiglitz made clear that *all* countries have an industrial policy, just some of them don't know that they do, which makes them vulnerable to capture by those opposed to government interventions. The US for instance has two separate industrial policy systems: one sits in the Department of Defence, and the other is in bankruptcy laws and the wider legal framework, which were designed to support financial institutions. Financial liberalisation itself was

really a form of industrial policy, whose consequence was to shift resource from the real economy to finance.

A good basis for arguing the case for an active industrial policy would be to consider what happens in its absence. Stiglitz pointed to de-industrialisation in Africa, or the poor allocation of resources in the financial sector. Stiglitz sees rising levels of youth unemployment and of unskilled labour as a clear indication that the market is not tackling serious social problems.

One way of thinking about industrial policy is as a means of shaping the economy differently, using a whole range of instruments. Stiglitz suggests we should think about what instruments to use rather than about whether we should try to shape the economy.

Closing session: next steps

One of the outputs of the meeting will be the publication of an edited volume of the papers presented. People will be selected to take part in an internal peer review mechanism to provide feedback on the papers. There will also be a small follow-up meeting in November to discuss progress. Participants are to submit revised versions of their paper for review by September 15 , 2014.

Finally, Go Shimada emphasised the long and fruitful collaboration between JICA and IPD, which goes back to 2008 and that they looked forward to more mutual learning and collaboration with IPD in the future.