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# A Global Economy with Multiple Growth Poles

Presenter: Justin Yifu Lin

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# A GLOBAL ECONOMY WITH MULTIPLE GROWTH POLES

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Justin Yifu Lin

## 1. INTRODUCTION

Globalization has been a powerful force for economic development over the last three decades. One of the historically largest declines in poverty was led by developing countries that successfully integrated into the global economy.<sup>1</sup> During a period when trade and financial flows across borders increased at a much faster pace than national GDPs, these countries used globalization as an opportunity to expand production and income opportunities in their home countries.

International economic relations across countries multiplied dramatically over this period. Merchandise trade as a proportion of GDP increased from about one-third in the mid 1980s to just over half of world GDP in 2008, and the increase was even larger for developing countries than for high income countries. Net foreign direct investment to developing countries (as a share of GDP) increased almost fivefold between the 1980s and the first decade of this century (from an average of 0.6 percent of GDP during the 1980s to an average of 2.9 percent of GDP in 2000-2008).<sup>2</sup>

As we emerge from the global economic crisis, however, we need to remind ourselves that globalization also means interdependence across nations. Over the last year-and-a-half, it showed that interdependence became the carrier of economic ruin. Systemic financial distress spread across many countries, and global trade links collapsed precipitously.

One of the primary lessons of the recent global crisis is that in an interdependent world, it is necessary to have coordinated economic policy responses. We should remind ourselves of the severity of the situation at the start of the crisis. Equity markets were in a tailspin, there was the risk of bank runs in the world's largest financial centers, and trade and industrial production plummeted. This all was occurring at a faster pace than in 1929, at the start of the great depression. Indeed, without a rapid international policy response, the global economy faced a looming depression.

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<sup>1</sup> See, for example, World Bank, 2002, *Globalization, Growth and Poverty*.

<sup>2</sup> Net FDI data is from the World Development Indicators catalog available at the World Bank's Open Data website: <http://data.worldbank.org/data-catalog>

The G20 served as a key policy coordination forum, and the coordinated actions of G20 members—along with the efforts of the international financial institutions and many non-G20 governments—have all helped avert a global financial meltdown and establish the basis for an incipient economic recovery. Central banks and governments in G20 economies engineered financial rescues and rapid liquidity support. These were complemented by fiscal packages that enhanced aggregated demand and expanded social protection during the recession. There was an overall commitment on the part of the G20 to avoid trade protectionism that could have triggered a continued downward spiral in global trade flows.

As financial markets recover back and growth resumes, we cannot be complacent about the need for coordinated policies to assure a sustainable recovery and renewed growth over the medium-term. The risks of a sluggish recovery or even a “double dip” recession are not negligible. The crisis has inflicted heavy costs on economies around the world. Unemployment is at record levels, fiscal fragility is a legacy of the crisis, and capacity utilization rates in industry remain substantially below pre-crisis levels in many countries. The events in Europe of the last month provide a clear indication of the risk for renewed economic and financial stress globally.

Prior to the global crisis, developing countries were growing faster than high income countries and provided the main source of increased demand for high income countries’ (HICs) exports. Developing country GDP growth was higher than HIC growth every year from 2000 to 2008, and the difference widened over the period with an average of 3.7 percentage points. This phenomenon was not restricted to a single country or region. Every region of the developing world grew faster than the high income countries, with the average gap over the period ranging from 1.4 percentage points (Latin America and the Caribbean) to 6.5 percentage points (East Asia and the Pacific). Accompanying these growth patterns, were growing trade linkages with developing country merchandise imports from HICs *tripling* in dollar terms from 2000 to 2008. Despite this rapid growth, the share of developing country imports from HICs actually declined—indicating that developing country trade amongst themselves grew even faster. As part of that dynamic, intra-regional trade links expanded and growing economic ties – both through trade, finance and movement of people—were established across regions among lower and middle income countries. As an example, Latin American and Caribbean (LAC) imports sourced from within the region increased its share from 15 to 20 percent over the period, and total developing country sourced imports increased from 21 to 38 percent of total LAC merchandise imports.<sup>3</sup>

The multiple poles of growth can contribute significantly to the global economy’s sustained recovery and dynamic growth, especially if the policy response is adequate and the remaining risks avoided. Today’s conference provides us with the opportunity to discuss the policies required--by both G20 and non-G20 nations--to convert the incipient recovery into sustained and inclusive economic growth.

More than ever, there is the need for capital to flow to the highest productivity investment. This requires a global view and mechanisms to assure that financial, trade and knowledge flows are not inhibited by borders. Countries at lower stages of development generally have the

<sup>3</sup> Data from *World Development Indicators* available at the World Bank’s open data website.

highest potential investments. Many emerging market economies are able to finance these investments through improved local savings mobilization, improved domestic financial intermediation and substantial stockpiles of international reserves. Many other developing countries are more constrained, and there may be additional institutional characteristics that inhibit foreign investment. National or domestic reforms are needed in these cases. In addition, international organizations may play the critical role in assuring financial flows where private investors still see risks that outweigh the potential for profitable investment.

In addition to finance, the reforms alluded to above can benefit greatly from the diverse experience of G20 countries. The best practice and experience of reform for economic development are generated by successful developed and developing countries. This experience can and needs to be shared by other countries. The globally representative nature of G-20 policy experience can be an ideal forum to promote knowledge sharing, and the World Bank can be a knowledge exchange to facilitate knowledge sharing.

In summary, the G-20 could help design and implement a mutually beneficial strategy to achieve sustained global recovery: a framework whereby policy coordination, knowledge sharing and financial assistance from HICs is channeled to promote productivity-enhancing investment in developing countries. Complementary public investment strategies across HICs/MICs/LICs (e.g. science and technology, green technology, aid for trade, infrastructure) can support a strong recovery and the transition to sustained growth.

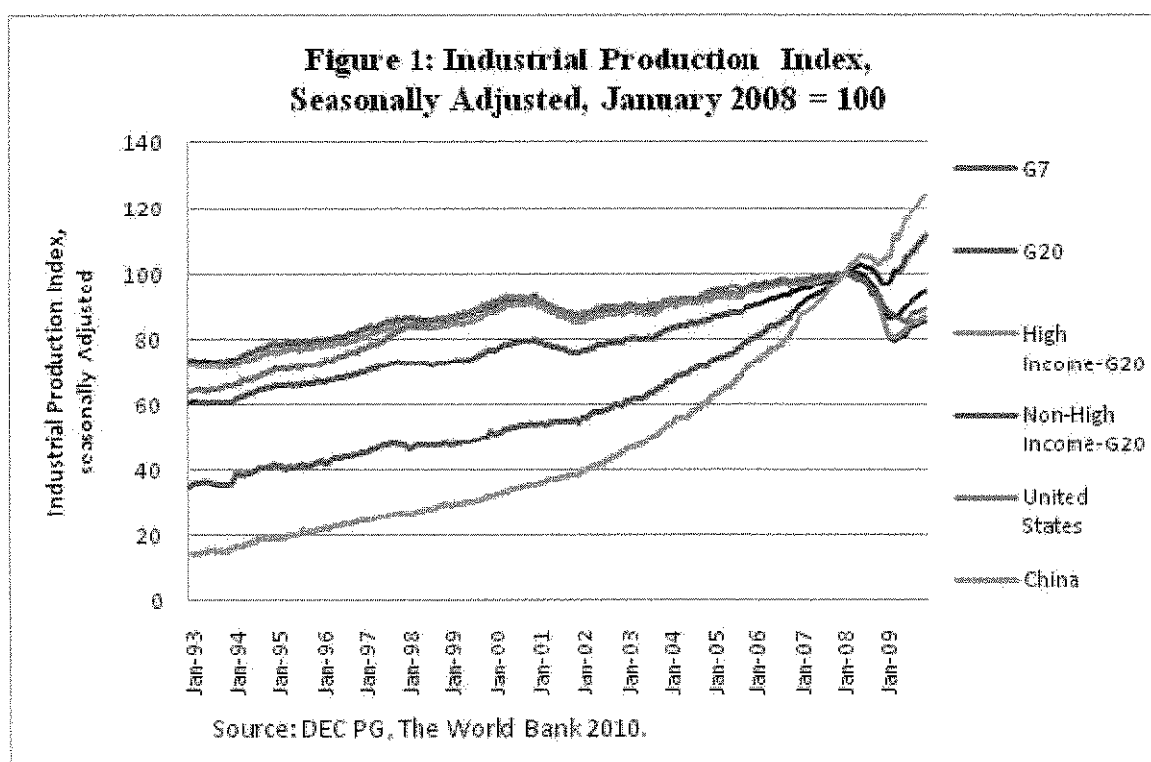
We have a broad agenda of topics for today's conference, and I think the discussions will help us see how to initiate the mutually beneficial strategy within the G-20 framework and how the World Bank and other multilateral development institutions can assist the realization of this strategy. Allow me at this time, however, to set the stage with some views on where the global recovery stands, and what might be required to re-ignite a sustained multi-polar pattern of growth in the coming years.

## **2. GLOBAL PROSPECTS: THE RISK OF A SLUGGISH RECOVERY**

The world economy is recovering from the global financial crisis, which many called the "Great Recession". This recovery process began to take shape earlier this year in developing Asia –particularly in China--where manufacturing production has already reached pre-crisis levels. However, there is great heterogeneity in post-crisis economic performance across countries. This heterogeneity can be explained by the degree of direct exposure to the financial roots of the crisis as well as its main transmission mechanisms and by the condition before the crisis and thus the ability (or feasibility) to implement counter-cyclical policies to mitigate the effects of the crisis.

Most countries in developing Asia had little exposure to the financial derivatives that triggered the crisis and they had the fiscal space as well as the foreign reserves necessary to apply strong policy stimulus programs. Developing countries that were hit the hardest at the onset of the crisis –those that had enormous short-term capital inflows through multinational bank branches, large current account deficits, overpriced housing markets or lacked fiscal space

to implement countercyclical measures— are still struggling to regain momentum. Growth in advanced countries (many of them directly related to the financial origins of the crisis) remains modest, with fiscal stimulus components still playing a significant role. Households, financial institutions, and firms are still in the process of deleveraging and cleaning their balance sheets, and hence consumption and investment demand are yet unlikely to be strong driving forces behind the recovery process. With significant excess capacity in most countries, the world economy is still fragile, and unemployment is likely to remain high relative to pre-crisis levels. Despite the revival of industrial production displayed in Figure 1, many high income countries continue to have low levels of capacity utilization. For example, in the first quarter of 2010, capacity utilization rates in manufacturing were at 73 percent in the United States and at 72 percent in the Eurozone (aggregate index).<sup>4</sup>

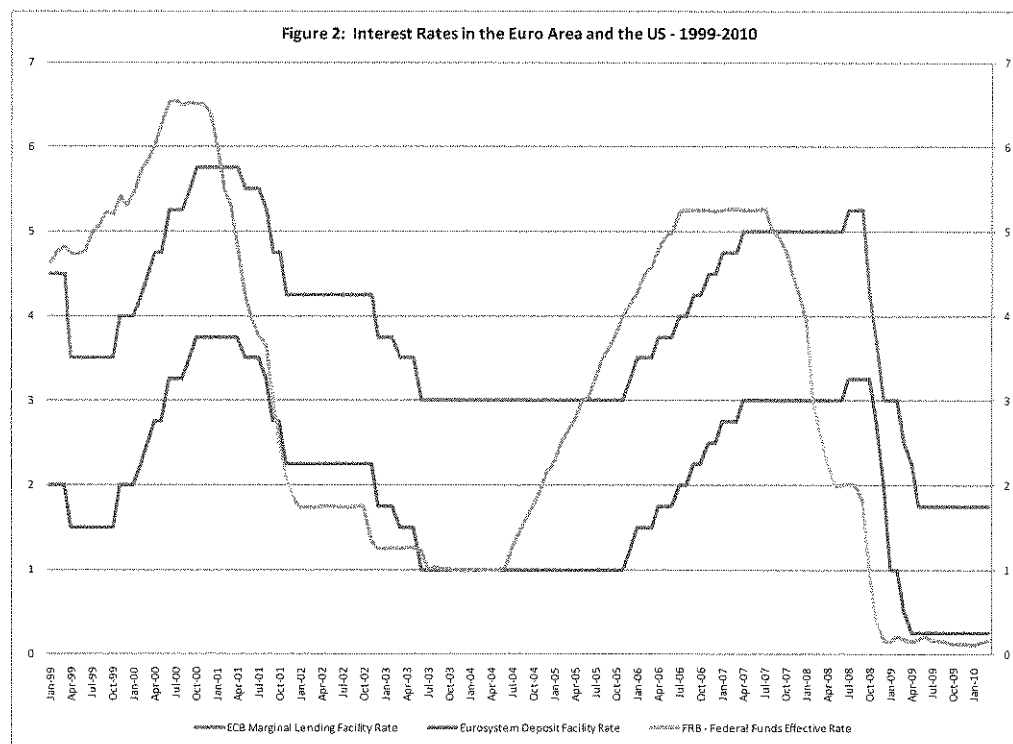


Source: DECPG Database, The World Bank.

Strong policy responses and international coordination by IFIs and governments prevented a global economic meltdown and helped buffer the impact of the crisis. Central banks provided the required liquidity to avoid a financial system meltdown by using a wide array of instruments. Both the Federal Reserve and the ECB eased their monetary stances. Other unconventional instruments—signaling the severity of the situation—such as capital injections, purchase of financial derivatives or special liquidity facilities were used successfully to provide liquidity to the financial system. But monetary policy is unlikely to be effective under excess capacity; that is, near zero interest rates in an environment of excess installed capacity and highly-leveraged economic agents are unlikely to stimulate private investment or consumption

<sup>4</sup> Index numbers from the World Bank's Development Prospects Group (DECPG) Database.

demand. Over-indebted households and firms fear taking on additional loans for purchasing consumer durables or expanding their businesses. In uncertain times, it is more prudent for firms to await additional demand and re-employ existing capacity than invest in new capacity.



Source: DECPG database, The World Bank

Counter-cyclical fiscal policies during the crisis (in most cases accompanied by accommodative monetary policy as mentioned before) helped buffer the negative impact on output and aggregate demand. The overall change in the fiscal balance for advanced G20 economies for 2009 (relative to the pre-crisis year 2007) is estimated to be around 6.3 percent of GDP, of which crisis-related discretionary measures account for 1.9 percent of GDP, whereas for emerging G20 economies the corresponding numbers are 5.4 percent and 2.2 percent of GDP respectively. Fiscal stimulus packages contributed one-third of the total increase in the aggregate fiscal deficit of the G20 countries.<sup>5</sup>

Additional fiscal stimulus might be needed to cement the recovery process, since economic agents have yet to clean their balance sheets, and consumption and investment demand remain weak relative to pre-crisis levels. However, political economy considerations as well as future inflation risks represent significant constraints in the continuous use of fiscal stimulus packages, especially in the United States and Europe. Tightly linked to these factors is the rapid accumulation of government debt, accentuated by the current situation of Greece, Ireland, Portugal, Spain and Italy and concerns regarding the increasing level of the United States' government debt. According to the IMF, for advanced G20 economies, gross general government debt is expected to rise from 78 percent of GDP in 2007 to over 118 percent of GDP

<sup>5</sup> The International Monetary Fund (2009)

in 2014. The situation in emerging G20 economies is less worrisome, with general government debt to GDP expected to stay around pre-crisis levels<sup>6</sup>.

Fiscal deficits and increasing general government debt may have an impact on interest rates, increasing costs of servicing debt, as the recent case of Greece has shown. As government spending increases, economic agents might foresee that current spending will have to be paid off by tax or inflation hikes in the future. If agents behave as if “Ricardian Equivalence” holds, then they will save more in the present in anticipation of future tax increases, rendering government efforts ineffective. But fiscal stimulus money can be directed appropriately towards investments that not only support current aggregate demand but also increase future productivity. In this case, the so-called “Ricardian Equivalence” can be broken<sup>7</sup>. Therefore, it is very important to focus the fiscal stimulus spending on projects that provide the largest social and private rate of returns.

The strategy for high income countries differs from the strategy for developing countries. HICs are at the technology frontier, and there are few profitable investment opportunities immediately available when their manufacturing sectors have large excess capacity and there are few bottlenecks in their infrastructure. Therefore, in HICs the “Ricardian Equivalence” problem may arise (i.e. Japan in the 1990s). But HICs could channel fiscal stimulus money towards enhanced R&D expenditure, especially in investments conducive towards climate change and renewable energy, energy efficiency improvement and technologies with lower carbon paths.

The situation differs in developing countries. Developing countries do present more opportunities to direct fiscal stimulus money towards investments that enhance future productivity. Major infrastructure bottlenecks exist. Power shortages and constraints in electricity generation are common. There is ample room for imitation and industrial structure upgrading.

If governments can identify and make investments in key areas that represent binding constraints to growth, then current spending not only will have a short run effect, but it will also pave the way towards a bright future of sustained strong economic growth. Increased infrastructure is estimated to have contributed an additional 2 to 2.5 percentage points to per capita income growth during the early 2000s in Latin America.<sup>8</sup> Developing countries will be able to become the engine of global growth. This will also contribute to reduce the gap between high income and low income countries. This will also provide additional resources to reduce and even eliminate poverty and make the world a more equitable place. In addition, support for investment and growth in developing world is in the interest of the high income world. Historically, a one unit increase in investment is accompanied by a half unit increase in imports, and given the high income country share of traded capital goods, a one dollar increase in developing country imports is associated with a \$0.35 increase in high-income country capital goods.<sup>9</sup>

<sup>6</sup> The International Monetary Fund (2009)

<sup>7</sup> Lin (2009)

<sup>8</sup> César Calderón and Luis Servén, 2010, “Infrastructure in Latin America,” Draft prepared for the Handbook of Latin American Economies. While the focus of the paper is the Latin America region, a global empirical model is estimated to provide the quantitative information for the regional discussion.

<sup>9</sup> Bank staff estimates made by the Development Prospects Group.

During the current crisis, HICs growth relied significantly on government policies. Output is substantially below pre-crisis levels, and consumption demand still remains weak. Pre-crisis growth was mainly supported by consumption growth, which was the result of wealth effects from capital gains in real estate and housing markets. But over the medium-term, HICs need to rely on MICs and LICs growth to stimulate their exports. This interdependence will become even more important as more developing countries expand their role of growth poles.

While developing countries as a group are thriving, there is a lot of heterogeneity among them. Developing countries still represent a small fraction of the global economy. Emerging markets, on the one hand, are recovering strongly. Recovery there takes the form of a rebound in investment demand, which creates demand for investment goods that are produced by high-income countries. Low income countries, on the other hand, have the potential to contribute substantially to global growth. Sub Saharan Africa could become a growth pole if certain conditions are met. The region's pre-crisis performance offers evidence of this potential. Reforms can deliver concrete results, as witnessed for example in the telecoms reforms that have spurred important growth information and computer technology (ICT) sector.<sup>10</sup>

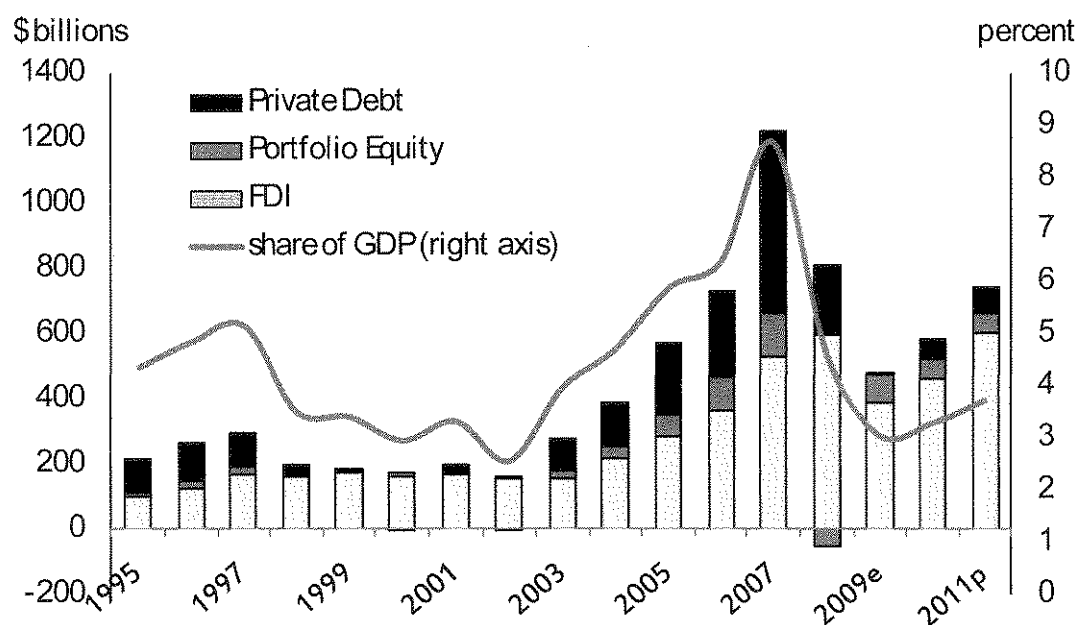
Different growth poles do not compete for the same slice of global demand—rather they reinforce each other. Growth in a given pole is likely to spill over to other poles and to other surrounding regions, either through export demand, capital flows or worker remittances. Trade is not a zero sum game, and neither are investment flows or migration flows. Trade allows for mutually beneficial transactions, and it leads to the creation of supply chains across countries where production efficiency can be maximized globally. Factor flows represent movement of factors to locations where they can earn a higher return. These flows are all part of realizing the growth potential from distinct locations and the linkages across different “poles” of economic activity.

Prospects for capital flows are a source of concern though. In the medium-term, private capital flows to developing countries (especially for smaller economies) are likely to be quite different from the past, both in terms of volumes and patterns. The extraordinary growth levels recorded in developing countries in 2002-2007 (averaging 6.6 percent over the period) was possible due to, among other factors, the low cost of borrowing and the excess liquidity in the United States. With low interest rates and excess liquidity, large capital outflows emanated from the United States and other high income countries to the rest of the world in search of higher yields. The recent crisis has led to increased risk aversion and mounting uncertainty and convinced financial institutions to withdraw credit from risky assets in emerging economies, even though macroeconomic conditions in many of these economies did not show any signs of instability and their financial systems were relatively healthy (flight to safety). Moreover, liquidity needs of many of these financial institutions due to the credit crunch in advanced economies also contributed to reducing capital flows (and hence the availability of private financial flows), and raising the cost of capital. Capital flow volatility and higher risk premia may constrain growth prospects in many developing countries.

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<sup>10</sup> See Obiageli Ezekwesili's speech at Harvard—April 17, 2010 and President Zoellick's speech at TICAD IV in Tokyo. Both are available at [www.worldbank.org](http://www.worldbank.org).

Figure 3: Evolution of Capital flows to Developing Countries



Source: World Bank Prospects Group

There is a need to rethink some of the sources for long-term growth. The key is to avoid a “new normal” low level of growth, but the outcome depends upon discovering new sources of global demand in the medium-term. Many developing countries can fill this vacuum and become the new growth poles of the global economy. This is a unique opportunity to accelerate the changing dynamics of the global economy. Developing countries have played a significant role in global investment and growth. Some of the most vibrant growth poles are in the developing world and it is likely to be so in the future. Such a new pattern of source of growth is a win-win for both the developing and developed world. It is time to enhance even further the developing countries’ role in the global economy.

### 3. IMPROVING THE CONDITIONS FOR MULTIPLE GROWTH POLES

Strengthening regional growth spillovers would be good for the world economy. During the last half century, the world has been witnessing a gradual shift in economic power from the traditional high income countries of the G7 to emerging markets, and we see this in the transition from global policy debates from the G7 forum to the broader G20. Clearly, the rise of China and India are part of this process, but other large emerging markets have grown vigorously: Brazil, Russia and Indonesia are examples, but the Africa region – while still a small share of the global economy—has experienced a new dynamism.

At market exchange rates, the G7’s share of global Gross National Income has shrunk from roughly two-thirds in 1970 to just over one-half in 2008. Much of this changing share has accrued to the “other” non-G7 members of the G20. The change is more dramatic in PPP terms,

where the “other” G20 countries have doubled their share from 16 percent in 1980 to 32 percent in 2008.

A driving force behind these developments is trade. Since 1970, the “other” G20 countries have tripled their share of global merchandise trade (from 8 percent to 24 percent).

**Table 1: GNI shares**

Share of Global GNI (USD)	1970	1980	1990	2000	2008
G7	67%	61%	66%	66%	53%
"Other" G20	13%	13%	14%	16%	23%
<b>Share of Global GNI (PPP)</b>					
G7		52%	51%	49%	42%
"Other" G20		16%	24%	26%	32%
<b>Share of Global Merchandise Exports</b>					
G7	55%	47%	52%	46%	35%
"Other" G20	8%	14%	11%	17%	24%

*Source: Derived from World Development Indicators*

Import numbers tell a revealing story: the developing world is becoming a driver of the global economy. Much of the recovery in world trade has been due to strong demand for imports among developing countries. Developing country imports are already 2 percent higher than their pre-crisis peak in April 2008. In contrast, the imports of high-income countries are still 19 percent below that earlier high. Even though developing world imports are about half of the imports of high-income countries, they are growing at a much faster rate. As a result, they accounted for more than half of the increase in world import demand since 2000.

Why does the world need multi-polar growth? Many high income countries need to rebalance their growth path towards greater exports, higher domestic savings and less domestic consumption. Growth in developing countries would add new sources of growth to global demand and new markets for capital goods produced in high income countries. In order for this demand to accelerate, finance and knowledge needs to flow from high income countries to developing countries.

From the perspective of low income countries, the emergence of growth poles in middle income countries is beneficial for several reasons. First, middle income countries' strong growth creates large demand for natural resources from low income countries (in terms of type of products and in terms of product standards). Secondly, investment from middle income countries to low income countries (from China into Africa for instance, or from Thailand into Cambodia) is highly productive in that it effectively transfers labor-intensive activities that the middle-income investor countries have outgrown. Both natural resource intensive and labor

**Table 2:**

Share in global GDP Growth		
	G20-HICs	G20 Developing
1980s	59.7	20.7
1990s	67.0	15.2
2000s	47.9	27.3
2005-2009	46.6	27.9
2010f	45.8	40.5
2011f	45.2	36.4
<i>Source: DECPG</i>		

intensive manufacturing generally fit the comparative advantage of low income countries. Thirdly, fostering South-South manufacturing linkages can enhance the potential benefits from outsourcing (example of business-process outsourcing in Kenya and Ghana), and this can increase economic opportunities in low income countries and enhance productive efficiency globally.

Another part of the multi-polar growth is the high income countries' role as a source of new technology. At the technological frontier, these countries need to create new products, new production processes and new organizational techniques in order to sustain economic growth. These technologies can later be adopted and/or imported by both middle income countries and low income countries.

Knowledge flows are critical to spreading the understanding of successful cases of development. It is not only an issue of technology transfer, but also understanding how development strategies can be successfully implemented.

The story of Korea is a particularly good illustration of successful industrialization. The government there took a proactive approach to industrial upgrading. It adjusted its strategy to enter industries that were consistent with the country's latent (and evolving) comparative advantage. In the automotive sector, for example, early in Korea's growth period, domestic manufacturers concentrated mostly on assembly of imported parts—which was labor-intensive and in line with their comparative advantage at the time. Similarly, in electronics, the focus was initially on household appliances, such as televisions, washing machines, and refrigerators, and then moved to memory chips—the least technologically complex segment of the information industry. Korea's technological ascent has been rapid, as has been its accumulation of physical and human capital due to the conformity of Korea's main industrial sectors to the existing comparative advantages and, hence, its changes in underlying comparative advantage.<sup>11</sup> As a result, Korea has achieved remarkable GDP growth rates in the past forty years and has performed impressively on industrial upgrading into such industries as automobiles and semiconductors.

The experience of Korea and other East Asian countries provides evidence that low-income countries can transform themselves into dynamic high-income countries, and create new growth poles that help the global economy and contribute to world stability. While each country should design a development strategy that is rooted in its own reality, other low income countries in various parts of the world can learn from East Asian successes. In particular, three key features of these success stories can be emulated: (i) develop industries that are consistent with their comparative advantage in each stage of their development; (ii) use the market as the basic mechanism for effective resource allocation at each given stage of development; and (iii) build a facilitating state to upgrade their industrial structure and move from one stage of development to another.<sup>12</sup>

<sup>11</sup> For more details, see Justin Yifu Lin and Celestin Monga, May 2010, "Growth Identification and Facilitation: The Role of the State in the Dynamics of Structural Change," World Bank Policy Research Paper Number 5313.

<sup>12</sup> For more details, see Justin Yifu Lin, 2010, "New Structural Economics: A Framework for Rethinking Development," World Bank Policy Research Paper Number 5197. One of the key differences between the New Structural Economics and past "structuralist" approaches is the focus on industrial structures that are compatible

Some conditions must be fulfilled for new growth poles to take root. While emerging economies are likely to maintain their growth momentum by themselves, most middle income countries and almost all low income countries with the potential to grow dynamically need to implement internal reforms, and receive external assistance to realize that potential.

- a. Developing countries should undertake structural reforms that help them mobilize domestic financial resources and attract foreign direct investment. An important area of focus is the development of their own domestic financial markets, which will: (i) counteract expected tightness in global financial markets (the World Bank's Global Economic Prospects stressed the point that costs of intermediation still can come down significantly); and (ii) mobilize domestic and foreign savings and allocate them in productive investment opportunities.
- b. Some developing countries will need external assistance. In some countries, access to global financial markets is extremely limited, and the economies are so poor that domestic savings will never be adequate for financing development.
- c. Developing countries need to improve their implementation capacity and governance, so as to provide a favorable investment climate for foreign direct investment in infrastructure projects.

#### **4. CREATING MUTUALLY BENEFICIAL GLOBAL OPPORTUNITIES: A ROLE FOR THE G-20**

*Developing countries represent a timely and profitable investment opportunity for high income countries.* The main challenge for a sustained global recovery is the existence of large unused capacity in the capital goods sector in HICs. A logical solution to escape from the downward pressure created by this excess capacity--while avoiding the problem of debt sustainability and "Ricardian equivalence"--is to invest in productivity-enhancing projects. In high income countries, the "green" economy is one area of such productivity-enhancing investments; however, it may not be enough to absorb the current large excess capacity. Investment and technical assistance in developing countries to release bottlenecks can unleash developing country potential growth and create demand for high income country exports.

*The multi-polar growth of the future requires a new multilateralism in international relations.* The multi-polar growth based on the investment and knowledge flows described above requires actions by a multitude of countries across the spectrum of development status. Global cooperation to promote the needed actions must be based then on a new more inclusive leadership structure. The G20 represents an excellent starting point; however, G20 members need to reach out to their neighbors and trading partners to exchange ideas and create the

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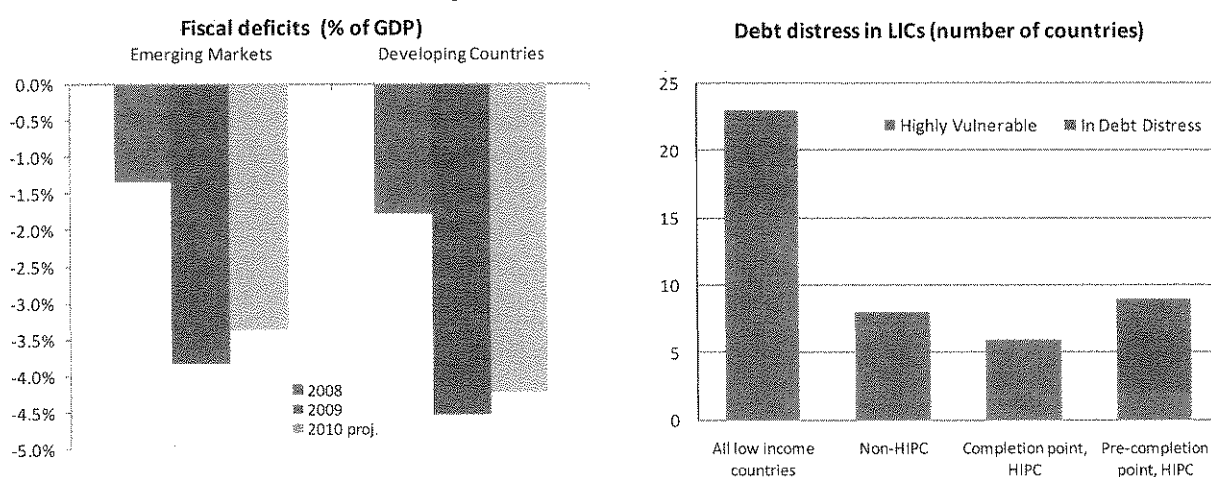
with a country's comparative advantage. One of the failures of structuralist policies was the desire to force industrialization into modern goods that were not compatible with the country's factor endowments and comparative advantage.

learning community that can help create the environment for mutually beneficial economic exchange.

Taking the G20 as a starting point, then, allow me to elaborate briefly on five key areas for G20 collaborative efforts.

**Infrastructure.** Investing in bottleneck-releasing infrastructure projects in developing country is an important way of creating demand for capital goods. There are many such opportunities in developing countries. Such investments will contribute to the global recovery as well as a sustainable and inclusive global growth. However, many MICs and LICs are constrained by their fiscal space and limited availability of foreign reserves. From an external perspective, of the 95 developing countries for which we have data for 2008, 39 had current account deficits exceeding 10 percent of GDP.<sup>13</sup> Like their high income counterparts, developing countries also increased their budget deficits in response to the global crisis (see Figure 5 below). This occurred in low income countries as well; however, an increasing number of countries are exhibiting debt distress (figure 5, right panel).

Figure 4: Fiscal Deficits and Debt Distress



If infrastructure and other constraints can be removed, MICs and LICs, including those in Africa, could become growth poles. External assistance could be channeled to economically profitable investment in developing countries. Public investment can remove bottlenecks to growth in terms of a limited stock or low quality of infrastructure. Both private and public investment can play a key role in this regard. The state has a dual facilitating role in terms of both directly producing some infrastructure and also providing the regulatory framework for private investment in infrastructure.

What are the implications for multi-polar growth? The empirical evidence is strong that the quantity and quality of infrastructure has an important impact on economic growth, and a

<sup>13</sup> Data from World Development Indicators.

number of regions of the world have lagged in infrastructure investment in recent decades. For example, past estimates indicate that if the Latin American top performer in infrastructure (Costa Rica) were to have the quantity and quality of infrastructure of stock of Korea, then growth would accelerate by 1.5 percentage points.<sup>14</sup> For other countries in the region, the payoff would be substantially higher. More recent research focused on Africa showed that if African countries could “catch up” to the infrastructure quantity and quality of regional leader Mauritius, then Sub-Saharan African countries could grow 2.3 percentage points faster, on average.<sup>15</sup> These results are illustrative of the growth potential that could be achieved in new growth poles via the elimination of infrastructure bottlenecks to growth. It should also be noted that the same research indicated that infrastructure investment also has a positive impact on reducing inequality within countries. From either an international or national perspective, infrastructure investment thus can promote inclusive growth.

Infrastructure investments are generally lumpy and costly and thus require finance. Government access to finance for public sector investment will depend upon progress in the G20 financial reform agenda to assure that global financial markets continue their recovery from the difficult circumstances of the last year-and-a-half. Developing economies—both within the G20 and beyond—have an important reform agenda in terms of improving the functioning of domestic financial systems. The knowledge and best practice accumulated within the G20 could be critical in this regard.

In addition to finance, there is the need for consolidating best practice in the design of public and private partnerships (PPPs) for infrastructure development. Many PPP projects have been implemented over the last few decades and economists and policy makers are re-evaluating the conditions under which PPP arrangements can be most efficient and effective in delivering infrastructure services.<sup>16</sup> The appropriate regulatory structure and contract design will depend upon the nature of the physical investment, the scope for monitoring quality of services, and the nature of risks with regards to demand and maintenance costs over time.

Finally, there may be room for IFIs and the G20 to work together to promote innovative new financing mechanisms. One possibility is to leverage sovereign wealth funds and global long term investment funds more generally via mechanisms like the IFC Asset Management Company.<sup>17</sup> The latter can play an important informational role by being a “first mover” that demonstrates how to construct stable and profitable investment portfolios in emerging markets.

<sup>14</sup> César Calderón and L. Servén, 2004, “The Effects of Infrastructure Development on Growth and Income Distribution,” World Bank Policy Research Working Paper Series (WPS) 3400. Also see César Calderón and L. Servén, 2010, “Infrastructure in Latin America,” Mimeo, The World Bank.

<sup>15</sup> César Calderón, 2009, “Infrastructure and growth in Africa,” World Bank Policy Research Working Paper Series (WPS) 4914.

<sup>16</sup> See, for example, Eduardo Engel, R. Fischer and A. Galetovic, 2008 “Public-Private Partnerships: When and How,” Mimeo (available from Professor Engel’s Yale University website) as well as J. Luis Guasch, J-J Laffont, and S. Straub, 2008, “Renegotiation of concession contracts in Latin America: Evidence from the water and transport sectors,” *International Journal of Industrial Organization* (26), pp. 421-442.

<sup>17</sup> The Asset Management Company (AMC) was set up in 2009 as a wholly owned subsidiary of the International Finance Corporation (IFC) of the World Bank Group. The idea is that private investors can take advantage of IFC experience in investing in emerging markets and low income countries. The AMC houses a new initiative – the IFC Capitalization Fund—with initial capital of \$1 billion from the IFC and \$2 billion for the Japan Bank for International Cooperation (JBIC)—that is designed to provide support to systemically important banks in developing

Another new initiative could be the further development of indexed sovereign debt instruments.<sup>18</sup> The volatility of international commodity prices over the last decade and the recent financial crisis are both a reminder of the risk of external shocks that developing countries face. One way to reduce that risk—at least for idiosyncratic shocks to particular countries or groups of countries—would be to issue government debt that is indexed to either national GDP growth or the terms of trade. With such instruments, governments would face lower debt service costs during times of stress. If there were enough countries issuing these instruments, then investors would be able to diversify their holdings based on the different risks faced by countries (e.g., commodity exporters versus commodity importers, or diverse regions). To make diversification possible, international cooperation would be needed in order to get a large enough group of countries to issue these instruments. This coordinated effort should lower costs, given the diversification benefits to investors. The G20 could be a forum for assisting a group of countries to take these steps—perhaps with the assistance of the international financial institutions. With lower (diversified) risk, there could be better access to global capital markets to finance infrastructure and other investments.

**Human capital.** Many developing countries are facing constraints for qualified labor, and this poses a bottleneck for multi-polar growth. A number of middle income countries have experienced positive results with conditional cash transfers (CCTs) for expanding primary and lower secondary education attendance; however, the results have been less promising in terms of educational achievement. In addition, in poorer countries, basic access remains a challenge even at the primary education level.

Since the pioneering work of Barro and Lee<sup>19</sup>, there have been improvements in the measurement of educational attainment and its role in economic growth. A recent survey<sup>20</sup> highlights the role of cognitive skills over simple school attendance, where the cognitive skills can be measured by performance on internationally comparable test scores. The survey provides compelling empirical evidence to support the role of cognitive skills on individual incomes as well as macroeconomic growth. This work provides evidence of the need to promote both quality of education as well as years of attendance. Many countries require improvements in this area if they to contribute to multi-polar growth over the medium-term.

There is also increasing evidence of the need for attending to human development at the early stage of life. The World Bank has launched a new funding program to promote the multidimensional package of interventions – in health, nutrition and pre-school education—to

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countries. The AMC also houses the \$1 billion Sovereign Fund Initiative that allows for global sovereign wealth funds to co-invest in IFC transactions—starting with the Africa, Caribbean and Latin American regions.

<sup>18</sup> See Guillermo Perry, 2009, *Beyond Lending*, Center for Global Development, and Robert Shiller, 2003, *The New Financial Order: Risk in the 21<sup>st</sup> Century*, Princeton University Press and Robert Shiller, 2004, “World Income Components: Measuring and Exploiting International Risk Sharing Opportunities,” Yale School of Management Working Paper 1451.

<sup>19</sup> Robert Barro and J-W Lee, 2001, “International Data on Educational Attainment: Updates and Implications,” Oxford Economic Papers, 53(3), pp. 541-63, and Robert Barro and J-W Lee, 1993, “International Comparisons of Educational Attainment,” *Journal of Monetary Economics*, 32(3), pp. 363-94.

<sup>20</sup> See Eric A. Hanushek and L. Woessmann, 2008, “The Role of Cognitive Skills in Economic Development,” *Journal of Economic Literature*, 46:3, pp. 607-68.

assure that the very young's potential human capital is not handicapped before entering primary education systems.

As industries upgrade in developing economies, there is an increasing need for tertiary and vocational training in developing countries. The G20 can set up partnerships for improving educational outcomes across the group and set up models for improving education globally. There are also opportunities for increased educational services trade across the G20. Certification programs for international tertiary and vocational education could be an important tool for assuring the quality of educational services received internationally. As firms integrate production across countries, the supply of labor becomes more globalized – despite limits to labor mobility. Global growth then becomes dependent upon the skills of the global labor force. Education improvements in developing countries can help remove constraints to industrial expansion globally.

A key feature of human capital development in developing countries is to prepare the labor force for production of goods and services that are consistent with their comparative advantage. Governments need to maintain this focus when addressing reforms to their education and social welfare systems.

**Trade.** Trade was a motor for multi-polar growth prior to the crisis, with global exports growing at about four times the pace of global GDP during 2003-2008. Going forward, the G20 can promote completion of the Doha Development Round for trade liberalization and also promote institutional reforms for trade facilitation. In addition, during the crisis, many countries increased the use of antidumping, countervailing duties and safeguards provisions to restrict imports.<sup>21</sup> While these measures have been applied to only a small share of global trade, the G20 can be an effective forum for discussion of these measures and work towards assuring that these measures are applied in only a limited and legitimate manner. Another issue of critical importance is continued efforts to open up duty and quota free access of goods originating in the world's least developed economies.

The empirical evidence on trade and economic growth is mixed. Part of the difficulty may lie in the need to combine openness with other complementary policy and institutional reforms to prepare economies to take advantage of the opportunities provided by trade. These reforms may span “traditional” areas of hard infrastructure, human capital and the business climate. In fact, recently published empirical research has identified the importance of these complementary reforms in interacting with trade openness in promoting economic growth.<sup>22</sup>

For many low income countries to participate in emerging growth poles, additional policy reforms may be needed to promote the type of structural transformation required for producing new tradable products. I have been developing practical approaches for countries to identify these potential products and the policies needed for relieving binding constraints to production of these products. This “Framework for Growth Identification and Facilitation” is not the topic of

<sup>21</sup> See Chad P. Brown, 2009, “The Global Resort to Antidumping, Safeguards, and other Trade Remedies Amidst the Economic Crisis,” World Bank Policy Research Working Paper 5051.

<sup>22</sup> Roberto Chang, L. Kaltani and N. Loayza, 2009, “Openness can be good for growth: The role of policy complementarities,” *Journal of Development Economics*, 90, pages 33-49.

today's session; however, the main thrust is to use the experience of past successful countries to guide low income countries' progress in industrial upgrading.<sup>23</sup> This would involve a six step process:

- First, the government in a developing country can identify the list of tradable goods and services that have been produced for about 20 years in dynamically growing countries with a similar endowment structure and a per capita income that is about 100 percent higher.
- Second, among the industries in that list, the government may give priority to those that some domestic private firms have already entered spontaneously, and try to identify: (i) the obstacles that are preventing these firms to upgrade the quality of their products; or (ii), the barriers that limit the entry to those industries by other private firms.<sup>24</sup> This could be done through the combination of various methods such as the value-chain analysis or the Growth Diagnostic framework suggested by Hausmann, Rodrik and Velasco (2008). The government can then implement policy to remove those binding constraints and use the randomized controlled experiments to test the effects of releasing those constraints so as to ensure the effectiveness of scaling up those policies at the national level (Duflo, 2004).
- Third, some of those industries in the list may be completely new to domestic firms. In such cases, the government could adopt specific measures to encourage firms in the higher-income countries identified in the first step to invest in these industries. Firms in those higher income countries will have incentives to reallocate their production to the country so as to take advantage of the lower labor costs. The government may also set up incubation programs to catalyze the entry of private domestic firms into these industries.
- Fourth, in addition to the industries identified on the list of potential opportunities for tradable goods and services, developing country governments should also pay close attention to self discoveries by private enterprises and provide supports to scale up those industries.
- Fifth, in developing countries with poor infrastructure and an unfriendly business environment, the government can invest in industrial parks or export processing zones and make the necessary improvements to attract the domestic private firms and/or foreign firms that may be willing to invest in the above industries. Improvements in infrastructure and the business environment can reduce transaction costs and facilitate industrial development. However, because of budget and capacity constraints, most governments will not be able to make the desirable improvements for the whole economy in a

<sup>23</sup> Justin Yifu Lin and C. Monga, May 2010, "Growth Identification and Facilitation: The Role of the State in the Dynamics of Structural Change," World Bank Policy Research Paper Number 5313.

<sup>24</sup> Chile has produced wine for a long time. Its recent success of wine industry is a good example. The change from a negligible wine exporter to the world's fifth exporter in the 1970s benefitted greatly from the government's programs to disseminate foreign technology to local farmers and vineyards through *Grupos de Transferencia Tecnológica* so as to improve the quality and promote Chilean wine abroad through Export Promotion Office, ProChile to change the foreign consumer's perception of Chilean wine (Benavente 2006).

reasonable timeframe. Focusing on improvement of infrastructure and business environment in industrial parks or export processing zones is therefore a more manageable alternative. The industrial park and export processing zone also have the benefits of encouraging industrial clustering.

- Sixth, the government may also provide limited incentives to domestic pioneer firms or foreign direct investments in the list of industries identified in step 1 in order to compensate for the non-rival, public knowledge created by their investments. The incentives should be limited both in time and in financial cost and may be in the form of a corporate income tax holiday for limited years,<sup>25</sup> directed credits to co-finance investments, or priority access to foreign reserves<sup>26</sup> to import key equipments. The incentives should not and need not be in the form of monopoly rent, high tariffs, or other distortions. Therefore, the risk of rent seeking and political capture can be avoided.<sup>27</sup> For firms in step 4 that discovered new industries successfully by themselves, the government may award them with special recognitions for their contributions to the country's economic development.<sup>28</sup>

In addition, many countries need assistance for trade facilitation. There has been some progress on this front; however, more needs to be done to improve the quantity and quality of "aid for trade." This will be discussed in some detail in one of this afternoon's parallel sessions. At this point, however, allow me to highlight several areas for G20 action: (a) lead efforts to improve data to better monitor and evaluate aid for trade; (b) create a knowledge exchange for best practice in improved regulation and infrastructure for facilitating trade flows; and, (c) develop a forum for joint government and private sector dialogue on the need for trade facilitation.

**Governance and Anti-Corruption.** G20 countries have a mutual responsibility to promote strong governance and anti-corruption. It is a key element of the investment climate and essential for the efficiency of financial flows and investment across countries. Domestically, developing countries need strong governance mechanisms to enhance the efficiency and effectiveness of government spending – whether it be for infrastructure investment or social spending for enhancing human capital.

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25 The commonly used measure in China to attract foreign direct investment is to exempt the corporate income tax for the first two years and reduce the tax by half for additional three years.

26 Direct credits and access to foreign reserves are desirable measures in countries with financial depression and with foreign exchange control.

27 The likelihood of capture is proportion to the magnitude of protection and subsidies. If the targeted industries are consistent with the country's inherent comparative advantages, the protection and subsidies are used to compensate the pioneer firms for their positive information externalities, the magnitude of protection and subsidies should be small, and the elites will not have the incentives using their political capital to capture the small rent. In addition, once the pioneering firms are successful, many new firms will enter. The market will be competitive. That will further reduce the danger of capture by elites. Alternatively, if the government's goal is to support the development of industries that go against the country's comparative advantages, the firms in the targeted industries will not be viable in competitive market and the required subsidies and protections to the firms will be large, which are likely to become the target of rent-seeking and political capture (Lin 2009).

<sup>28</sup> We owe this ex post reward idea to Professor Shang-jin Wei.

It is a difficult and evolving field of study to measure the quality of governance, more broadly, and the extent of corruption, more specifically. There is a variety of research results that identify a strong link between quality of governance and economic growth—in particular, if one looks at the broad definition of governance to include the quality of regulation and other factors.<sup>29</sup> A further challenge is to understand the channels through which governance affects growth and identifying the priorities for reform.<sup>30</sup>

The World Bank is actively engaged in governance reforms via institutional development lending and knowledge services to help countries improve the quality of government regulation and spending. On the pure corruption front, the World Bank has been active in investigating and sanctioning firms that are involved in corrupt activities related to Bank financed projects, and the Bank has taken a leadership role in promoting the joint disbarment agreement across multi-lateral development banks. Based on this experience, the Bank looks forward to working closely with G20 countries in implementing international efforts to eliminate corruption from assistance programs.

Governance, broadly speaking, is a key element for developing countries to assure that markets can allocate resources efficiently. Effective regulation and efficient government spending are needed to assure that state facilitates rather than inhibits the functioning of this market mechanism.

**Information and Knowledge Sharing.** As leading economic powers, the G20 is an ideal forum for sharing information and knowledge on economic growth and development. Asia—and in particular, Korea—has a special role to play given the recent success of a number of Asian economies, and there is a session of this conference later this morning devoted to the lessons from the Korean experience. The World Bank would like to partner with the G20 in sharing the lessons from development experience globally. In fact, the Bank is undergoing a set of reforms to enhance the “knowledge bank” aspects of our work. The objective is to maximize the sharing of development solutions across countries and also to make the best use of the skills and experience of international expertise, both within the Bank and from national research institutions.

Governments can play an active role in bringing global knowledge to the business community and thus encourage industrial upgrading. The box below provides examples from “emerging” Asia and Latin America.

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<sup>29</sup> See Norman V. Loayza and L. Servén, eds., 2010, *Business Regulation and Economic Performance*, The World Bank.

<sup>30</sup> See Aart Kraay and N. Tawara, 2010, “Can disaggregated indexes identify governance reform priorities?,” World Bank Policy Research Working Paper Series (WPS) 5254.

**Box: Examples of knowledge sharing for export development.**

Government support to FDI in new products. When local Asian firms had no historical knowledge in a particular industry of interest to the country, the state often attracted foreign direct investment and/or promoted joint-ventures. After the transition to a market economy in the 1980s, China, for instance, proactively invited direct investment from Hong Kong-China, Taiwan-China, Korea, and Japan. This promotion policy helped the local economy to get started in various industries. Bangladesh's vibrant garment industry also started with the direct investment from Daiwoo, a Korean manufacturer, in the 1970s. After a few years, enough knowledge transfer had taken place and the direct investment became a sort of "incubation." It is found that local garment plants mushroomed in Bangladesh, and most of them could be traced back to that first Korean firm (Mottaleb and Sonobe, 2009; Rhee, 1990; Rhee and Belot 1990). The booming cut-flower export business in Ecuador from the 1980s onward also started with three companies founded by Colombia's flower growers (Sawers 2005). The government can also set up industrial park to incubate new industries. Taiwan-China's Hsingchu Science-based Industrial Park for the development of electronic and IT industries (Mathews 2006) and the Fundación Chile's demonstration of commercial salmon farming (Katz 2006) are two successful examples of government's incubation of new industries.

Government support to local discoveries, combined with international knowledge. The asparagus in Peru is a good example. The possibility of growing asparagus, a foreign crop, was self-discovered by Peruvian farmers in 1950s. However, the industry and exports did not take off in earnest until 1985 when the USAID provided a grant for a farmers' association to obtain expert advice. A key piece of information was received from a specialist from University of California, Davis, who had recently invented the UC-157 variety that was suitable for US market, and another expert showed the members of the association's experimental station how to set up seedbeds for large scale production and how to package the products for export. The state also supported cooperative institutions such as the Peruvian Asparagus Institute and the Frio Aéreo Asociación Civil for engaging in research, technology transfer, market studies, export drives, and quality promotion. Furthermore, the state invested in the freezing and packing plants that handled 80 percent of fresh asparagus exports. With these interventions, Peru has overtaken China and become the largest asparagus exporter in the world (O'Brien and Rodriguez 2004).

In summary, providing assistance (both financial and "knowledge") to middle income countries and low income countries to realize their growth potential would yield mutually beneficial opportunities for all categories of countries. Such assistance would require global coordination and cooperation, and the G-20 is an appropriate forum to design and implement a framework for this global cooperation. With this global cooperation in place, developing countries can accelerate their development progress, following the three principles discussed above:

- (i) develop industries that are consistent with their comparative advantage;
- (ii) use the market as the basic mechanism for effective resource allocation at each given stage of development; and
- (iii) build a facilitating state to upgrade their industrial structure and move from one stage of development to another.

