# Gravity and Friction in Growing East Asia

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*Abstract*

*Without the advantages of low wages or high skills, East Asian economies are following a new path of regional integration, led by China. Along this path, policy makers must manage a migration of 2 million people a month to East Asia's cities, a sharp and unprecedented increase in income inequality, and a growing discontent with corruption as governance structures have been decentralized. Having successfully integrated globally before the financial meltdown of the 1990s, and integrating regionally at an even faster pace since then, East Asia's middle income countries must now accelerate a third integration, this time at home. Growth based on scale economies and specialization requires managing both gravity and friction. This article outlines what East Asian nations must do to manage these forces even as another financial meltdown is taking place. How well they can do this will determine whether they will grow through middle-income to join the ranks of developed economies or not escape the "middle income trap".*

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# Gravity and Friction in Growing East Asia[1]

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## I. Introduction

In the fifteen years since the World Bank published *The East Asian Miracle*[2], the economies in the region have been transformed. Many countries in the region suffered a major economic crisis in 1997/98, showing that governments were anything but infallible. Explanations of the *Miracle* that focused on deep institutional determinants of successful growth stressed the positives of shared growth, but did not explain the vulnerability of the major economies that built up in the same period as the miracle.

During the 1990s, East Asia saw an intensification of one of the biggest movement of people from rural to urban areas, a process which is expected to last another generation. And the pull of gravity of the region has shifted from global exports to regional exports thanks to the meteoric rise of China. Any analysis of the region today must be based on an understanding of these three changes: the crisis and quick recovery, an unprecedented move to cities, and the rise of China as a regional production hub.[3]

Perhaps the most obvious difference in the region today is the emergence of China. China now represents three quarters of East Asia's regional (developing country) output. It has enormous foreign exchange reserves totaling about $2 trillion, equivalent to the GDP of the rest of the region. The capitalization of its stock market was equal to its GDP in late 2007.

A second difference is that almost all the major economies in the region have reached middle-income levels. By the end of 2010, when Vietnam's per capita income could surpass $1,000, about 90 percent of all East Asians will be living in a middle-income country. At reasonable growth rates, about 25 million out of about 2 billion East Asians will be living below the poverty line by 2020. Urban, middle-class people in middle-income economies engender a dramatically different political economy from that prevailing in the 1980s.

A third difference is the change in economic strategy that is underway. Prior to the 1997-98 crisis, East Asian growth was characterized by rapid capital accumulation—every country had high investment to GDP ratios. In 2008, with the exception of China and

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[1] East Asia is defined in this article as the ten countries in ASEAN, plus China, Hong Kong (China), Taiwan (China), South Korea and Mongolia.

[2] *The East Asian Miracle,* World Bank, 1993. This book provided an explanation for rapid growth in eight high performing Asian economies in the period 1970 to 1990.

[3] *An East Asian Renaissance,* World Bank, 2007. This book describes the regional integration through accelerating trade, finance and technology linkages since the 1997-98 crisis, and outlines the changes in the political economy within the emerging economies of the region.

Vietnam, most East Asia countries had investment rates that are ten percentage points of GDP below levels in the mid-1990s. Growth rates were also lower, but by less than would be expected as a result of the slow-down in the rate of growth of the capital stock. Instead, total factor productivity is now playing a more important role in East Asian growth. Ironically, there were more signs of a miracle in 2008 than there were fifteen years ago.

In studies that looked at Asia's rapid growth through the mid-1990s, the State's role was described as one of "developing institutions to make policies credible to the polity".[4] Deliberation councils between the government and private business leaders provided inputs into the policy process and continuity over time of market-friendly policies. At the same time, shared growth was the basis of the bargain between governments and the people, providing social stability. The basic presumption was that the market would deliver both growth and equity. Government's role was to support the market.

This paper suggests that theory and empirical evidence over the past fifteen years both point to a changing role for the State in East Asia, as economies attempt to transition from middle-income to rich countries without losing growth momentum. This new role is based on the presumption that market forces cannot be unfettered, but must be managed to overcome market failures. In this view, the changing economic landscape in East Asia is the outcome of States strategically guiding economies by providing an environment within which economies of scale can flourish. States also need to manage the distributional outcomes generated by such an economy. Specifically, States help create and distribute economic rent.

A significant point is that economies of scale require specialization and the production of public goods that are specific to certain industries. They also produce a distribution of income that favors skilled, largely urban, professionals and entrepreneurs. This can be contrasted with neoclassical constant-returns-to-scale economies, which require a minimal role for the State—macroeconomic stability, openness and education—and which generate distributional outcomes in line with factor endowments. For poor East Asian countries, that meant rising wages and employment as labor-intensive manufactured exports were developed.

The basic constant returns to scale model adequately described East Asian growth-with-equity during the transition from poor to middle income countries. In this transition, markets delivered both growth and equitable income distribution in East Asia. In the new economic landscape, the State must do more on both these fronts.

The paper starts with a review of modern economic theories of growth, trade and location. Each of these "new" theories uses economies of scale as the basic explanation for facts about economic growth observed in rich countries. Similar findings are now

[4] Campos, J. Edgardo and Hilton Root "The Key to the Asian Miracle: Making Shared Growth Credible", The Brookings Institution, Washington DC, 1996.

seen in rapidly growing middle income countries in East Asia. The next section describes the problem facing many middle-income countries that are squeezed between low wage competitors from poor countries who dominate mature industries and high-skilled workers in rich countries who dominate innovative industries. It argues that developing countries can stagnate and get trapped at middle-income levels unless they find a way to exploit scale economies. Finally, we present evidence that East Asian middle-income countries are now going through precisely this process of specialization and exploitation of scale economies. That leads to fresh insights as to the role of public policy in these countries.

## II. The Changing Intellectual Landscape

It is instructive to take a short detour to understand modern economic theories that model what is traded (new international trade theory), what makes rich countries continue to grow rapidly, often more rapidly than poor or middle-income countries (new growth theory), and where growth occurs (new economic geography). At their heart, these theories have one element in common: by relaxing the assumption of constant returns to scale and emphasizing scale economies, they are able to handle the complexities of the marketplace in a more realistic fashion.[5]

*New international trade theory*

New international trade theory was developed originally to explain the empirical observation that more trade takes place between countries at similar income levels than between countries with different income levels and factor endowments. This is of relevance in East Asia because most trade now occurs within the region, between middle-income countries. The main idea is the recognition that classical comparative advantage, based on the relative scarcity of factor endowments, does not explain this kind of trade. Classical trade models require the assumption of constant returns to scale. By contrast, models that emphasize scale economies show that countries trade in specialized products, which might develop for a number of different reasons, including historical accident. The cost advantages needed to be successful exporters comes not from abundant factors but from the scale of production and from superior technology.

[5] The paper stresses the "new" theories of growth, trade and location but the reader should note these are not entirely new. The role of dynamic economies of scale was central to models of learning by doing developed by Kenneth Arrow and to Nicholas Kaldor's development of Verdoorn's Law. The latter was controversial, but has been influential (see, for example Nicholas Crafts and Gianni Toniolo (eds.), "Economic Growth in Europe since 1945," Cambridge University Press, 1996 ) Kaldor combined this with cumulative processes of aggregation to discuss the potentially disequalizing effect of international trade. At the end of his book Geography and Trade (1992: MIT Press), Paul Krugman pays a tribute to the earlier work by Kaldor. Indeed, these ideas have been central to the understanding of the effects of trade on inequality; see for example, Adrian Wood and Cristobal Ridao-Cano (1999). "Skill, Trade, and International Inequality," Oxford Economic Papers, Oxford University Press, vol. 51(1), pages 89-119, January.

When firms specialize, they also tend to innovate and develop new technologies to maintain their cost advantage. This notion provides an explanation for intra-industry trade. Differentiated products can fall under the same industrial classification, yet may be made in different countries and traded for each other, even if they are based on similar processes just because one product was developed and taken to scale in one country while another country did the same in another product.

Scale economies also provide an explanation for trade in intermediate goods and differentiated final products, which can take place between countries that are either similar or differently endowed. In contrast, traditional theories emphasized trade based on differentials in endowments of land, labor and capital. There are many more intermediate goods than final goods, so it is in intermediates that a lot of product diversification occurs. Given economies of scale, trade allows firms to exploit technological advantages by increasing the size of the potential market. More trading opportunities in turn encourage specialization in production. A cycle is created: specialized producers innovate more, and the greater the degree of innovation, the greater the extent of trade and specialization.

The key point is that new international trade theory is based on different assumptions about production technology compared with traditional trade theory. Traditional trade theory suggests that the gains from trade are static, efficiency gains which are maximized when factor markets are fully flexible. Producers of tradables become more efficient because they are faced with strong international competitive pressures. By contrast, new international trade theory reverses the causality. Firms that have efficient technologies become exporters, and opportunities to export encourage firms to specialize and innovate.

*New Economic Growth*

The new growth theory starts with the recognition that, in standard neoclassical economics, there is little room for the entrepreneur. Entrepreneurs develop new ideas, technologies, markets, and business processes. In doing so, they expect to be rewarded. But rewards to entrepreneurs are ruled out in the context of perfect competition with constant returns to scale, so there is no surplus to give incentives for entrepreneurial activity. To escape this awkward result, neoclassical models have to assume an exogenous growth rate of technology. This means that such models have nothing to say about the long-run growth of frontier economies. They emphasize physical and human capital accumulation as the core strategy for developing countries. In such formulations of the economy, schooling and investment are all that count for growth.

New growth theory tries to model how innovations actually happen in a real economy by allowing for some economic rewards that go to entrepreneurs. The models propose a link between the quantity of resources applied to innovation and new ideas and processes which in turn drive growth. The main concept is that innovation requires knowledge effort and that ideas are different from goods and factors in that they may be used simultaneously by many people. Even when an idea cannot be used freely to produce

goods (say, because of patent or copyright reasons) it may still be used freely to produce other ideas. In any case, as societies accumulate knowledge (the stock of useful ideas), they may grow seemingly without limit. In contrast, there are strict limits to a pattern of growth that is based only on the accumulation of people and capital.

The concept of ideas as drivers of economic growth is closely tied to the notions of learning and skills. So the first versions of endogenous growth theory emphasized education as the precondition for absorbing new ideas.[6] If the rate of growth of new ideas depends on the stock of human capital, then countries may avoid diminishing returns to investment and continue to grow through human and physical capital accumulation. Later versions take this further and disaggregate between primary, secondary, and university education. They break down new ideas into innovations and imitations and associate the latter with technological catching up and basic education, while the former requires higher-level university education and research institutions. The insights for growth differ from those offered by Mincerian wage equations.

What makes firms innovate and decide to invest in acquiring new technologies? Modelling the difference between frontier firms and catch-up firms is important. Frontier firms enjoy economic rents accruing from the fact that they are the best in the business. They have little incentive to innovate unless they become concerned about potential competitors encroaching on their markets. Competition, openness to trade, and deregulation so as to facilitate new entrants may spur innovation in such firms, thereby ensuring that they remain on the frontier.

Catch-up firms, on the other hand, face a different set of incentives. If they are able to come close to frontier technology by innovating, then the extra profits that accrue to them make it worth their while to put a lot of resources into the endeavor. But, if they are so far behind that the likelihood of earning extra profits is slim, while their existing position is threatened by new entrants, they may react to intense competition by simply giving up production completely. The policy implication is that competition generates growth when firms have the capability to adapt and reach the frontier. But competition can be harmful for growth if it leads firms to withdraw before they reach optimal scale.

New growth theory emphasizes a different set of policy instruments from capital accumulation. It focuses on structural reforms such as industrial organization, competition policy, deregulation, trade liberalization, free entry and exit, and differentiated education attainment. It pays considerable attention to the microeconomic incentives influencing the degree to which firms make an effort to innovate or imitate. Moreover, the theory suggests that these incentives in turn depend on the technological situation of firms and the nature of the industry. More advanced firms need competition to encourage frontier innovation. But less advanced firms need to imitate best-practice technologies. That requires skilled labor, organizational change and an ability to adapt.

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[6] Lucas, Robert Jr., 1988. "On the mechanics of economic development," *Journal of Monetary Economics*, Elsevier, vol. 22(1), pages 3-42, July.

New growth theory differs in important ways from traditional growth theory. By emphasizing increasing returns to scale it allows for an economic surplus that can be allocated to entrepreneurs. But the same assumption means that factors of production cannot be paid their marginal product (as in constant returns to scale production models). Instead, distribution to labor, capital and entrepreneurs has to be exogenously determined. The role for the State is in helping identify the sectors of specialization that yield scale economies and in distributing income in a manner that society considers as fair.

*New Economic Geography*

The new economic geography concerns itself with the choices firms make about location.[7] In geography models, firms tend to concentrate production in one location so as to enjoy plant-level economies of scale. They also like to be near their customers and suppliers in order to reduce transport costs thereby giving rise to "agglomeration economies," or advantages of coalescing geographically. Once established, perhaps due to history or simply luck, cities tend to grow.

Agglomeration is associated with more intense competition and the easier entry of new firms. However, agglomeration may also create problems—what some call the costs of grime, crime, and time—and that prevents agglomeration leading to the concentration of activity in a single place. The formation or growth of secondary cities may be made stronger by "push factors" of rising pollution, breakdowns in law and order, and congestion in a major city. In general, the number of cities and their locations depend heavily on specific characteristics that are difficult to model. What is clear is that ports and other transport nodes have served as the foundation for cities, and, once established, these cities have tended to grow. Transport costs continue to be important in determining the size and nature of cities.

In the new economic geography, there is little determinism in where growth will take place. One feature of these models is multiple equilibria, and small changes in initial conditions may have large effects. History and luck matter a lot in terms of which cities and countries are selected as the location for firms. The selected areas then have a persistent advantage into the future and an ability to reward workers with higher wages. These models therefore explain why urbanization is such a strong force in economic development.

*The centrality of scale economies*

At the heart of each of these "new" theories is an emphasis on scale economies. Scale economies refer to the tendency for production costs to fall as the volume of production rises or for product development costs to fall as new varieties are introduced.

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[7] See Fujita, Masahisa, Paul Krugman and Anthony Venables, 2001, *The Spatial Economy: Cities, Regions and International Trade.* MIT Press.

Figure 1 presents a summary of the principal interactions that stem from the assumption that scale economies are important for economic growth. These scale economies are generated in part through specialization and innovation, which are most rapidly developed in the context of international integration. The principal force is one of gravity, because countries which are closer to each other and have greater economic mass assume a greater importance in driving growth. Trade models commonly use measures of distance and economic output to explain bilateral flows of goods between countries.

Figure 1 here: Scale-centered growth—a simple framework

The pattern of East Asian trade provides the clearest indication of the importance of scale economies in recent growth. The first piece of evidence is direct. Microeconomic studies suggest that some sectors show evidence of scale economies, while others do not. Figure 2 shows a number of such sectors ordered in terms of whether they display increasing returns to scale or constant returns to scale. In the latter category, one finds traditional labor-intensive manufacturing, like footwear, apparel and textiles, the products which formed the base for early East Asian growth. Among the category of sectors showing increasing returns are instruments, electrical and nonelectrical machinery and iron and steel. We then looked at how East Asian exports[8] performed in each of these sectors. The region lost global market share in constant returns to scale products and gained global market share in products exhibiting increasing returns.

Figure 2 here: East Asian exports are growing in increasing returns to scale sectors

A second piece of evidence is more indirect. It relates to intra-industry trade. The argument is that vertical specialization permits an ever broader variety of goods, especially intermediate goods, to be produced where the cost is lowest and quality, variety and innovation are highest. If one observes significant off-shoring and trade in intermediates, then it follows that there must be large cost differences in production of the various components.

Significant trade in intermediates can be an indirect indicator of substantial scale economies. This is exactly what is observed in East Asia. East Asian export growth is legendary. But it has shifted from exports of final products to exports of intermediates in recent years. In industries with the highest scale economies such as electrical machinery, the trade in parts and components now accounts for 80 percent of the total exports of the sector. Firm-level surveys in some East Asian middle income countries suggest that outsourcing is almost forty percent more prevalent than in the rest of the world.

[8] Excluding Japan

The difficulty is that comparative advantage theory does not adequately explain why there can be large differences in costs of production of similar intermediates. Although gravity models do predict that countries that are closer to each other should trade more with each other, this phenomenon is very large in East Asia. China, Hong Kong (China), Korea and Japan import eight to ten times more from within the region than one might predict on the basis of a standard gravity model. Scale economies provide one explanation for why this might be happening.

Similar arguments apply to technology flows although these are less well appreciated. Although in principle technology could flow seamlessly anywhere in the world, in practice the rate of dissemination of new technology is closely linked to distance and indeed to trade. Consider the case of electronics and auto parts. Large assemblers are increasingly turning to a small number of original equipment manufacturers who produce under tight design specifications. Over time, firms that master these technologies can take over postconceptual design and product development sold under the customer's brand (original design manufacturing) and later on, if successful with R&D and other processes, firms can develop their own brand (original brand manufacturing). This sequence of moving up the value chain can also lead to scale economies. It is exemplified by several East Asian firms like Samsung Electronics.

Governments can play a role in strengthening gravitational forces. Trade policy agreements can bring a country "closer" (in economic terms) to the rest of the world. As countries specialize, some sectors contract—an orderly process for managing that is called for. Coordination problems between business and public research facilities can smooth technology transfers, as can the policy towards intellectual property (that must balance the desire to imitate at low cost with the need to provide adequate incentives for new innovations).

The force of gravity has complex spatial effects.[9] It leads to some localities growing faster than others. In many instances, it serves to favor cities over farms and generates a wedge between rural and urban incomes. These wedges generate internal frictions in an economy. The existing physical and human capital structures are not best placed to respond to the forces of gravity and have to change. That sets in motion a dynamic of domestic integration, as labor migrates into cities and people accumulate the skills that the global economy rewards. The speed of adjustment depends upon how well the economy can overcome the forces of friction—inertia in the movement of labor; efforts by those who may lose in an economic sense (either absolutely or relatively) to block change; cities that are unable to deliver agglomeration benefits effectively.

Governments play a major role in managing this process of domestic integration. Licensing of new businesses, land use planning and allocations, delivery of important public goods like transport, communications and utility networks all affect the process of domestic integration. But they can also become part of the problem. As their role

[9] See World Development Report 2009 *Reshaping Economic Geography*. World Bank 2008.

expands to include provision of various public goods, a fair distribution of income and allocation of land to its best use, the opportunities for corruption also expand.

When domestic friction is small, cities expand and deliver agglomeration economies and deep, skilled labor pools which further reinforce the opportunities for scale-based economic growth.

The politics and institutional requirements of managing this system are different from the "shared growth" model. First, specialization implies that some groups/sectors are favored while others are left out. Favored groups may receive explicit benefits, such as tax breaks or access to directed credit, or implicit benefits, such as public research that is oriented towards subjects of interest to them. Other implicit benefits can come from policies regarding the location and nature of public infrastructure. But the government must be selective. All business sectors cannot hope to gain at the same time. That stands in contrast to early-stage development when the economy diversifies and all sectors can grow rapidly.

Second, the scale economy system favors urban over rural areas as the engine of growth. The transition of the economy from agriculture to industry and services often happens faster than the migration of people out of rural areas. So the wealth concentrates in urban areas, while the bulk of voters remain in rural areas. Balancing these two interest groups can be difficult. Shared growth, with its implicit promise of greater wealth and progress for the masses, is harder to accomplish in the short run when scale economies dominate.

Third, the system rewards those with talent that is valued in global markets. With human-capital related agglomeration economies, skilled workers are more productive around each other because they produce knowledge externalities. The implication for public policy is to facilitate migration and tilt education systems towards higher levels. This can reinforce unequal income distributional outcomes and a wedge between highly educated people and the rest.

Fourth, recognizing the importance of scale economies means a different approach to corruption. In East Asia, corruption had long been recognized as endemic, but seemingly had little impact on economic growth, perhaps because of the incentives described by Olson's "stationary bandits" model, or because corruption was designed to be economically efficient[10]. This East Asian paradox,[11] the coexistence of high levels of corruption with rapid economic growth, seems to be best explained by the organized monopoly model of corruption. But when the government's role becomes more

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[10] The "grease money" approach is best exemplified by Huntington (1968) "in terms of economic growth, the only thing worse than a society with a rigid, over-centralized, dishonest bureaucracy is one with a rigid, over-centralized and honest bureaucracy" Samuel P. Huntington. 1968. Political Order in Changing Societies. New Haven: Yale University Press (p.386).

[11] Wedeman, Andrew, "Development and Corruption: The Asian Paradox." In Edmund Terrance Gomez, ed., Political. Business in East Asia. Routledge, 2002.

decentralized, and has to deliver a sense of fair distributional outcomes, the organized monopoly breaks down. East Asia has to transition from a centralized, albeit corrupt, environment to a decentralized but clean political system. Within East Asia this is sometimes referred to as the transition from "rule of man" to "rule of law".[12] The difficulty is that the process of decentralization tends to happen more rapidly than the process of eliminating corruption and establishing the rule of law. The intermediate position, a decentralized, corrupt environment, may be the worst of both worlds for economic growth.

## III. Passing the "Horse Latitudes" of Development, or, the Middle Income Trap

Few countries manage to achieve high levels of sustained growth for over a generation and even fewer of these countries continue their high growth rates once they reach middle income. A recent review of growth performance in developing countries identified just thirteen countries that sustained growth of more than 7 percent for over 25 years in the postwar period.[13] These success stories have five common characteristics: (i) openness to the global economy in knowledge and trade; (ii) macroeconomic stability; (iii) a "future orientation", exemplified by high rates of saving and investment; (iv) a reliance on markets and market-based prices to allocate resources; and (v) a leadership committed to growth and inclusion with a reasonable capacity for administration. But despite the fact that the success factors appear to be deep-rooted in local institutions, they are not sufficient for continued growth. The East Asian middle income countries suffered severe setbacks at the end of the twentieth century and Brazil has yet to regain rapid growth after its disastrous hyperinflationary episodes of the 1980s.

The Growth Commission goes on to report that reaching income levels associated with the advanced countries is uncommon: only six of the high-growth cases achieved this. A more common phenomenon is for growth to slow markedly at the middle-income level. Many Latin American countries have suffered this fate. The reasons why this is so are less understood.

Figure 3 plots the per capita income levels of three groups of countries between 1900 and 2000: the eight largest Latin American countries that have reached middle-income levels (Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay, and Venezuela), five East Asian economies that have reached high-income levels (Hong Kong [China], Japan, Korea, Singapore, and Taiwan [China]), and the five middle-income countries in East Asia (China, Indonesia, Malaysia, the Philippines, and Thailand).

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[12] In Chinese, from *renzhi* to *fazhi*.

[13] "The Growth Report" (2008). The Commission on Growth and Development, chaired by A. Michael Spence, identified 13 success stories including: Botswana, Brazil, China, Hong Kong (China), Indonesia, Japan, Korea, Malaysia, Malta, Oman, Singapore, Taiwan (China) and Thailand.

Figure 3 clearly shows that by the early 1970s, while the range of incomes was larger within the high-income East Asia Five than within the Latin America Eight, the average per capita income of the two groups was roughly the same: about US$5,000. Over the next three decades, the East Asian economies went on to become rich while the Latin American economies stagnated.

By the early 2000s, the other fast-growing East Asia Five had caught up with the Latin America Eight and, coincidentally, the range of incomes of countries in the two regions was almost identical. This makes it logical to ask what the five Asian leaders did to transit successfully through middle-income stages of development, what the Latin America Eight did wrong, and what today's middle-income countries in East Asia might learn from those experiences.

Figure 3 here: Growth in Latin America and East Asia during the 20th century

Some features differentiating middle income from poor country growth are clear. Growth tends to become more capital intensive and skill intensive. The domestic market expands and becomes a more important engine, especially for service sector growth. Wages start to rise, most rapidly for high-skilled workers, and shortages can emerge.

Middle-income countries seem to become trapped, much as the ships sailing through the doldrums did, having to jettison non-essential cargo such as horses to lighten the vessels. Their cost advantages in labor-intensive sectors, such as the manufactured exports which once drove growth, start to decline in comparison with lower-wage poor country producers. At the same time, they do not have the institutions, track record, or critical mass to be major innovators like rich countries. They get stuck in a Middle Income Trap.

In this environment, the policy maker's role must change. The Growth Report emphasizes that for poor countries there are clear advantages of backwardness. When a country lags behind in every sector, it can be organized like an army to advance on all fronts. The critical growth driver is to employ all factors productively in a market setting. But once the gap is closed and resources become scarce, trade-offs and the efficient use of factors become more important for growth.

The first priority for policy makers is to anticipate the new role expected of them. There are several transitions that a middle income country will experience. The diversification of production will slow and then reverse, leading to a prolonged period of rising specialization.[14] Physical capital investment will become less important and innovation must accelerate. And education systems need to shift to produce advanced knowledge

[14] Imbs, Jean, and Romain Wacziarg, 2003. "Stages of Diversification," *American Economic Review*, vol. 93(1), pages 63-86, March.

workers who can shape new products and processes and drive the speed of domestic innovations. There are policy implications in each of these areas.

The second priority, less discussed, is to shift away from earlier policies, even when they had been proven successes. Some strategies like Special Economic Zones, which were designed to overcome particular problems present in poor economies, like the lack of adequate infrastructure for business, become outdated when the general environment improves. The negative effects of distortions associated with these strategies come to outweigh the positive effects. Undervalued exchange rates and other forms of industrial policy can also become obsolete. They are most useful when they serve to accelerate the transformation of labor from low productivity farm work, for example, to higher productivity formal manufacturing wage earners. But once that transformation has been completed, typically at middle income levels, the adverse effects on the service sector and other new sectors come to dominate and the strategies need to adapt.

Sequencing these two priorities—what to do and what to stop doing—is an art, not a science. Not letting go of strategies to promote labor intensive growth once wages have started to rise can be damaging. But equally, attempts to transition too rapidly to the new economy of knowledge workers can also fail if the preconditions are not right. Premature shifts in strategy can lead to some workers simply becoming unproductive, lacking the skills to add value in knowledge intensive sectors. This can cause its own social and economic problems.

Even when countries get the growth strategy right, they can still be trapped if they do not address the distributional challenges of middle income. In a phase of scale–based economic growth, there are three fault lines of inequality within countries.

Many middle income countries transitioning to scale economies face rising urban-rural gaps in wages and other social indicators. Because scale economies can be associated with density ("agglomeration economies"), the returns to urban workers can grow much more rapidly than the returns to farm workers.

Middle income countries also face regional-ethnic divides. Some locations like coastal China, or the greater Bangkok area in Thailand, have grown faster than other locations (the Northeast regions of China, Thailand and Malaysia), either because they are inland, suffer from poor logistics or other unfavorable terrain (like mountains), or because they have concentrations of ethnic minorities who have suffered from limited human capital accumulation.

More recently, East Asian countries have seen growing wage divides between skilled and unskilled labor. A college graduate in China earns one-third more than a high school graduate. In Thailand, a college graduate earns more than double a graduate from upper primary school.

Taken together, the three fault lines have led to a reversal of East Asia's famous "shared growth" model. All the East Asian middle income countries, except Thailand, saw an

increase in inequality between 1990 and around 2002 (Gill and Kharas, 2007, based on household surveys). This is in contrast to the earlier experience in countries that earlier made the successful transition to high income country status, such as Singapore. Of course, they also saw a reduction in poverty over this period, as rapid growth helped improve the lot of most households. But growing income inequality has been a cause of political concern that social stability may be damaged.

Apart from the links with social and political instability, inequality may become a problem if it leads to intergenerational rigidities. Even in developed countries, education attainment and other social characteristics as well as economic opportunities reflect parents' wealth. In East Asia, where credit markets are weaker, there is an even greater likelihood that inequalities will be reproduced over time and will limit efficient human capital accumulation of the whole population. That in turn can limit future growth.

## IV. Conclusions: The next East Asian integration must be at home

East Asian middle-income countries face an uphill struggle to maintain their historically impressive growth. Strategies based on factor accumulation are likely to deliver steadily worse results, which is a natural occurrence as the marginal productivity of capital declines. Growth from the transformation of labor from low productivity informal agricultural work to formal sector work has largely been exploited. Many countries in Latin America and the Middle East are examples of economies that, for decades, have been unable to escape this trap.

Exploiting economies of scale offers a way out. But do such economies exist for middle-income countries on a scale that is sufficiently sizable to make a difference to aggregate economic growth? We think the answer is yes. The force of gravity in the region is creating sufficient mass to generate increasing returns to scale. We described key economic developments in the region through the lens of theories based on economies of scale. We argue that the pattern of trade, the flow of ideas and innovations, and the rapid migration to cities are all consistent with a new East Asian pattern of growth that is founded on economies of scale—*internal* economies associated with large and well run-managed plants, and *localization* and *urbanization* economies associated with densely populated and well-administered places.[15]

Equally, the change from growth with equity to rising income inequality within countries and the growing concerns about corruption—the new forces of friction within East Asia--are also symptomatic of economies of scale. These have induced growing demands for government action to ensure a fair distribution of income when market outcomes produce excess inequality.

Economies of scale are not easily measured, but, when measures exist, it is clear that increasing returns are playing a central role in East Asia's success. Electronics,

[15] World Development Report 2009: *Reshaping Economic Geography*. The World Bank (2008).

computers, and communications are all sectors that exhibit sizable scale economies. Economic historians have argued that most technological progress takes the form of small, incremental improvements. These could hardly give East Asian economies the impetus they need. But certain technological improvements are radical: the steam engine, electricity, and now computers. East Asia is at the center of recent radical changes. In the short run, as major producers of electronics, they stand to gain from economies of scale in production. In the medium term, as users close to the innovators, they stand to gain by quickly learning how to use the new technologies. It is not surprising that, in addition to being one of the world's largest producers of high-technology goods, an East Asian country, Korea, is also the world's most connected economy.

In this new economic environment, the role of government must change. This is a complex process which few countries have managed adroitly. The old East Asian compact between government and business to produce growth and between government and the people to distribute growth via market outcomes does not work as well. The reason is that business does not have monolithic interests in increasing returns to scale economies. Some sectors win and others lose. The choice of which sectors gain may be driven by market forces, and much of the literature on scale economies also emphasizes luck and historical accident, but government policies can also play a role through supporting infrastructure and through helping a rational reallocation of factors away from declining sectors. So government is becoming aligned with specific sections of the business community.[16]

Perhaps more importantly, government also must take on a more central role in distribution. Market outcomes are generating distributions which threaten social and political stability in the region. The Bangkok-rural divide in Thailand, which has paralyzed that country's political system, is one ample of this phenomenon. Malaysia's ruling coalition also no longer looks so formidable. Meanwhile, across the region there is a tension, in the short run, between the efforts to decentralize to create more efficient and responsive government, and the need to develop less corrupt government. The danger is in getting caught in a no-man's land of decentralized but corrupt government. East Asian countries must hurry through to governance structures that are both decentralized and clean.

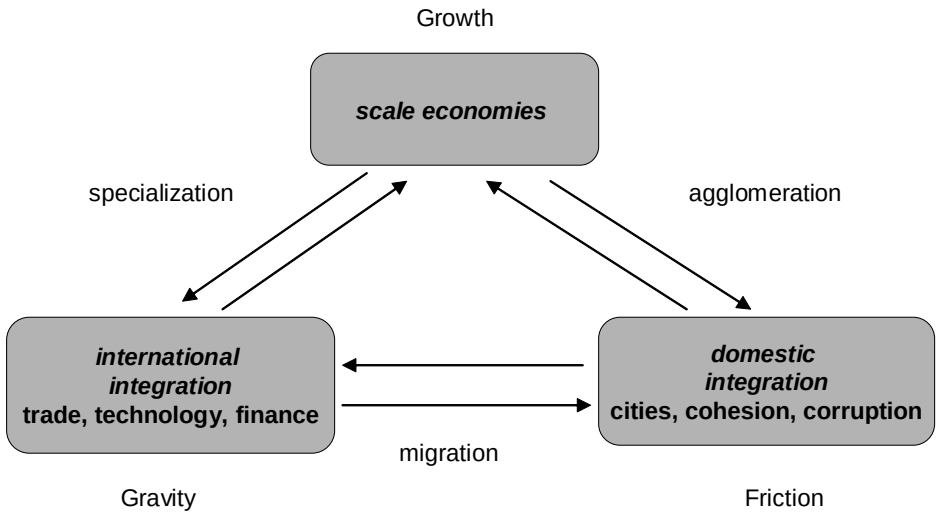
Managing the distributional outcomes of scale-centered growth is likely to pose the greatest challenge to East Asia's governments. The key is to facilitate better economic integration of markets at home. Ironically, market integration in East Asia appears to have followed a sequence reverse of that in Western countries. Initially, a few localities—coastal cities and special economic zones—integrated with the world. This produced the export-led growth through the 1980s. More recently, a growing number of

[16] It is difficult to distinguish the relative importance of external and internal factors, but taken together, they imply the need for a marked change in the role of the government. This inevitably raises questions about the political structure and the role of democracy. Two chapters in Gill and Kharas (2007) address issues related to decentralization, cohesion, corruption.

Asian cities have integrated regionally, forming a network of efficient regional supply chains that link businesses across countries and that has produced convergence in average living standards among East Asian countries. Only now is there an imperative to integrate domestically, to bring rural areas and lagging provinces by developing common institutions that make land and credit markets work well and provide access to basic services such as schools, security, streets and sanitations everywhere, invest in connective infrastructure and behind-the-border trade facilitation, by promoting internal migration and—on occasion—by providing carefully designed economic incentives for producers to locate in areas with less-than-stellar market potential.

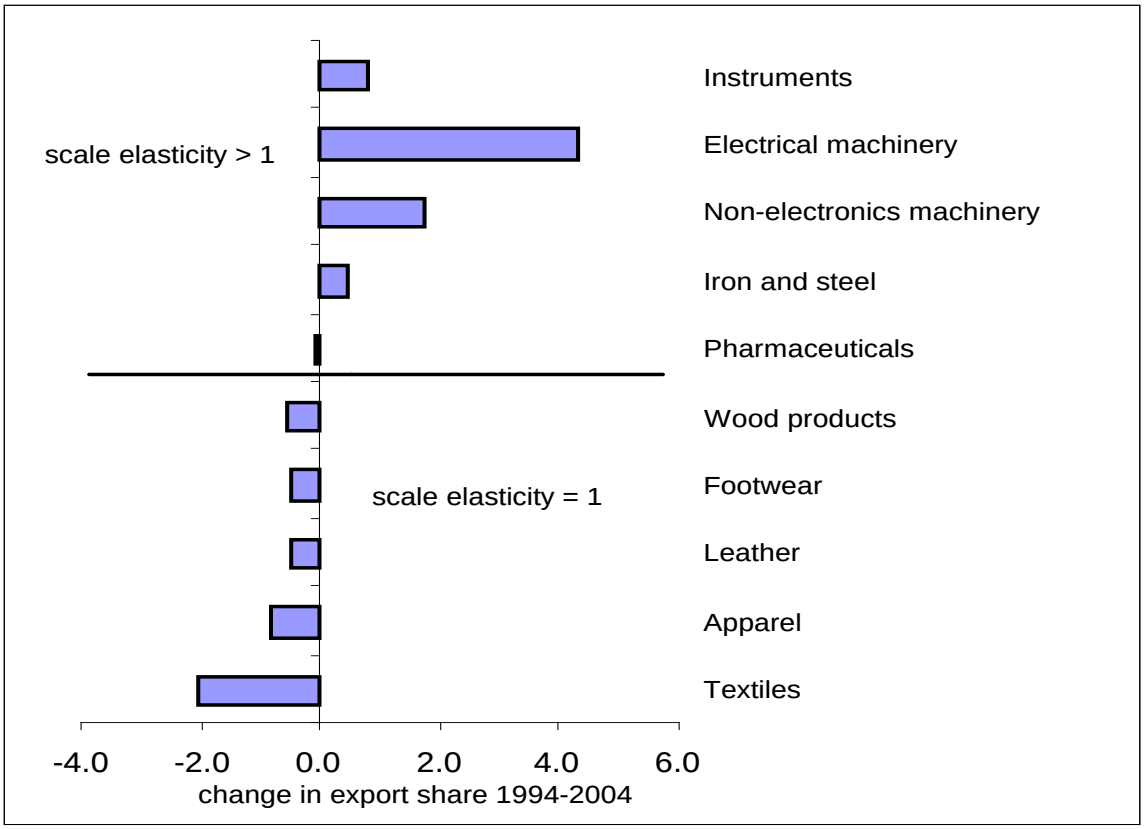
This domestic integration, which also requires governments to choose which areas to concentrate on, and how to allocate scarce resources across poor regions, brings with it a new politics, one which the region is unfamiliar with. Many nations have left the ranks of low income economies by crossing the threshold of middle-income—per capita incomes about $1,000. But few have grown beyond the other end of the middle-income spectrum, of income levels higher than $10,000. Countries that can successfully combine international integration with domestic integration will greatly improve their prospects of joining the ranks of developed countries.

Figure 1: Scale centered growth



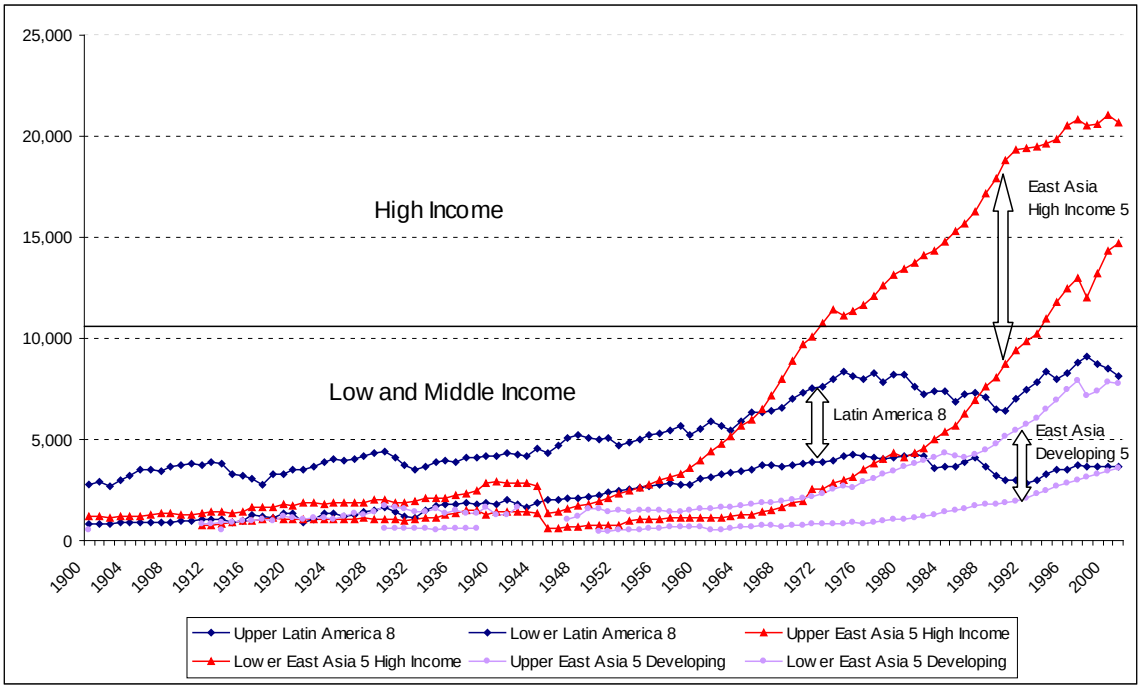

Source: Authors.

Figure 2: East Asian exports are growing in increasing returns to scale sectors




Source: Gill and Kharas, 2007.

Figure 3: Growth in Latin America and East Asia during the 20th century




Source: Authors.