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Appraising the Post-Sanctions Prospects for Myanmar's Economy: Choosing the Right Path

Prepared for

Proximity Designs | Myanmar

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This research paper was written by David O. Dapice (david_dapice@harvard.edu), Anthony J. Saich (anthony_saich@harvard.edu), Thomas J. Vallely (thomas_vallely@harvard.edu), of the Ash Center for Democratic Governance and Innovation at the John F. Kennedy School of Government, Harvard University; and Michael J. Montesano (michael.montesano@aya.yale.edu) of the Institute of Southeast Asian Studies in Singapore; following a trip to Myanmar from December 9-21, 2011. *The views expressed herein are the authors' alone and do not necessarily reflect those of Proximity, the Government of the Union of Myanmar, the Harvard Kennedy School, Harvard University, or the Institute of Southeast Asian Studies.* We wish to extend our sincere thanks to Proximity Designs for organizing the complex logistics the assessment demanded and to Minister U Aung Min, Minister U Soe Thein, and Myanmar Egress for their contributions to the research, particularly the insights of the late Dr. Nay Win Maung. Funding for the study was provided by the Royal Norwegian Government. This study, along with other recent reports on Myanmar, is posted at http://www.ash.harvard.edu/Home/Programs/Institute-for-Asia/Publications/Occasional-Papers

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Background

Myanmar is a country facing a difficult political and economic transition. In spite of the implications of official statistics and recent surveys, it is a very poor country, long mired in conflict and cut off from much of the world. It has an immense struggle ahead, as it tries to create a more modern and capable state apparatus, a competitive private sector and economy, and an economic and political system that reflects popular sentiments. It is not just behind its neighbors – it is starting from a different place altogether. As if the challenge were not already daunting enough, the world economy is now less supportive of economic reform than in most recent periods in the past. Without an internal consensus including the government, the opposition, influential business leaders, and ethnic groups, it will be almost impossible to move Myanmar forward. This paper is the first iteration in an ongoing effort by the Ash Center and Proximity Designs[1] to describe a growth strategy that takes account of political and economic realities – *assuming* that sanctions will soon be removed. It will certainly be amended as the authors conduct more research on the complicated issues facing Myanmar and seek input from various groups. The output of this effort will be a paper or book reflecting our continuing conversation with stake-holders in Myanmar. We solicit criticism and comments from interested readers.

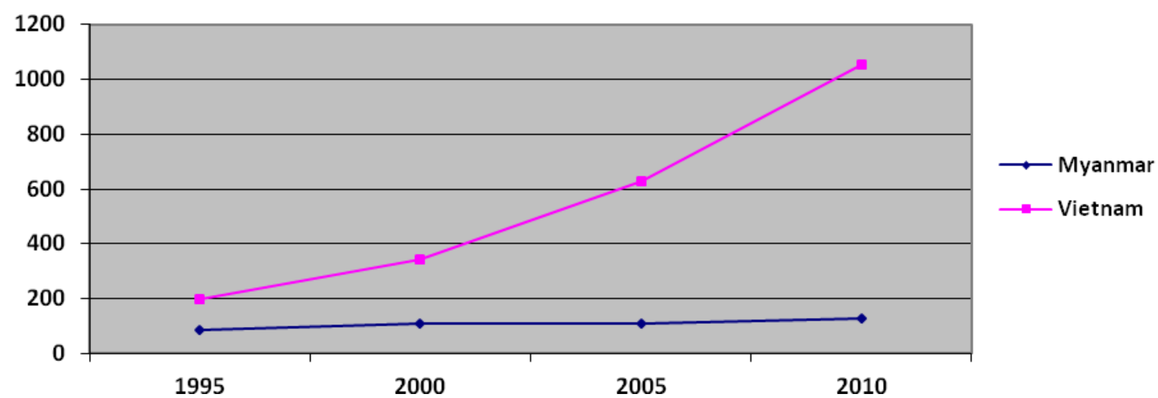
To begin with, a comparison of GDP and electricity growth is shown to support our opinion that false reporting has been built into the system in Myanmar and to some extent believed. This is dangerous. You need to know where you are before you know how to get to where you want to be. Next, a list of important policies identified by the Commission on Growth and Development (hereafter, "Growth Commission")—a multinational expert group that in 2008 released a report on the theory and experience of rapid, sustained, and equitable economic growth—is used as a reference to take stock of where Myanmar now stands. Finally, two scenarios are developed in outline form to highlight potential choices that are being and will have to be made. They result in quite different outcomes. The first more or less continues current policies while the latter shifts policy in the direction of productive investment and more normal fiscal and monetary management. Selecting some version of either scenario will determine the future of Myanmar.

[1] Proximity Designs (www.proximitydesigns.org) is a social entrepreneur organization operating within Myanmar. It designs, manufactures and sells products that enhance agriculture through a widespread distribution network. It also provides advice and assistance to rural households in times of stress. It has recently received the prestigious Skoll Foundation Award for Social Entrepreneurship.

What Has Really Happened with GDP Growth

While official Myanmar statistics claim a GDP growth rate of over 12% a year over the last twelve years – a rate that would have tripled per capita income – the story of electricity production tells a different story. Electricity output often grows 1.5 to two times as fast as GDP at low per capita income levels[2]. The graph of per capita electricity production (following) shows how Vietnam's per capita production grew at nearly 12% a year from 1995 to 2010 while Myanmar's electricity per capita growth rate was only 2.7% a year. Reliable data give Vietnam's per capita GDP growth from 1995 to 2010 at 6.4% a year. If the energy to GDP relationship were similar, then growth in Myanmar's GDP per capita over this period would have been at most 1.5% a year. This figure compares with an official per capita GDP growth rate of 10% a year. Perhaps because of pressures and incentives to report progress and good news, the official data have not reflected reality. For government and stake-holders to start with a realistic picture of where Myanmar's economy really stands, there must first be a recalibration of several important indicators. For the economy is not where the official data say that it is.

Per Capita Electricity Production (Kilowatt-hours per capita)



***Sources**:* Official Vietnamese data (Government Statistics Office) and ADB Key Indicators 2011 for Myanmar for 1995-2005. For 2010, the source is the official Selected Monthly Economic Indicators, September 2011, p. 28 (Central Statistical Organization, Nay Pyi Taw)

[2] Vietnam, Indonesia and Thailand all had electricity growth of 12% a year or more for extended periods while GDP growth was 7-8% a year.

Box 1: What About Generators?

The official data do not include electricity from private generators. Since electricity supply is uncertain, many businesses and some homes buy generators to supplement their power supply. The question is, how big a factor is this? In 2009, the TOTAL consumption of liquid petroleum products was 42 thousand barrels or 6.7 million liters a day according to the US Energy Information Administration.[1] However, over 1.6 million motor cycles, a quarter-million cars and 80,000 trucks and buses also used petroleum. If we assume a motor cycle uses 1.5 liters a day (less than a third of an imperial gallon); that half of the cars use 10 liters (2.2 imperial gallons) a day with the rest using natural gas; and the trucks and buses use 30 liters a day, these uses would amount to 6 million liters a day for vehicles. Even if generator use were 1 million liters a day, this would amount to only 3 million kWh a day, as it takes 0.3 liters or more for one kWh of diesel and more for gasoline. This would be less than 20 kWh per capita per year. In other words, adding generators is unlikely to make a major difference in the electricity graph, either for growth or overall level.

Note too that per capita electricity production in Vietnam in 1995 was considerably higher than 2010 production per capita in Myanmar. Production would have to grow over 50% in Myanmar to get to where Vietnam was in 1995. Vietnam's purchasing power parity income per capita in 1995 was $1500, or $2000 in 2010 prices.[3] This energy to income ratio suggests that Myanmar's income level is *currently* well below Vietnam's 1995 level.

Myanmar is an extremely poor country with very misleading official data. The data problems, to be discussed further below, do not end with GDP.[4] While rapid GDP growth normally accompanies rapid gains in human development and poverty reduction (though not always!), it is *possible* to have progress in human development without much real income growth – **if** the government focuses resources on poverty alleviation and health and education. The forthcoming government budget, which will reflect government spending in hard currencies at a realistic exchange rate for the first time,

[3] Purchasing power parity GDP estimates what a nation's GDP would be if valued at US prices. Exchange rate GDP simply takes GDP in local prices and converts them at the market exchange rate. The former is better for cross-country income comparisons. The 1995 PPP GDP is in 1995 prices and has to be increased by 34% to account for inflation.

[4] Recent UNICEF and UNDP surveys paint an extremely rosy picture of poverty and human development indicators in Myanmar, with the UNDP survey suggesting extreme poverty fell in half in recent years. A number of surveys conducted by third parties suggested that the reliability of the UNICEF and UNDP surveys needs careful scrutiny.

will apparently show military spending taking up half to two-thirds of the total budget.[5] In an economy like Myanmar's, this level of military spending precludes significant spending on human development. Significant progress in poverty reduction without either much income growth or government safety net spending is not credible. Indeed, without a "peace dividend" made possible by reduced military spending in the context of an end to internal conflict, it will be impossible to achieve either the political or economic transition to equitable growth that Myanmar needs so badly.

Political Change Needs Economic Reform

Myanmar has moved with amazing speed to change its political climate and configuration. Although the current government came to power in flawed elections, it has surprised many observers with rapid moves to open up discussion, make it possible for a real opposition to emerge, suspend work on a problematic dam project, and pursue peace with ethnic groups. The new parliament is also playing an active role. However, these substantial changes in the political sphere have not yet been matched by corresponding economic reforms. In part this is because events have moved quickly and sanctions make it difficult to argue for more open policies when so much is prohibited by richer nations. While the government has not been in power very long, it is fair to wonder if the tentative *glasnost* will be matched by *perestroika.*[6] In the Russian case, from which these two terms come, the tentative nature and ultimate failure of economic restructuring in the wake of political opening saw resources handed over to crony capitalists and then largely reacquired by the state security apparatus. It has led to a political and economic order in which democratic government and even honest elections are under threat.

In the case of contemporary Myanmar, political opening has given rise to the widespread expectation of economic progress and a reduction in the poverty faced by a majority of the country's people. This expectation must be met if the brave political experiment on which the country has embarked is to succeed. But Myanmar's low level of development, reliance on natural resources, and the importance of well-connected

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[5] Other developing Asian nations spent from 5% to 18% of their central government budgets on the military. Indonesia spent 5.6% in 2009 while Pakistan (with an active insurgency) spent 18%.

[6] *Glasnost* refers to the Russian experience under Gorbachev in which free discussion was allowed after years of repression. *Perestroika*, or restructuring, refers to the following economic reforms, which in Russia were tentative and then failed. A good commentary on recent events can be found in "Russia's Inevitable Democratization" by Sergei Guriev and Aleh Tsyvinski at: http://www.project-syndicate.org/commentary/guriev7/English .

business leaders mean that the future of economic growth and development will require major improvements in current economic policies. This paper reviews several major areas of economic policy using the *Growth Commission Report*[7] to provide a list of supportive and probably necessary policies.

The *Growth Commission Report*, produced under World Bank auspices, reflects the conclusions of a panel of experts who were not all economists and did not come mainly from rich nations. The Commission's membership represented different points of view and discussed what, in short, was known about the requirements for sustainable, equitable, and rapid growth. While the members did not always agree, they did reach a remarkable degree of consensus about policies that had typically been observed in successful nations. These policies were associated with rapid growth and appeared to be responsible for success, though the exact mix or recipe was not clear.

A version of the Growth Commission's list of common policies associated with sustained economic growth is given below.

1. **Macroeconomic stability, including a fairly valued exchange rate.**
2. **High levels of savings and investment.**
3. **Connection to the world economy through trade, capital flows and ideas.**
4. **Use of markets to allocate most spending and investment.**
5. **High levels of governance with effective and honest governments.**
6. **Investment in health and education sufficiently to create a productive labor force.**

The *Growth Commission Report* discusses other issues, such as equity, regional development, and urbanization. It argues that rapid and sustainable growth requires not only investments in health and education but also equality of opportunity – the opposite of the preferential access to state resources, to licenses, and to other economic privileges often casually referred to as "cronyism." All of these points merit reflection, but the relative lack of data for Myanmar[8] and the recentness of its move toward economic change mean that the six points listed above deserve the highest priority in efforts to energize the national economy. By reviewing the current status of these variables in Myanmar, it is possible to develop a sense of priorities for economic reform.

[7] http://www.growthcommission.org/index.php?option=com_content&task=view&id=96&Itemid=169 .

[8] Equity is usually measured from household surveys. The most recent survey has major inconsistencies and may require a new effort to allow confident estimates of income distribution, landlessness, and other important variables. See, "Myanmar Agriculture in 2011: Old Problems and New Challenges" (http://ash.harvard.edu/extension/ash/docs/myanmar1111.pdf) for a discussion of the 2009-10 Integrated Household Living Conditions Survey in Myanmar.

From this analysis, a preliminary priority list can be developed. In a note as short as this one, many things will inevitably be left out, but the approach taken here can nonetheless foster a more informed debate about priority tasks in any effort to change economic policies.

1. *Macroeconomic Stability and a Realistic Exchange Rate*

The normal way to measure macroeconomic stability is to refer to the inflation rate, fiscal and trade deficits, and perhaps the degree of financial stability and development. Low inflation and deficits (relative to GDP) and stable and well regulated banks are generally considered necessary for stability.

The price level in Myanmar jumped 66% from 2006 to 2011, a compound rate of increase of 10.7%. In 2011, the inflation rate slowed down, and most estimates for 2011 and 2012 are in the 5-8% a year range. By comparison, Indonesia's last five years of inflation resulted in 36% inflation; Cambodia had 48% over five years and Thailand had only 15% inflation since 2006. Only Vietnam had a higher inflation rate, but they offset its impact through the depreciation of the dong against major currencies. Overall, Myanmar's inflation rate is high and variable compared to most of its neighbors.

In Myanmar a number of official prices including bus and rail fares, postage, and perhaps power and water have been held at very low levels and may need to be or are being adjusted. However, these items typically have a low weight in the overall consumer price index (CPI). It is the rate of monetary growth that will continue to drive overall inflation over time. Unfortunately, data on important monetary variables have not been released since 2005. So it is difficult to know what the record of the Myanmar Central Bank has been or what its plans are. This uncertainty contributes to the risk associated with investing in or operating in the Myanmar economy.

Government finance is likewise difficult to judge since data on revenue and spending have not been released since 2000.[9] Even such details that do emerge are cloudy since the difference between monetary and fiscal policy is not always clear. To put this point more clearly, there is not a voluntary liquid bond market, since most Myanmar treasury bond purchases are made by banks, which are more or less forced through regulations to hold government debt. Money supply is thus directly affected by the government's need for revenue to finance its deficits. There is an impression that government deficits

[9] There are estimates, but the authoritative Asian Development Bank's Key Indicators 2011 has no entries for government revenue or spending or cash in circulation in recent years.

are high relative to GDP, an impression supported in part by the rapid rate of growth of the stock of Government of Myanmar three- and five-year bonds. It does appear that spending restraint in 2011 may have resulted in lower deficits, though reductions in military spending would be needed both to bring fiscal deficits to sustainable levels and to make possible a reasonable allocation of spending to support growth.

The Myanmar exchange rate has been the subject of extensive discussion, and deservedly so. The nominal exchange rate moved from about 1300 kyat to the dollar in 2007 to 800 kyat to the dollar in 2011. During this period the inflation rate in Myanmar (over 10% a year) raised the costs of production faster than in Myanmar's neighbors and customers. As a result, the profitability of farming, fishing, and many industrial activities declined sharply. Income from these activities fell, leading to reported migration abroad. Normally, a country with a higher inflation rate than its trading partners also has a currency that depreciates to keep its production competitive. Because of rising natural resource exports, capital inflows, remittances, and other factors, a flood of dollars and other foreign currencies has come into Myanmar, while import licensing and other taxes and restrictions have impeded imports. The result has been a nominal appreciation (increase in the value) of the Myanmar kyat of nearly 40% and a real appreciation (after adjusting for inflation differences) of about 50%. [10]

This movement in the exchange rate encourages the production of non-traded services, such as construction, and of goods with a high price to cost ratio, such as gems, jade, and natural gas. It depresses output of rice, fish, pulses, and labor-intensive manufactured goods – goods from the sectors that employ an overwhelming share of the population. Rice output per capita in 2011-12 is lower than in 2009/10 or even in 2000/01 according to US Department of Agriculture estimates. Pulse and inland fish prices have fallen in kyat terms, destroying profitability in those sectors. If this exchange rate situation continues, the country's dominant economic sectors will continue to contract or stagnate. Job growth and income generation will be limited. This policy also hurts the peace process, as peace agreements cannot endure unless demobilized soldiers find reasonable work. *If there is one "quick win" for the government, it is adjusting the exchange rate so that farming and manufacturing regain their profitability.*

[10] Reports in December 2011 of paddy prices in the Irrawaddy Delta of only 2800 kyat per basket or 134 thousand kyat per metric ton represent a real 68% decline in prices from 2005. During this time the dollar price of rice on world markets has doubled, with Thai 15% broken rice moving from $284 to $595 per ton.

Box 2: Regional Comparison: Indonesia's Real Exchange Rate Appreciation

Indonesia allowed its real exchange rate to appreciate by 42% against the Chinese yuan and by 52% against the Vietnamese dong from 2000 to 2010. This is a very large movement with critical implications for the Indonesian economy. During this time the per capita manufactured exports of the three nations developed in very different ways:

Manufactured Exports per capita in 2000 and 2009

	Indonesia	China	Vietnam
2000	$168	$174	$ 87
2009	$213	$757	$360

While China and Vietnam increased their per capita exports by a factor of four or more, Indonesia eked out a gain of only 27%, or little more than the pace of inflation. It started nearly equal to China in exports per capita in 2000, and ended up at a much lower level. It is especially surprising that Vietnam started with per capita exports only half of Indonesia's and ended up at a much higher level. In addition, manufacturing as a share of GDP was flat to down for Indonesia during the decade. (Manufacturing as a share of output normally rises as income per capita grows for middle income nations.) These facts suggest the negative impact that a strongly appreciating exchange rate can have on a nation's ability to develop its manufacturing sector. Note that Indonesia had ten years to adjust to its appreciation while the Myanmar kyat has moved equally sharply in only five. Its producers have had even less time to find ways to respond. *This is a major issue that needs to be addressed urgently to avoid further damage to producers.*

A June 2011 memo on the exchange rate[11] analyzes the issue in more depth. Since the time of its preparation, the situation has deteriorated. While the paper concluded that exchange rate unification was needed to allow stabilizing intervention, existing law would allow such an intervention without unification. Since dollars held by the public are a form of money in the Myanmar economy, printing kyat to buy dollars to be locked away in foreign exchange reserves would not be as inflationary as printing kyat to spend to support a government deficit. While traded good prices would rise, there need not be a continuing spiral of inflation. Preventing such inflation would be a matter of improved fiscal policy (lower deficits) and a moderate rate of credit growth. Such inflation as occurred would be a moderate price to pay for the economic benefits of the correction of Myanmar's overvalued exchange rate. Further, and as noted, the policy recommended would result in an increase in the country's dollar reserves. While not strictly necessary, this policy ought to be undertaken simultaneously with unification of the exchange rate, a step that Myanmar will in any case need to take soon. If well

[11] Found at http://www.ash.harvard.edu/Home/Programs/Institute-for-Asia/Publications/Occasional-Papers .

prepared, stabilizing intervention to correct the value of the kyat and exchange rate unification could be undertaken quickly, in a matter of less than a week.

2. *High Levels of Savings and Investment*

Myanmar has historically invested 10% to 15% of GDP each year, although since 2007 this ratio has grown and it was estimated at 22.7% of GDP in 2010. If depreciation is 10% of GDP (assuming that capital stock is double GDP and using a depreciation rate of 5%, as in Indonesia), a 10% investment rate would just keep the total net capital stock level. A 12% investment to GDP rate would keep the per capita net capital stock level. Investment would have to rise to 25% to 30% of GDP to make up for past underinvestment and to permit for rapid expansion of economic activity.

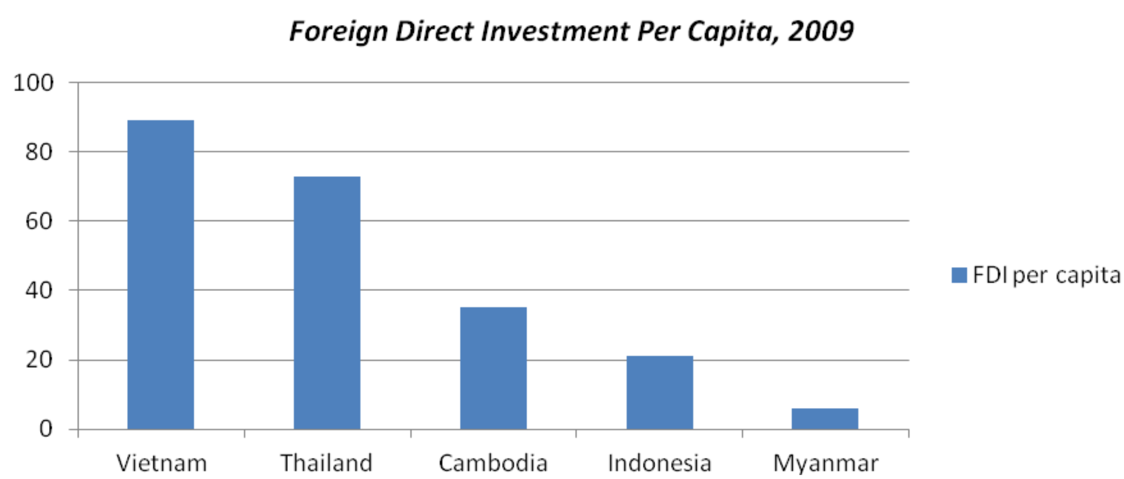
The savings rate in Myanmar has been greater than the investment rate, since there has usually been a surplus of exports over imports. However, some important details complicate the picture. One is that unrecorded trade may skew these results, though we would normally expect exports and imports in informal trade to roughly cancel out. Second, the form of savings is important. The ratio of bank savings and checking deposits to GDP is only about 10% in Myanmar (one of the lowest ratios in Asia), meaning that a high volume of savings may be in foreign currency, gold, or real estate. Savings in these assets do not directly help promote growth, since they are not easily mobilized for non-property domestic investment. A third consideration is that much of the investment comes either from FDI in the natural resource sector and thus with limited linkages and employment effects for the overall economy, or is directed by the government. Nonmarket investment, such as the construction of a new capital, will not have the same growth impact as investment aimed at production or directed at market-oriented infrastructure needed for production.

Taking all of these considerations together, we welcome the increase in investment and estimate that it could approach needed levels if it continued to grow. However, unless the quality and composition of investment improves, simply reaching a high level of investment may not have the desired impact. In particular, the very slow growth of electricity production suggests that output growth may be slower than official estimates and that the amount of investment needed to produce a unit of growth is unusually high. These trends, if we understand them correctly, would not bode well for future growth that is rapid and sustainable.

3. Connection to the World Economy

Myanmar's exports have grown by 40% over the past four years and were $8.9 billion in 2010/11, according to local statistical sources. Both population and GDP per capita are hard to fix precisely, but most estimates of GDP lie in the range of $35 to $40 billion, suggesting an export to GDP ratio of about 25%. Given that imports are held below exports by various licenses and tariffs, the total trade ratio is only 40-50% of GDP. Thailand, Vietnam, Malaysia and Cambodia all have trade ratios of over 120% of GDP, suggesting that Myanmar is relatively closed to trade compared to its relevant neighbors.

FDI, largely concentrated in natural gas and pipelines, has generally been 1% or less of GDP, though the level has jumped in recent years. Nations with a high exposure to FDI typically get 5-10% of GDP a year in foreign investment. The table below shows 2009 FDI in dollars per capita for several Asian nations.



The composition of investment is also important. While natural gas or pipeline investment is helpful in providing some revenue and foreign exchange, it often connects weakly to the national economy and provides few local jobs. Investments in manufacturing or higher- level services are more likely to connect to the overall national economy and help upgrade skills in the workforce.

One little noted aspect of Myanmar's connection to the rest of the world is through out-migration. There are various estimates of the number of Myanmar workers abroad, but the range seems to be 3 to 6 million. This total is 10-20% of the total workforce, and many of the most skilled workers have reportedly left the country. An improvement in job opportunities and other aspects of life in Myanmar might attract back many of these workers, whose skills would be very useful.

A tangible way for any nation to link itself to the world economy is to have a vibrant commercial city, open to trade and to new ideas. Yangon has a history as such a city. That history can serve as a foundation for it to become such a city again. The city's port, roads, public transportation, electricity, water, sewerage, and other infrastructure are strained, when not totally inadequate. Yet the costly move of the political capital to Nay Pyi Taw by vacating valuable land has created an opportunity to develop Yangon into an international gateway. Work toward this goal ought to be made a high priority. The leadership of Yangon region and the Yangon City Development Committee (YCDC) understands the importance of this goal. They must be given the requisite material and institutional support to make it possible. While urban development in Yangon and its surroundings must remain under the overall purview of the municipal and regional leadership, cooperation with foreign developers who may be long-term investors and may bring skills in areas such as logistics, infrastructure, port modernization, and the creation of industrial zones, also ought to be considered strongly. Developing Yangon into a vibrant economic center would help jump-start industry and the national economy of Myanmar.

Yangon's inner ports currently handle almost 95 percent of the country's non-oil and gas merchandise exports and imports. Because of the physical constraints in terms of land and draft, the ports can neither expand nor accommodate larger vessels. It is becoming increasingly clear that achieving rapid growth in trade will require the development of a new port complex with modern facilities, and that the new ports will be located outside of Yangon's city center. Around the world, ports have been moving out of cities, particularly in the Asia – Pacific region. Recent examples of port relocation and new port developments include Busan port to Busan New Port in Korea, Waigaoqiao to Yangshan port in Shanghai, China, Bangkok to Laem Chabang port in Thailand, Mumbai to Nhava Sheva port in India, and Saigon to Cai Mep – Thi Vai port in Vietnam.[12] However, it is important to note that in Thailand and Vietnam, the new deep-sea ports only began to get direct calls to major markets in North America and Europe when the total container throughput generated in the ports' hinterland reached 5-6 million TEUs.[13] And because of the cost effectiveness of the hub-and-spoke model, most

[12] All the inner ports in these examples still operate but are subject to some form of throughput limitation from the port regulators who make clear policies to encourage containers going through the new ports.
[13] TEUs are twenty-foot equivalent units. One 20-foot container equals one TEU.

containers in Thailand, Vietnam and India are still currently transported by feeder ships to transshipment ports such as Singapore and Malaysia before getting loaded on mother ships to final markets.

According to the Myanmar Port Authority (MPA), the total container throughput in Yangon in 2010 was 335,346 TEUs. Even with explosive growth in trade in the near future, the immediate development of a large-scale deep-sea port at the mouth of the Yangon river or right at the sea to accommodate Panamax-sized ships will be grossly premature and economically unviable.[14] At the moment, Yangon already has some general cargo and container terminals in Thilawa, outside of the city. The Myanmar International Terminals Thilawa (MIIT) has five berths, and with the installation of more cranes and a larger paved yard can handle up to 1 million TEUS a year.[15] More cargo terminals can be developed by new investors in Thilawa's river-front area. While the draft level is still limited at 9m, compared to the inner ports, Thilawa port can accommodate larger vessels, require less dredging, and have a shorter sailing time for ships. If developing Thilawa port is given priority then connecting infrastructure from the city to the port will have to be improved quickly. Land surrounding the port has been cleared and falls within the already established special economic zone. Therefore, the most practical way to attract investment would be to select an experienced international developer of industrial estates based on a competitive bidding process. In this way, the zone can include the port and be developed with complete supporting infrastructure. The first wave of export-oriented, light-manufacturing FDI to Myanmar will likely be in an area close to a commercial center and close to an operating port with a significant capacity to expand. Attention should also be paid to the reform of port regulation. The imposition of a standard tariff on all ports and the administrative allocation of berths are seriously stifling competition among port operators and need to be abolished. Overtime, MPA should step away from the business of operating the

[14] In the accompanying paper by Jose Gomez-Ibanez and Nguyen Xuan Thanh, the authors understand that several proposals for a mega economic zone with a deep-water port in the south of Yangon have been put forward and many more are being contemplated. What is lacking in these plans are serious technical and economic analyses. Beyond nicely-drawn pictures, there are a lot of uncertainties regarding the technical feasibility of dredging to ensure a draft of at least 14m, the impact of a deep-sea port on the hydrology of the river, the availability of workers, the connectivity of not only new economic activities in a future zone but existing industries in and around the city to the new port, and the financial cost of the whole project.

[15] The port was built as a 100% foreign-owned entity by Hutchison Port Holdings in the mid-1990s and went into operation in 1998 with a total investment of US$110 million. While facing a chronic problem of huge excess capacity, the operation of the port is still maintained with adequate facility.

ports itself and become an impartial regulator to ensure a fair and competitive business environment for port operators.

Box 3: Always Aim for an Export Surplus?

Many officials in Myanmar appear to believe that a trade surplus (with exports more than imports) is always good and a trade deficit is always bad. If there are no reliable opportunities to borrow and if foreign exchange reserves are small, this attitude is perhaps understandable. However, as Myanmar moves to normalize its international economic relations and as sanctions are removed, this stance is illogical and harmful to the economy. The entire point of receiving aid, loans and FDI is to be able to import more than is exported. Otherwise, there is only an increase in reserves, which yield little or nothing in the form of economic growth. So long as the borrowed money is invested wisely, the repayments should be much less than the economic benefits of the investments. It is exactly like a business. It can grow slowly with its own resources, but much more quickly if bank loans help it to invest more. If the government always tries to run an export surplus, it would be like borrowing to expand, but then depositing all borrowed money in the bank! The most important thing is to invest wisely and ensure that investments are really productive. With aid loans often costing 0.5%-2% a year, this should not be difficult. Farmers typically borrow at 5-10% a month! Connecting to the world economy requires taking advantage of what it has to offer, and part of that is a flow of capital to allow higher levels of investment than domestic savings alone would make possible.

4. *Use of Markets to Allocate Resources*

Myanmar's socialist era ended more than two decades ago, but many markets remain fragmented or monopolized. For example, the financial sector is heavily regulated, and unstable macroeconomic policies have led to a very weak and tiny banking sector—with loans expensive, limited in amount, or unavailable. (Informal sector loans cost 5-10% a month.) Land prices have begun to reflect speculative buying, and the prices of cars and cell phones are, as the following regional comparison indicates, well above world levels, in spite of recent moves to lower them. Rice is priced at market levels except when export bans or restrictive licenses are used. But it is in the area of investment that government policy, often driven by political considerations, seems to drive resource allocation most significantly and also most detrimentally.

Without better data, it is difficult to determine what part of investment is market-driven and what part is driven by political priorities. One indirect method to determine the proportions would be to use the ratio of investment as a proportion of GDP divided by the GDP growth rate. The presumption is that a higher number would indicate less market allocation and thus lower efficiency. While the rate of GDP growth since 1995 is not known with any precision, it is likely between 2% and 3% a year, implying 4-6 units of investment per unit of output – higher than rapidly growing nations at a similar income level. (For example, Indonesia required less than three units of investment for one unit of growth in the 1970s. Vietnam was similar in the 1990's.) The conclusion must be that government sector investment and a number of important individual prices are insulated from market forces and that this insulation leads to inefficiencies and slower and less equitable growth.

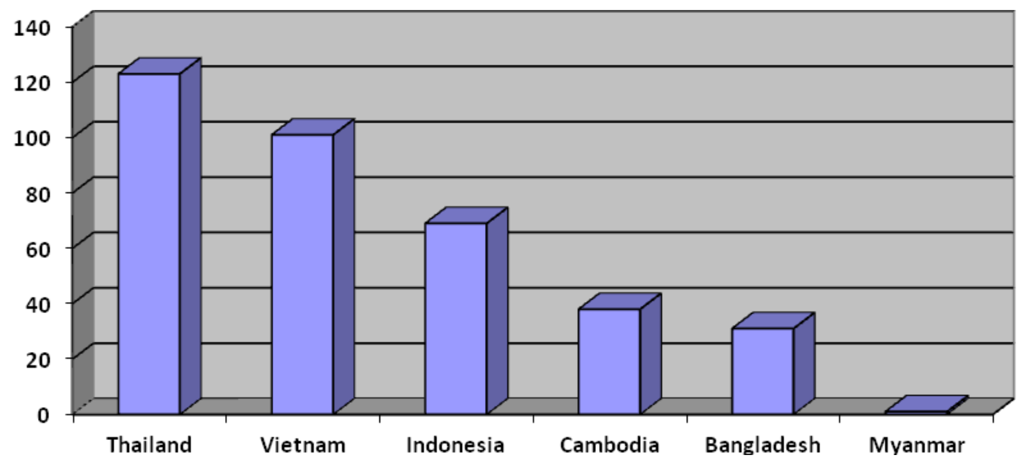
Investment, Growth, and Investment Efficiency

Country	Investment/GDP	GDP Growth	Ratio
Indonesia, 1970's	22%	7.6%	2.9
Vietnam, 1990's	23%	7.9%	2.9
Myanmar, 2000's	14%	3.0%	4.7

One important nuance is that using market forces does *not* imply a need for immediate privatization of all state assets. Dangers of premature privatization that created illicit fortunes and resulted in a skewed distribution of assets and incomes, as in the case of post-communist Russia, give us clear lessons that while competition is very desirable, rapid privatization is not necessarily so. *The danger of hurried privatization, of a "Russian" outcome, in Myanmar is very real. Extreme vigilance must be exercised to prevent it, as it would vitiate all the promise of the political and economic opening upon which the country and its leadership are now embarked.* When there are highly imperfect markets and a lack of transparency, it often does not pay to be in a hurry to privatize. On the other hand, as the cell phone example discussed in the box below shows, even when substantial government ownership is maintained, there are ways to create competitive pressures.

Box 4: Regional Comparison: Cell Phones Could Be a "Quick Win"

Mobile Telephones per 100 People in 2008 (Myanmar = 1 per 100)



Source: World Development Indicators 2011, Table 5.11

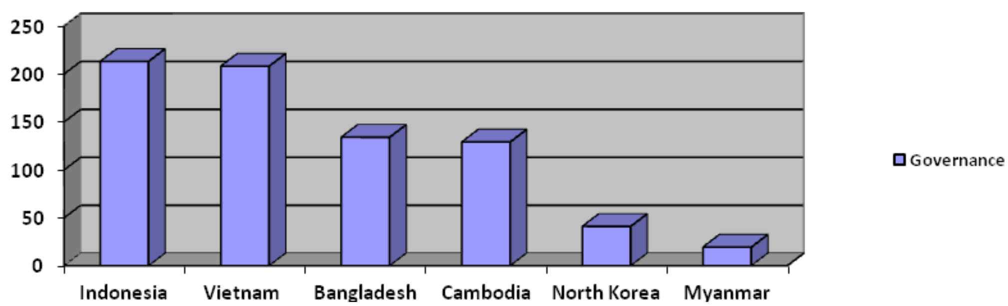
The very low number of cell phones in Myanmar – much less even than Bangladesh or Cambodia – is not just a sign of poverty. It is a *cause* of poverty. The inability of farmers to get prices, of businesses to coordinate transport and logistics, and of ordinary people to arrange their affairs causes immense inefficiencies. Since Vietnam deregulated cell phones, prices have fallen and penetration is now nearly universal (compared to only two cell phones per 100 people in 2000). This result was accomplished by allowing several entrants to compete with the former monopoly state company. These entrants included other state companies and some foreign investors. Investment money flowed in and costs of phones and monthly subscriptions plummeted. Very little public money was required, since cell phones are a profitable business. Myanmar can accomplish a similar success by opening up the industry to a number of companies. It would improve welfare and reduce poverty.

5. *High Levels of Governance*

One way to measure a country's level of governance is to use the World Bank's governance data series. This series divides governance into six dimensions and then rates it on a percentile scale with 1 being very low and 100 being very high. The best possible score is 600. The six dimensions of governance are voice and accountability, political stability and an absence of violence, government effectiveness, quality of regulation, rule of law, and control of corruption. If we add the six scores for Myanmar in 2010, the total was 19, lower even than North Korea's score of 41. Most of

Myanmar's ASEAN neighbors are rated from 130 to more than 200, as the chart below shows. While recent events have certainly improved the governance score of Myanmar somewhat, the overall score is still likely to be well below those of most other ASEAN economies, even if it is double or triple its 2010 level. This kind of score suggests major problems with governance – problems that will depress growth and investment.

Governance Scores in 2010 of Selected Nations



Source: *World Bank Governance Indicators (http://info.worldbank.org/governance/wgi/sc_country.asp); Top score is 600.*

Attention to the state of governance in Myanmar will take time. The country is endowed with a structure of appropriate institutions. But these institutions—ministries, departments, the national and regional parliaments, the Central Bank, the courts, schools and universities—will need to renew their focus on their core missions. They will need to invest in training. All of these institutions, and others, have a role to play in promoting economic growth in Myanmar. Affirming that role and taking steps to enhance these institutions' ability to play it must number among the country's medium-term priorities.

6. *Investment in Health and Education*

The amounts spent on both health and education in Myanmar are on the low side of international experience – especially for public spending. UNDP estimates place *total* health spending at 2% of GDP in 2009, with only a tenth of that from public sources.[16] Total health spending to GDP is half of India's and a third of Cambodia's level. Public spending on education is also less than 2% of GDP.

[16] The sources are *World Development Indicators 2011* (World Bank), Table 2.16 for health and *Human Development Report 2007/08* (UNDP), Table 11 for education.

Recent surveys such as the one sponsored in part by UNICEF (the *Multiple Indicator Cluster Survey 2009-10*) report astonishingly high (90%+) net enrollment rates for children aged 5-9 years; under-five mortality rates much lower than those widely reported by the World Bank in 2008-09 (46.1 per 1000 in the *Survey* versus 69-70 per 1000 on the World Bank data website); and very low rates of malnutrition (10% for moderate and severe wasting). Interviews with individuals[17] with extensive field experience throw these findings into doubt. For example, a 2010 sample from dozens of villages covering 1820 children aged 1-5 years found 97% with arm circumference below the median, whereas 50% would normally be below the median in a well nourished population. One quarter of this sample was more than two standard deviations below the median, the normal threshold for moderate wasting. While this sample was made only in the Irrawaddy Delta and Dry Zone areas and was not a national sample, it suggests that revisiting very optimistic national survey findings may be necessary.[18]

Myanmar has historically enjoyed high levels of literacy and numeracy, even in rural areas. While over 95% of the population is said to be literate today, anecdotal information gathered from conversations in a wide range of villages across the Irrawaddy Delta and the Dry Zone suggest that the deepening poverty and decline in state resources of the past two decades have resulted in a marked decline in levels of even basic education. These realities call for a reconsideration of the definition of literacy as measured in surveys. If a farmer cannot read directions on a pesticide can or fertilizer sack or a mother cannot read directions on a medicine bottle, it does not help much that they can make out a few letters or crudely write their name.[19] Given the relative lack of inputs, it would be surprising if functional literacy and numeracy were as high as they are reported to be, or implied by the school enrollment data. Further, it must be noted that widespread rural literacy and numeracy have counted among the important assets that many of Myanmar's Southeast Asian neighbors paired with opportunities in the global economy to achieve rapid and transformative growth

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[17] Many local and foreign field workers and some experts are reluctant to criticize surveys that are supported by Ministries or the UN system. They say it could influence their ability to find work or get visas. This makes it more difficult to review findings that many find unlikely.

[18] Separate surveys of the Dry Zone covering dozens of villages found 85-90% of *both* farmers and landless families facing food insecurity and lack of food, even when there was not a drought. This is consistent with earlier World Food Programme surveys. This is inconsistent with findings of 10% wasting and less than 30% underweight.

[19] Reports from India suggest that the "Census Literacy" rate of 74% overstates functional literacy, which may be as low as one-third of adults. While India has historically lagged Myanmar in literacy, the parallels are ones to take seriously.

between the 1980s and the present. Myanmar must also recapture its historical advantage in this area.

Conclusions

Myanmar has severe problems with its data quality. Even so, it is fair to say that:

1. **The level of macroeconomic stability in Myanmar is low.**
2. **High levels of savings and investment are within reach, but not well used.**
3. **Connection to the world economy, though growing, is still low.**
4. **Market allocation of resources is partial and distorted by politically driven policies.**
5. **Governance levels are very low, even if now two or three time as high as recently measured.**
6. **Spending on health and education is very low, even as results are implausibly reported to be good.**

The *Growth Commission Report* also lists things that successful economies do *not* do.[20] They do *not* overvalue their exchange rates, subsidize energy, ban exports, stint on investment in infrastructure or spending on public-sector salaries, use price controls, or impose high trade restrictions. It is significant that Myanmar does *everything* on this short list of what to avoid! Its exchange rate is over-valued; its electricity prices are highly subsidized; it bans rice exports from time to time; it has a poor infrastructure and very low public-sector salaries; and it uses price controls and imposes import licensing and tariff restrictions. This situation is a measure of how much needs to be done. However, it also suggests that large gains can come from better policy.

There is no need to go through a check-list and produce a large number of necessary steps toward the significant improvements in policy these tentative findings suggest Myanmar needs to make. The achievement of rapid and inclusive growth requires removing constraints on good policy that are not primarily technical but rather are political. Different groups within the government and economy support different policies, and reaching agreement is difficult. Even more importantly, there is not a clear idea of what the national growth strategy should be. If there were shared understanding and agreement about how the nation could go about getting richer, it might be easier to agree on the right policies.

[20] *The Growth Report: Strategies for Sustained Growth and Inclusive Development* (2008), pp.68-69

In order to develop a growth strategy, one needs to know the realistic chances of success of a policy or group of policies. For example, most nations that began fairly rapid growth in per capita incomes started and succeeded at a time when the world economy was briskly expanding. Higher prices for commodities and growing demand for manufactured exports made it easier to get up the first few rungs of the development ladder. When the world economy is growing slowly or even slipping, it is much harder to initiate and sustain rapid growth. The sluggish world economy of the years ahead will reduce Myanmar's margin of error.

The following two scenarios describe two distinct futures for Myanmar. One describes a future in which current policies are more or less maintained, with only small changes. This scenario can accommodate higher levels of investment supported by more borrowing, by remittances, and by higher natural gas exports. But it continues many of the "must avoid" policies cited above. The other scenario assumes a different strategy. It would emphasize rural growth spear-headed by small holders rather than by large plantations or contract farms. It would aggressively expand unsubsidized electricity, first to cities and towns and then to villages. It would adjust exchange rates to ensure competitiveness, even while deepening the financial system so that it covers more rural areas and increases its size relative to GDP. It would aggressively and competently develop Yangon into an international gateway for FDI and industrial growth and restrict monopoly and sweetheart deals that create high profits with little productivity in return.

Scenario One: The Current Course

Myanmar might choose to move in a certain direction, building upon past policies. One policy is financial repression. This policy makes holding bank deposits unattractive and ensures that the country's small financial sector will remain too small to play an effective and necessary role in contributing to economic growth. Because of rules regarding loan to deposit ratios, the banks must now buy substantial quantities of government bonds, even though these purchases may cause them to lose money. The result is that banks are unable to do what they are supposed to do for the economy and credit is generally unavailable or expensive. This outcome retards and depresses investments in agriculture, industry, and commerce and results in lower levels of output and productive employment.

A second current policy is a heavy weighting of government spending towards the military – a total that may become clear if the 2012-13 budget reveals actual spending levels with realistic exchange rate conversions. This weighting means that infrastructure, health, education, and R&D spending is very low. Low spending in these areas undercuts the potential for productivity growth and reduces the level of productive investment.

A third current policy direction, related to the first two, is the lack of substantial tax revenues and large resultant fiscal deficits. These deficits explained the government's need to force banks to buy its bonds. In the past, this policy was driven by the fact that the Ministry of Finance received only six kyat for every dollar of natural gas income, even when the market exchange rate was 100 to 200 times higher. Unless taxes are collected at reasonable levels and all official revenues are controlled by the government, it will be hard to support needed government spending and investment.[21] Control of foreign exchange reserves remains unclear, further limiting the ability of the government to control fiscal and monetary policy in a normal way.

A fourth outcome of current policy is one of increasing appreciation of the nominal exchange rate, even with high inflation rates. This outcome has the effect of discouraging the production of traded goods, both those intended for export and those that compete with imports. Myanmar's farmers and factory workers, numbering in the tens of millions, suffer from this policy outcome. While this path boosts the economic importance of some natural resources (like natural gas and jade), land speculation, construction, and non-traded services, these sectors are not the basis of rapid and sustained growth. Further, they tend not to employ as many workers as farming and manufacturing—a distinct problem if large numbers of soldiers need to be demobilized.

A fifth current policy encourages large scale farming and plantations, often involving the taking of large areas of land previously occupied by small holders. This policy is not only in most cases deeply inefficient; rice and virtually all of Myanmar's important food-stuffs and economic crops are better grown on family farms.[22] But it is also at odds with the demobilization in which the peace process will result. Demobilized soldiers, both from the Myanmar armed forces and from other armed groups, are, for example, unlikely to want to work for poverty level wages tapping rubber, though they may work on their own plots doing the same thing and benefitting much more from their efforts. The proposed Farmland Law, along with the proposed Vacant, Fallow and Virgin Lands Management Bill, would legalize and extend many of these land acquisitions (or "grabs"

[21] There are reports that the coming budget will use 800 kyat per dollar to value dollar based revenues. This would be a huge improvement over the historic "official" rate of about six kyat per dollar. We were told that in the past most of the natural gas revenues ended up under military control. It is still not clear exactly what foreign exchange reserves are or who controls them.

[22] Some crops, like rubber, can be grown efficiently either on estates or small holder plots. If smaller plots are chosen, certain services (seedling selection, extension, marketing, etc.) are needed.

as critics call them) and create a large class of rural landless, both in lowland Myanmar and in upland areas of the country.[23] This outcome would accelerate the disparities in wealth and incomes. It would also deviate from the historic land holding patterns in Myanmar prior to British colonization.

A sixth policy has been uncompetitive privatization and the awarding of government contracts and licenses on a non-competitive basis. A well connected group of business people have had access to contracts, land and natural resources, loans and other favors. While these favors have involved a quid pro quo with those granting them, they have nevertheless allowed the accumulation of wealth through uncompetitive means. The (still) very high local cost of cars and cell phones is one reflection of this situation. It reduces overall competitiveness in the economy and makes it harder to increase exports and employment. Business skills are needed, but not monopoly profits to the sort of well connected people that many well educated citizens label "cronies" in matter-of-fact way.[24]

Taking these policies together, one can say that they are creating a less efficient, more unequal and perhaps more violent future for Myanmar. Fewer jobs will be created and more young people will choose to work abroad, if they do not return to join unresolved regional conflicts. FDI will be focused on raw materials rather than industrial deepening. Growth will be slower, poverty deeper and political accommodation more difficult with this set of policies. Even the immediate beneficiaries may not enjoy as much benefit as the second scenario would provide. In the context of a weak world economy, this set of policies would heighten the chances of national failure at every level – economic, social, political and security.

Scenario Two: Economic Reform and Spreading the Peace Dividend

A decisive break from the past will require agreement among influential groups, including those that have benefitted from past policies. Business people will have to see that having a monopoly in a poor economy is not as lucrative as competing in a much richer and faster growing economy. Military people will have to see that perpetual

[23] While land owning small farmers tend to be conservative, landless rural workers have been associated with resistance and revolutionary movements, such as in Cuba or Iran (where they migrated to cities). Intensifying large land holdings at a time of attempted ethnic peace conferences is contradictory.

[24] The very low level of manufacturing output and exports (textile exports are well below Cambodia's) is caused in part by sanctions and in part by the exchange rate, but also by the lack of opportunity for non-connected firms to thrive in an economy that favors those with ties to powerful figures. It is noteworthy that the World Bank's "Doing Business" surveys do not even include Myanmar! Few nations are excluded.

conflict weakens the nation while a reduction in conflict and in military spending will allow disaffected groups to have a reason to integrate *if* the resultant savings are spent wisely and demobilized soldiers can find reasonable jobs. Myanmar is in a dynamic neighborhood, but that reality is not without its dangers. Strong and large neighbors can influence and even dominate weak neighbors. National cohesion and resilience can only be built upon peace and widely shared progress. This strategic vision – a need for national strength and unity without coercion – is what underlies Scenario Two. It will inevitably increase the amount of choice, both politically and economically, that both Myanmar's government and its citizens are allowed and can achieve. What policies would support this vision?

1. ***A realistic exchange rate that supports the profitability of farms and factories*.** Rapid growth and inclusive employment cannot be built without robust health in those sectors. As the discussion on page 11 has stressed, this is an urgent matter. It is also one that the Government of Myanmar can decisively address in a very short period of time.

2. ***The creation of a "normal" fiscal situation in which all government revenues are remitted to the Ministry of Finance and all spending goes through an approval process in the national parliament***.[25] So called "special funds" and offshore accounts beyond the control of the government should be abolished. The anticipated doubling of natural gas revenues, along with reduced military spending, should create some fiscal space for the government.

3. ***Movement towards a "normal" financial system in which deposits are safe and earn interest rates higher than the inflation rate.*** Banks should be regulated for the safety of deposits, but not forced to buy government bonds. While desirable, micro-credit is no substitute for the integration of rural Myanmar into that national banking system.[26] The health of the overall financial system is critical to providing jobs. A number of Myanmar's best managed banks, both government and private institutions, have significantly expanded their branch networks, mainly to be able to channel domestic remittances. This development is encouraging. The remittance recipient of today will be the depositor of

[25] This does not apply to local taxes that may be collected by regional and local jurisdictions for services – taxes on real estate, for example, are often used in other Asian economies to support local services. The appropriate fiscal roles of Myanmar's new regional governments merit study.

[26] The capacity of micro-credit schemes to reduce poverty is much less than once believed. They are but one small part of an overall financial system, a part that will largely fade into irrelevance as Myanmar's economy embarks on a course of sustainable growth.

tomorrow. Efforts to continue to attract banks to rural areas so that formal financial services are more widely available should be pursued. Savings and money transfers can be as helpful to rural economies as credit.

4. ***Emphasis on services that support small- and medium-scale farming*.** Besides an effective and well funded farm credit program, inputs and services most needed are certified seeds[27], reliable and reasonably priced fertilizer, an exchange rate supporting profitable production, improved infrastructure to get products to markets ("motorcycle roads" could be extended in rural areas where normal roads are too expensive to create and maintain), investments in water control and rural electrification, and better research, development and extension to help farmers avoid pest problems and deal with hydrological and climate challenges. This is an ambitious list but progress in some areas (like improved seeds and realistic exchange rates) could be achieved sooner than in others. Such progress would also help give momentum to efforts to better governance at the local level.

5. ***Prompt attention to the issue of "agrarian structure,"*** which refers to the distribution of farms by size most advantageous both to Myanmar's rural people and to its agricultural economy. Each of these considerations favors dynamic and prosperous small-holder agriculture, benefitting from the abovementioned services. On efficiency grounds alone, there is little case for the existence of a plantation sector in Myanmar. While much research and survey work remains to be done, incorporation of strict limits on farm size in the pending Farmland Bill and the Vacant, Fallow and Virgin Lands Management Bill deserves consideration. It is advisable that the Speaker of the Pyithu Hluttaw defer further work on these bills until after the completion of a thorough survey of the state of land use and control in rural Myanmar. This issue is of particular importance in the upland areas, where the government has embarked on an effort to build peace. Displacement of farmers for hydroelectric projects also needs to be reviewed in this context. Compensation and resettlement are seldom carried out satisfactorily.

6. ***Adoption of the goals, as peace is negotiated and solidified, of reducing military spending and increasing spending on infrastructure, health, education,***

[27] Farmers are skilled at determining which seeds types work best for them. Quality seed of different varieties should be available, and farmers should not be "guided" into one type or another.

***and rural development*.** As noted earlier in this paper, the share of military spending relative to the state budget in Myanmar appears to be triple or more the ratio in even troubled Asian states, such as Pakistan and ten times the ratio in Indonesia. Reverting to a "normal" ratio would allow much higher levels of investment and social spending. Infrastructure spending could be used to employ demobilized soldiers. However, public money should not be misallocated on big and so called "prestige" projects that are often expensive 'white elephants' and do not support productive activities. Priority should be given to improvements in rural infrastructure, particularly rural roads to help connect farmers to markets and ensure the "peace dividend" is sustainable.

7. ***Emphasis on heavy investment in electricity while raising electricity prices to cover the cost of production and delivery.*** The exception may be a small amount (e.g. 50 kWh a month) of low cost electricity as a lifeline rate for poor families. This investment is crucial to Myanmar's ability to increase agricultural production, foster domestic and foreign investment in industrialization and other activities with strong linkages to the rest of the economy, and generate much needed high-quality employment.

8. ***The development of Yangon and its region*** so that it can absorb FDI and become an economic center and window to the rest of the Southeast Asian region. This development would involve improving the port and power supplies, framing a rational land-use policy likely to feature special economic zones, constructing associated infrastructure, taking advantage of Yangon's dynamism and social diversity and rich physical heritage. Yangon's regional government and YCDC are very well positioned to spear-head this effort. Many of the required projects cannot be adequately undertaken with domestic resources – external investors should be involved to help ensure design and execution in keeping with proven international best practices, as well as to assure other investors that governance issues will be handled well. It is not uncommon for investment contracts governing large projects to call for the resolution of legal disputes in external jurisdictions; it may be useful to allow recourse to, for example, Singapore courts to parties operating in some of the special economic zones, as a way to attract early foreign investors.

   The development of Yangon would be the beginning of an industrialization renaissance. Competitive manufacturing requires cities that work. They require significant amounts of skilled labor, services, power, transport and markets.

While industrial zones in remote areas can attract modest amounts of activity (more if polluting industries are being imported and regulations are not robust), the best chance for Myanmar's industry lies in Yangon. It is there that FDI, better infrastructure, better rules and specialization can create efficient industrialization. No nation can sustain growth without developing manufacturing, and there is now very little in Myanmar. Manufacturing-oriented economic zones need to be developed by experienced international developers, who are not only capable of building zones with complete infrastructure, but more importantly understand the needs of FDI companies. In the future when trade volumes grow large enough, Yangon will eventually need a deep-sea port to accommodate super large vessels. However, the immediate development of a large-scale deep-sea port at or near the mouth of the Yangon river will be very premature and economically unviable. Instead, efforts should be made to develop outer-city general cargo and container terminals at Thilawa and improve connecting transport infrastructure.

9. ***Investment in upgrading teacher training, schools and universities*.** Emphasis may be put on the training of demobilized soldiers. Para-medical courses can be established, so that clinical aides can provide better services quickly in rural areas. (Retired military medics are often good candidates for such programs, though the programs should not be restricted to them.) It seems clear that investment in the creation of human capacity will figure prominently in government discussions with donors. If these discussions are to be fruitful in promoting long-term good, the government must carefully define its priorities in the areas of education and training beforehand.

10. ***The continued strengthening of parliamentary, journalistic, and civil society/NGO oversight of official activities to curtail corrupt, self-enriching or grossly inefficient behavior.*** Progress toward these goals has already begun; this progress has drawn on the immense latent talents of the Myanmar people and should be encouraged.

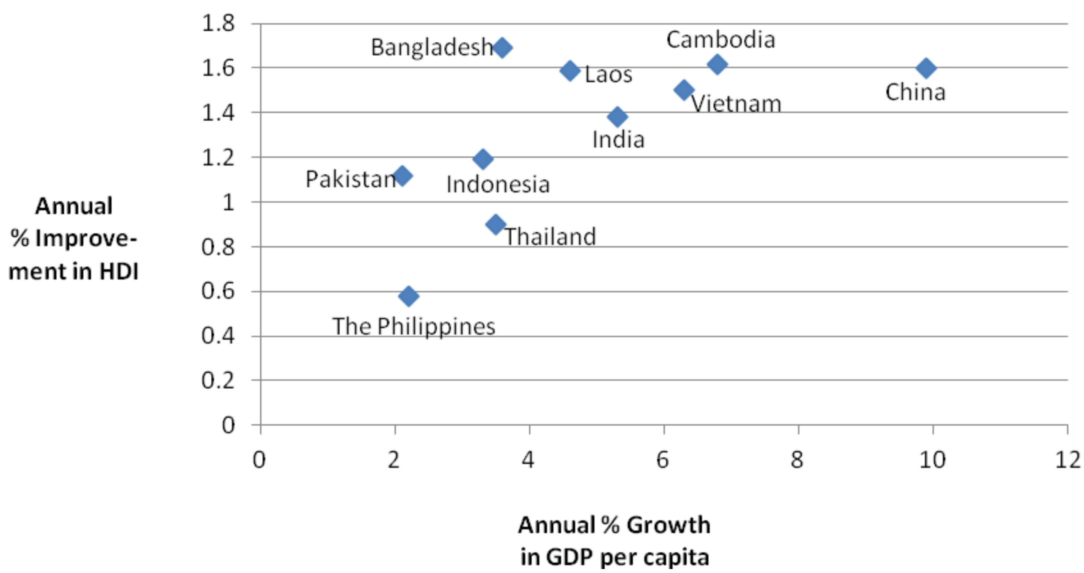
It is important to emphasize that there is very little margin for error for Myanmar. Even if policies are handled well, it may prove hard to generate rapid economic growth and social gains in a sluggish global economy. The second scenario gives Myanmar a chance to succeed, which is more than the first scenario provides. However, it does not ensure or guarantee success. On the other hand, if there is a "peace dividend" and reasonable allocation from reduced military spending and rising natural gas revenues, there is room for significant improvement in the social and economic lives of most of Myanmar's people. Because past policies have fallen far short in terms of both equity and efficiency, much better results can be expected as spending is directed to productive uses – productive in both a social and an economic sense.

Ultimately, the concerns of this paper are about national survival. If the military and civilians, well-connected and unconnected business leaders, central and peripheral groups cannot form an understanding and agreement about how to govern by consent and create good jobs and growing incomes for everyone in Myanmar, the resultant divisions will create weakness that outsiders can exploit. There are already millions of talented Myanmar citizens working abroad because the cost of staying in their homeland proved too high for them to bear. If skilled people cannot be persuaded to stay or return, prospects for Myanmar and its people will be bleak. Abundant natural resources are not enough to support sixty million people. The skills, savings and efforts of all groups are needed. This is the strategic vision behind the second scenario.

Appendix: Economic Growth and HDI Growth in Asia since 1990, and Trends in Rice Production in Myanmar since 2000

The UNDP has developed a Human Development Index (HDI) for most nations over the past few decades. The HDI incorporates measures of health, education, and per capita income into a single measure. The highest possible value of the index is 1.0 (Norway, the highest-ranked nation in 2011, had 0.943) and the lowest theoretical value is zero. (The Democratic Republic of the Congo had the lowest actual score of 0.286.) The following graph shows ten Asian nations and plots the annual improvement in their scores on the HDI index from 1990 to 2011 as calculated in the UNDP's *2011 Human Development Report* against the growth per year in their real per capita GDPs from 1990 to 2009, taken from the World Bank's *World Development Indicators 2011*.

Annual Growth of the Human Development Index and Per Capita GDP since 1990, Selected Asian Nations

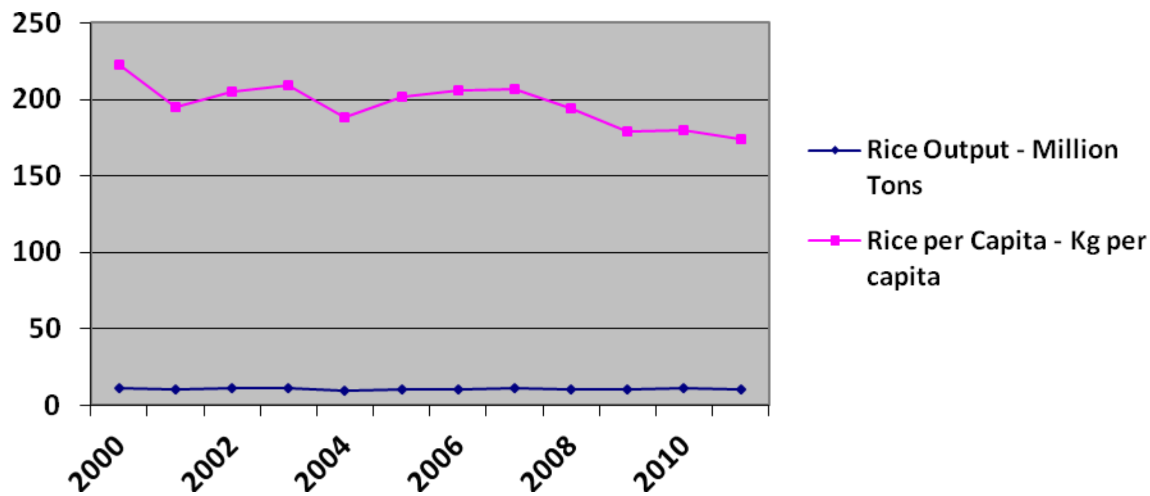


This graph shows that low levels of economic growth are associated with modest gains in human development. At around 4% per capita GDP growth, high rates of human development are achieved, and much faster GDP growth does not *necessarily* mean much faster human development growth. This does not mean that growth beyond 4% a year is useless for human development. It probably indicates a more balanced approach among fairly fast growing nations, with an emphasis on social safety nets and health and education spending, while very fast growing nations may focus more on GDP growth and less on social development. Because income distribution tends to change only slowly, it is likely that rapid growth also improves (even if not equally) the incomes of the bottom segments of the population, and it is also likely that a good deal of any extra income for most households is spent on health and education.

It is true that rapid gains in HDI scores are harder to come by as the level of HDI improves, and that factor is also at work in this graph, especially for Thailand. In Myanmar's case, GDP growth of 5.5% to 6% a year would be required to reach a 4% annual growth in GDP per capita.

Because most households in Myanmar are still engaged in farming (with or without land ownership), it is also of interest to see how per capita production of rice has developed since 2000. The United States Department of Agriculture estimates of rice production are used because they appear to be more consistent with observed levels of exports and consumption than the official or FAO data series. (In the graph below, rice output is in million metric tons and rice per capita is in kilograms per capita of rice per person.)

Rice Production and Rice Per Capita in Myanmar, 2000-2011



It is noteworthy that rice production per capita peaked in recent years in 2006-07, when the exchange rate was 1300 kyat to the dollar, and that it has fallen more or less steadily as the exchange rate has appreciated during a period of high inflation. This pattern of falling food output per capita is one reason that the UNDP Survey finding of sharply reduced extreme poverty in recent years is implausible. If there is less food, if farming is becoming increasingly unprofitable, and if the government has not created a social safety net, from where is the reduction in poverty coming? While migration and remittances have certainly increased, they seem inadequate to offset the decline in farm (and farm worker) incomes, much less finance a huge welfare improvement among the poorest.