Macroeconomics

for Emerging East Asia

Calla Wiemer

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2. Taking the Measure of Emerging East Asia

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2. Taking the Measure of Emerging East Asia

The economies of Emerging East Asia differ greatly with respect to size, stage of development, and degree of international integration. These differences bear on vulnerability to external shock and tendency toward volatility. Nevertheless, the same principles of macroeconomics apply, and we can subsume the whole lot within a common analytical framework.

The world's second largest economy, China, accounts for more than 70 percent of Emerging East Asian GDP while Cambodia and Laos weigh in at just a fraction of a percent. Adjusted for purchasing power, Singapore's per capita GDP outranks that of the U.S. while elsewhere in the region per capita incomes of a few dollars a day mean that life is a constant struggle to survive. A child born in Hong Kong can expect to live nearly two decades longer than one born in Laos. The entrepots of Hong Kong and Singapore sustain trade-to-GDP ratios of more than 300 percent whereas the ratios are less than 40 percent for China, Indonesia, and Myanmar. Similarly for foreign assets and liabilities, the ratios to GDP are larger by an order of magnitude for Hong Kong and Singapore than for most other economies in the region.

In this chapter we compare economies along three dimensions: size and growth; stage of development; and degree of global integration. In every aspect, the Emerging East Asia region extends to extremes.

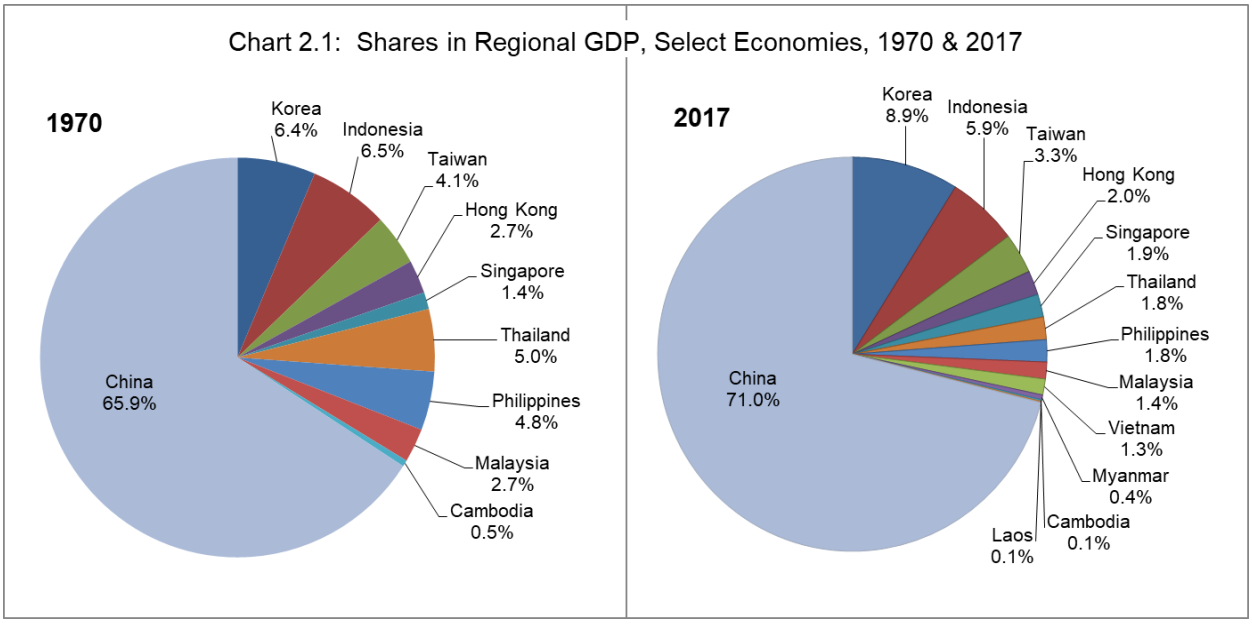
Size and Growth

China is the behemoth of Emerging East Asia, and its dominance has only increased over recent decades. Against China's strong growth performance, most other economies in the region have lost output share, although two have managed to gain. We look first at size, then at growth, in terms relative to the region for both indicators.

Size

Chart 2.1 shows regional shares in GDP for the economies of Emerging East Asia for the years 1970 and 2017. In 2017, China accounted for 71.0 percent of the total. Korea took the second spot with 8.9 percent, followed by Indonesia at 5.9 percent, and Taiwan at 3.3 percent. Clustered in the 1.0 to 2.0 percent range were Hong Kong, Singapore, Thailand, the Philippines, Malaysia, and Vietnam. That leaves Myanmar, Cambodia, and Laos with less that half a percent each.

Within a region that has become increasingly integrated through the supply chain and more generally tied into global networks of trade and finance, disruptions in one economy can reverberate throughout the region. China's mass creates obvious potential to stimulate growth or to send shock waves. Yet far smaller economies have managed to trigger regional upheaval as well. Thailand, after all, was at the epicenter of the Asian Financial Crisis.



Growth

The Emerging East Asia region as a whole has achieved impressive growth over the last five decades. Against this oversized benchmark some economies have outperformed to gain share while others have lagged to lose it between 1970 and 2017. The addition by 2017 of Vietnam, Myanmar, and Laos, for which data were not available in 1970, encroaches very slightly on the shares of all others. Growth over the period was most outstanding for Korea and Singapore which saw even greater share gains in proportional terms than China. The greatest laggards were Thailand and the Philippines with share declines of more than half.

To be sure, were a later base year chosen, relative growth performances would stack up differently as some economies began their take-offs earlier and others later, while some that enjoyed early success hit setbacks later on from which they were slow to regain momentum.

High long-term growth is often accompanied by significant volatility. In part, this is because the inevitable slowdown when it comes registers as a sharper break from a history of strong growth than from a history of weak growth. But in part also the forces that help to generate a boom can sow the seeds of a bust. Credit growth is an important driver of expansions, with a rapidly growing economy in turn facilitating repayment of debt in a self-reinforcing cycle. Creditors respond by taking on more risk, and overall debt loads rise. However, as asset prices spiral, lending becomes ever more speculative. Eventually, the process runs out of steam. Loans begin to go bad and asset prices collapse. Credit tightens and the economy can go into a tailspin. As unsettling as such boom and bust cycles may seem, they are commonly embedded within very successful long-term performance records.

Stage of Development

Some of the world's richest socieities exist alongside some of the poorest within the Emerging East Asia region. In this section we compare levels of economic development, first with respect to GDP per capita, then according to broader indicators of the human condition.

GDP per Capita

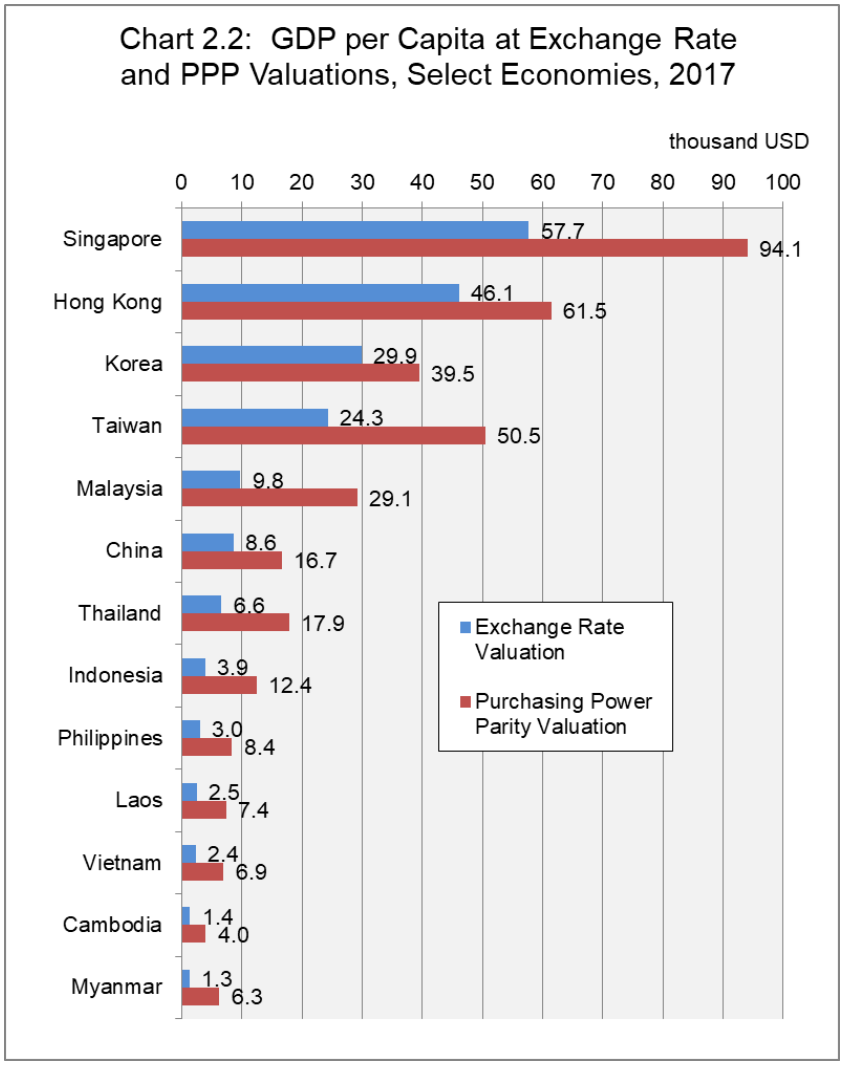
Comparing GDP across economies is complicated by the need to convert economic activity recorded in different currencies to a common unit of measurement. The simplest way to accomplish this is to apply market exchange rates, typically standardizing on U.S. dollars. The appeal of this approach lies in its reliance on readily available data and a transparent methodology. There are a number of drawbacks, however. One is that exchange rates can fluctuate a great deal creating the appearance that relative incomes are highly unstable across economies. The fluctuations tend to be driven largely by currency trading to support financial transactions, however, as opposed to shifts in the real value of goods and services an economy produces. Another problem is that government intervention in foreign exchange markets can distort exchange rate values relative to market valuations. Finally, even apart from the influence of financial transactions and government intervention, market exchange rates derive only from traded goods and services whereas much of what is produced in an economy is non-tradable. Traded goods and services tend to be expensive in less developed economies relative to domestically produced and consumed products, such as haircuts or restaurant meals, prices for which reflect relatively low local wages. In other words, a U.S. dollar will buy much more in the way of non-traded items in an emerging market setting than in an advanced economy even as the purchasing power of a dollar for traded products is close to parity when converted at exchange rates.

An alternative to the exchange rate approach involves imputing currency conversion rates based on broad purchasing power parity. Under this approach a basket of goods and services that spans the gamut of traded and non-traded goods and services – from food and utilities to housing and education – is priced in local currency for each of the economies to be compared. The ratio of these basket prices to that of the same basket priced in U.S. dollars is then used to convert GDP expressed in local currencies to a common U.S. dollar measure. This is known as the purchasing power parity approach.

Chart 2.2 presents GDP per capita at both exchange rate and purchasing power parity (PPP) valuations for the economies of Emerging East Asia. For the U.S., since it has the benchmark currency, exchange rate and PPP valuations are equivalent at about $60,000 a year. For all Emerging East Asia economies, GDP expressed in PPP terms exceeds that expressed in exchange rate terms. This indicates that a dollar converted at the market exchange rate can buy more in the Asian economy using local currency than it can buy in the U.S. Output for the Asian economies is thus higher in purchasing power terms than an exchange rate based conversion suggests.

The disparity across the region is striking. In exchange rate terms, GDP per capita ranges from barely $1000 per year to almost the U.S. level. In PPP terms, Singapore's GDP substantially exceeds that of the U.S. while Hong Kong's is close to that mark. Korea and Taiwan are roughly on par at the next tier. Below that the gradient is fairly sharp from Malaysia to China to Thailand to Indonesia to the Philippines, and finally Laos, Vietnam, Cambodia, and

Mynmar. The positive news in this is that the region still holds much potential for growth if lagging economies can make strides in catching up to frontrunners.



Human Development Indicators

GDP per capita, even in purchasing power parity terms, is a very limited measure of economic development. The Human Development Index devised by Nobel laureate Amartya Sen offers a broader indicator of progress. Sen premised his index on a notion of development that involves the advance of human capabilities. This notion of capabilities he conceived as enabling people to live lives that they have reason to value. In respect of this, he incorporated measures of health and education into his index in combination with the more standard per capita income in PPP terms.

Table 2.1 presents values for the Human Development Index and three of its components: life expectancy at birth; expected years of schooling for children entering school age; and mean

years of schooling of adults. Hong Kong and Singapore tie for the top position with Korea close behind. Korea makes up for a lower per capita income with outstanding educational attainment, its adult population benefiting from an average 12.1 years of schooling and today's children expected to receive 16.5 years of schooling. Another economy that performs well on education relative to income is the Philippines with an average 9.3 years of schooling for adults. At the lower end of the spectrum, in rough alignment with lower incomes, a number of economies in the region show schooling for adults of less than six years. Life expectancy similarly follows an overall pattern broadly in accord with income rankings, although not without aberrations. Vietnam exhibits an exceptionally high life expectancy for a lower income economy which pushes its Human Development Index to a level comparable to that of Indonesia where income is much higher. China too shows a high life expectancy for its income level, on par with the higher income Malaysia. Disparity in life expectancy within the region is such that a child born in Hong Kong can look forward to 17 years more on this earth than one born in Cambodia or Myanmar.

Table 2.1: Human Development Indicators, Select Economies, 2017

	Human Development Index	Life expectancy at birth	Expected years of schooling	Mean years of schooling of adults
Hong Kong	0.93	84.1	16.3	12.0
Singapore	0.93	83.2	16.2	11.5
Korea	0.90	82.4	16.5	12.1
Malaysia	0.80	75.5	13.7	10.2
Thailand	0.76	75.5	14.7	7.6
China	0.75	76.4	13.8	7.8
Philippines	0.70	69.2	12.6	9.3
Indonesia	0.69	69.4	12.8	8.0
Vietnam	0.69	76.5	12.7	8.2
Laos	0.60	67.0	11.2	5.2
Cambodia	0.58	69.3	11.7	4.8
Myanmar	0.58	66.7	10.0	4.9

Economies that operate deep inside the global frontier for technology and societal organization have the potential to grow rapidly. However, with rapid growth comes the prospect of great volatility. Economies at or near the frontier inevitably grow more slowly but with generally less instability. For lagging economies, development involves adopting and adapting existing technologies, relying on the global frontrunners to do most of the innovating. It also involves building effective economic and political institutions. Finding a successful development path relies on idiosyncratic trial and error, with the process prone to lurches and setbacks. The

empirical overview of this section suggests the Emerging East Asia region holds much scope for gain, with macroeconomic challenges along the way a foregone conclusion.

International Economic Integration

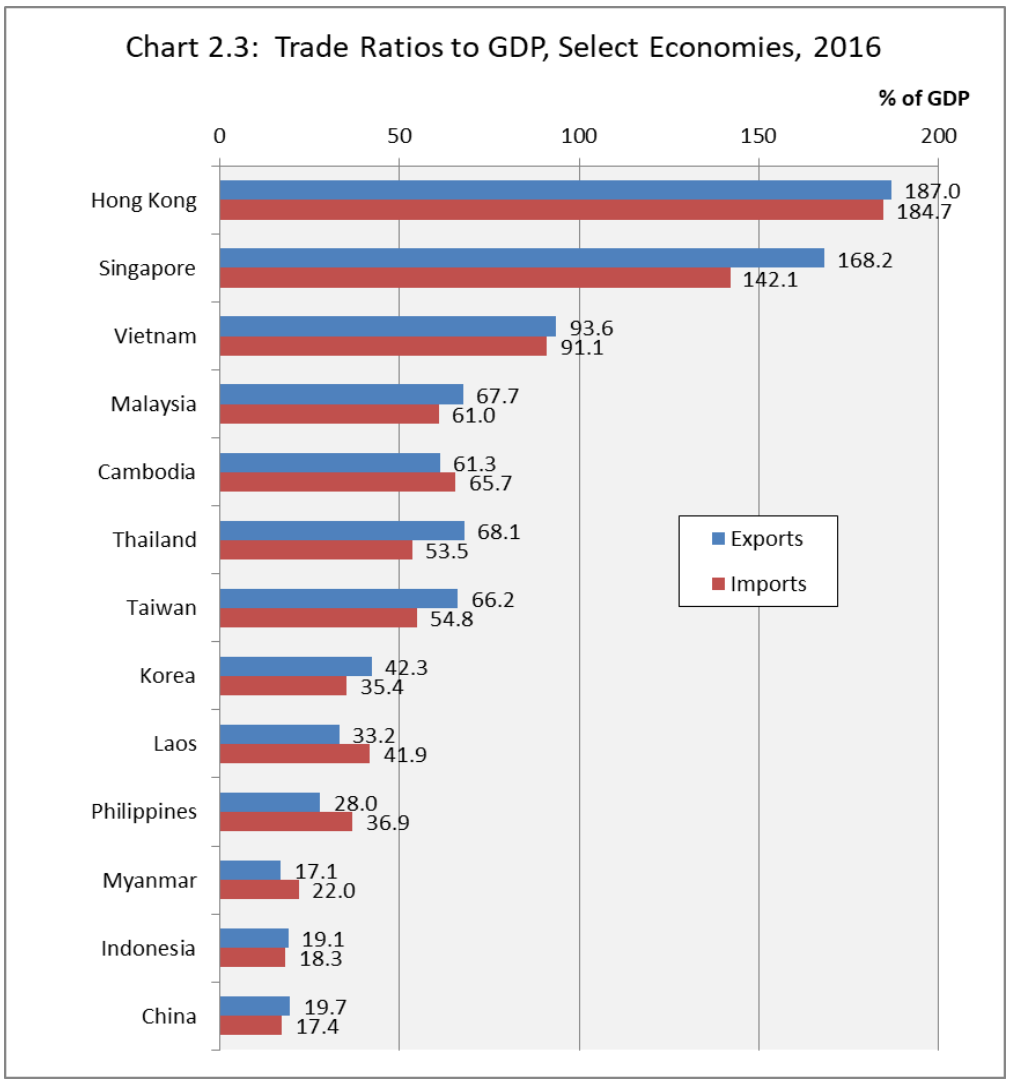
Opening up to international trade and investment can act as a springboard to economic development. But engaging internationally also brings exposure to external shock. Chart 1.2 in the preceding chapter captures vividly the synchronization of business cycles in Emerging East Asia that has followed from increased external engagement. In this section we examine trade and investment flows relative to GDP to get a sense of the variation in degree of international integration within the region.

Foreign Trade

For the world as a whole, the combined value of exports and imports of goods and services is about 56 percent of GDP. The economies of Emerging East Asia exhibit ratios generally above this level, and in some cases far above it, although several countries fall short, as shown in Chart 2.3. The region is home to the world's two great entrepot economies – Singapore and Hong Kong. Much of what is imported by these entrepots is in turn exported with scant local value added. The resulting two-way trade ratios for these economies exceeded 300 percent of GDP in 2016. Trade ratios above 100 percent were also registered by Vietnam, Malaysia, Cambodia, Thailand, and Taiwan. Generally speaking, larger economies tend to be less trade oriented than smaller ones because they can achieve economies of scale in production for a broader range of industries domestically. This explains the relatively low trade ratio for China, which at 37.0 percent was nevertheless significantly above the 26.6 percent registered by the U.S. in 2016. Myanmar and Indonesia are notably less trade oriented than their neighbors.

Most of the economies in the region ran trade surpluses in 2016, although deficits were recorded in the lower income economies of Myanmar, Cambodia, Laos, and the Philippines. A trade deficit must be financed with an inflow of investment funds. Such investment inflows are attracted to capital-scarce developing economies by opportunities for high returns, although risks tend to be high as well given weak institutional infrastructure. Rapid economic development is then typically accompanied by rising saving rates that reduce reliance on foreign investment inflows and turn the trade balance toward surplus. A trade surplus implies a net outflow of investment funds and the accumulation of foreign assets or the pay down of foreign debt. The large trade surpluses common among the higher income economies of Emerging East Asia reflect a concerted effort to build up reserve asset troves.

While offering gains from specialization and the pursuit of comparative advantage, trade carries with it increased exposure to the vicissitudes of international markets. The ramifications were brought home forcefully by the global financial crisis of the late 2000s. The economies of Emerging East Asia were little exposed to the financial debacle directly. Rather, the sharp slowdown that hit the region (visible in Chart 1.2 of the preceding chapter) was due primarily to the trade shock that followed in the aftermath. Worldwide, trade volume fell by 19 percent in 2009 relative to the previous year. Emerging East Asia suffered the collateral damage.



Foreign Investment

Trade flows involve real goods and services moving across borders in support of current consumption or capital formation. Once consummated, the activity is complete. Foreign investment flows, by contrast, are financial in nature and involve the transfer of title to assets. Positions are taken, and holdings may be accumulated over time, but flows are then subject to reversal. Psychological factors weigh heavily on investment flows as opposed to the more practical concerns that motivate trade flows. This makes for far more volatility and unpredictability in investment flows than in trade flows. Sudden large movements of funds either in or out can wreak havoc on an economy.

An outflow of foreign investment results in an asset position on an economy's balance sheet, an inflow a liability position. The net international investment position for an economy may be positive (meaning the economy is a net creditor to the world), negative (meaning it is a net debtor), or zero.

Different forms of investment are characterized by differences in liquidity and the prospective reversal of flows. Direct investment involves a substantial equity stake in a business that is not easily liquidated or repatriated. Portfolio investment pertains to the purchase of securities traded on markets, with funds thus more readily retrieved. Loans generate a commitment of interest and principle repayment according to a specified timetable. Derivatives represent contracts for payment to be made in the future under specific terms and conditions, for example, for the purchase of an asset at a predefined price at the option of either the buyer or the seller. A final category tracked only on the asset side is official reserves which are foreign assets of any type held by a monetary authority.

International investment positions relative to GDP for the economies of Emerging East Asia are presented in Chart 2.4. Hong Kong and Singapore are again outliers, so much so in fact that we measure them against a different axis calibrated higher by a factor of almost five. Both economies serve as regional financial hubs. For Hong Kong foreign assets surpassed 1400 percent of GDP in 2016 while for Singapore they exceeded 1000 percent. Strong net creditor positions are evident for both. Elsewhere in the region, Taiwan stands out on the asset side with a ratio to GDP of 337 percent, even as it falls in line with others on the liability side to yield a very large net creditor position. At the low end, Myanmar shows assets at 15.0 percent of GDP and Indonesia at 32.2 percent with both in heavy net debtor positions. Apart from the two financial centers and Taiwan, the more globally engaged economies of the region generally exhibit asset and liability ratios in the 50 to 150 percent range.

Large scale shifting of funds across borders can be very destabilizing for emerging market economies. The need to convert currencies when money crosses borders exerts pressure on exchange rates. An inflow of foreign funds pushes the value of the local currency up putting a squeeze on exporters and on producers for the domestic market who must compete with cheapened imports. On the other hand, an outflow of funds undermines the value of the local currency straining borrowers and others with payment obligations set in foreign currency terms. To limit vulnerability, many governments in the Emerging East Asia region impose controls on cross-border capital movements. They also prepare to meet any urgent demand for foreign currency in the event of a significant capital outflow by stockpiling official reserves.

As of 2016, Hong Kong held official reserves at the extraordinarily high level of 120 percent of GDP. Unique among Emerging East Asian economies, Hong Kong conditions the issuance of local money by the monetary authority on its receipt of foreign exchange. Thus central bank money is entirely backed by foreign currency in Hong Kong. High levels of reserves to GDP were also maintained by Singapore and Taiwan at about 80 percent. China's reserves in absolute terms were by far the world's largest at more than US$3 trillion as of 2016, although relative to GDP the country is not an outlier for reserve assets. At the low end, Indonesia held reserves of 12.5 percent of GDP and Myanmar at 7.8 percent.

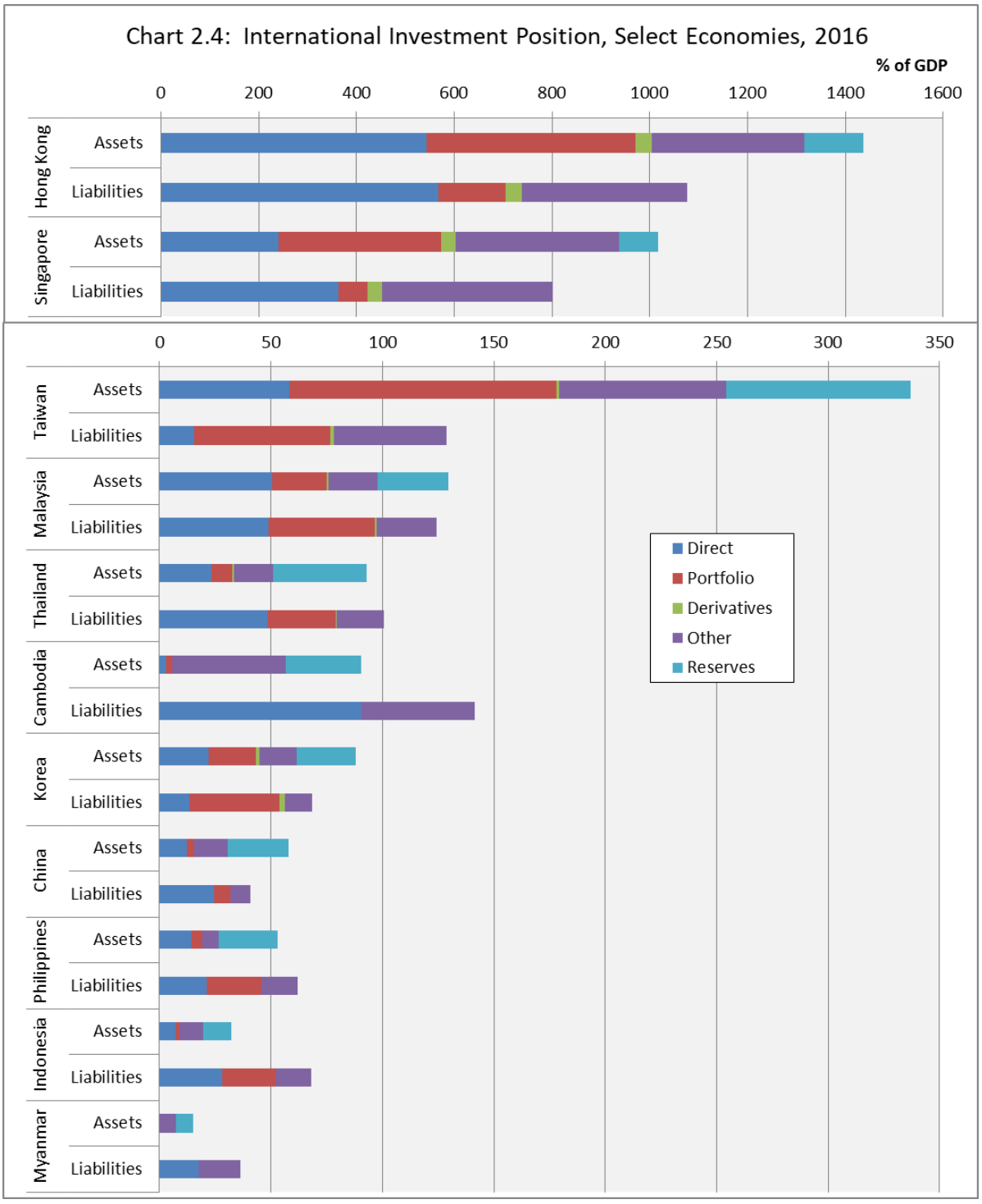


Chart 2.4: International Investment Position, Select Economies, 2016
% of GDP
0
200
400
600
800
1000
1200
1400
1600
Hong Kong
Assets
Liabilities
Singapore
Assets
Liabilities
0
50
100
150
200
250
300
350
Taiwan
Assets
Liabilities
Malaysia
Assets
Liabilities
Thailand
Assets
Liabilities
Cambodia
Assets
Liabilities
Korea
Assets
Liabilities
China
Assets
Liabilities
Philippines
Assets
Liabilities
Indonesia
Assets
Liabilities
Myanmar
Assets
Liabilities
Direct
Portfolio
Derivatives
Other
Reserves

The Asian Financial Crisis was a major factor in motivating the accumulation of reserve assets. During the crisis, some economies found their currencies collapsing and their growth rates plummeting as foreign investment fled and credit to finance trade and other short-term working capital needs dried up. Governments in the region became intent on avoiding such vulnerability in the future. Amassing substantial reserve assets not only allows authorities to supply foreign currency into the foreign exchange markets if and when investors seek to withdraw en masse, healthy reserves can actually forestall the need for intervention by promoting confidence that foreign currency shortages will not be a risk.

Capital controls are another mechanism for guarding against the disruptive movement of funds. On the inbound side, direct investment is typically cultivated as being more stable and supportive of development goals whereas, by contrast, portfolio investment is subjected to limitations via transaction caps, holding periods, and stringent approval procedures. Long-term borrowing is treated more favorably than short-term borrowing which may be in need of roll-over at potentially higher interest rates. Chart 2.4 shows differing profiles with respect to liabilities. China has historically relied more narrowly on direct investment, whereas the more mature financial markets of Malaysia, Taiwan, and Korea have offered greater accommodation to portfolio inflows. The category "Other" comprises mainly loans. The substantial place for this category in Hong Kong and Singapore on both asset and liability sides indicates the importance of these economies in regional financial intermediation, as does the small but growing presence of derivatives on their balance sheets.

Macroeconomic Ramifications

The boom and bust episodes common to all economies are driven by a complex web of factors, both domestic and external. For Emerging East Asia, the increasing importance of the external is clear from the synchronization of business cycles marked by the Asian Financial Crisis (see Chart 1.2). The Crisis first struck Thailand, then rippled across the region, pushing GDP growth into negative territory in 1998 for seven of our 13 economies and bringing it sharply down for most of the others. The economies hit hardest were those most dependent on short-term foreign financing which suddenly became very difficult to rollover. The next shock landed in 2001 with the bursting of the technology stock bubble in the U.S. The hardest hit economies in this case were those most integrated into the global supply chain for information and communication products, most notably Taiwan, Singapore, Hong Kong, and Malaysia. Then came the global financial crisis of 2008. The financial fall-out as such was limited in Emerging East Asia. But the downturn in international trade that followed in 2009 took a heavy toll. Five economies in the region experienced contraction in that year and a number of others saw growth barely hang on to the positive.

The openness of Emerging East Asia to international trade and investment exposes the region to external shock even as it fuels long-term growth. Smaller economies are particularly dependent on trade to achieve scale economies and make the most of their comparative advantage. Developing economies gain vital access to technology through foreign investment. And regardless of size or stage of development, all economies are prodded by global competition to become more efficient and innovative.

The challenge then is to find ways of coping with external shock while still reaping the benefits of openness. Given the vast differences in size and stage of development represented in

Emerging East Asia, the mechanisms for buffering and managing shock naturally vary as well. Some regional economies have found success in opening up to investment flows and cultivating a regional role in financial services while others continue to enforce extensive capital controls. All economies in the region rely on exchange rate management to a degree, but forms range from the hard peg of Hong Kong to the light touch of Korea and the Philippines. Much variation exists, too, in institutions for managing domestic credit and the government budget. Nevertheless, a common body of macroeconomic principles applies. The chapters to come expound these commonalities, while at the same time documenting the particulars through case studies and systematic empirical comparison across economies.

Data Note

The table and charts presented in this chapter draw on databases maintained by various multilateral organizations, supplemented by data from Taiwan government sources. Details are given below.

Chart 2.1: GDP data are from the World Bank's *World Development Indicators* database, which extends back to 1960. Data for Taiwan are from the Republic of China (Taiwan) Statistical Bureau.

Chart 2.2: GDP per capita data are from the International Monetary Fund's *World Economic Outlook* database, which includes Taiwan.

Table 2.1: Data on human development are from the United Nations Development Programme's *Human Development Reports* website.

Chart 2.3: Trade data are from the World Bank's *World Development Indicators* database. Data for Taiwan are from the Central Bank of the Republic of China (Taiwan) balance of payments data.

Chart 2.4: International investment data are from the IMF's *International Financial Statistics* database. Data for Taiwan are from the Central Bank of the Republic of China (Taiwan).

The purchasing power parity measures of GDP per capita presented in Chart 2.2 merit elaboration. The estimation exercise rests on collection of prices expressed in local currency for about 1000 meticulously specified products for each participating economy. The effort to price identical baskets of goods and services across economies dates back to a 1968 collaboration between the University of Pennsylvania and the United Nations Statistical Division. The International Comparison Program, as it is known, was later taken over by the World Bank for most of the world and by Eurostat and the Organization of Economic Cooperation and Development (OECD) for their member countries. The most recent round of data compilation by the World Bank took place in 2011, with the round before that in 2005.

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Regular status reports by economy, with supporting datasets, are prepared by a number of multilateral organizations. The World Bank's *World Development Report*, published annually since 1978, takes up a different theme each year and contains a wealth of data on all aspects of development. The International Monetary Fund's semi-annual *World Economic Outlook* offers macroeconomic analysis and medium-term forecasts. Finally, the Asian Development Bank's annual *Asian Development Outlook* focuses on macroeconomic and development issues for ADB developing member countries.

Human Development Index creator Amartya Sen laid out his views on human development in the book *Development As Freedom*. Sen maintains that the goal of development should be to increase the opportunities available to people by enhancing their capabilities. The

notion of "capabilities" encompasses: (1) the capability to live a long and healthy life; (2) the capability to acquire education and skills and share in the benefits of social progress; (3) the capability to escape poverty and enjoy a rising standard of living. Indicators of national achievement that reflect these capabilities are the basis for the Human Development Index. More broadly, Sen champions political liberty and civil rights as fundamental to the exercise of human capabilities.

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