

Macroeconomics

for Emerging East Asia

Calla Wiemer

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1. Fitting Macroeconomics to Emerging East Asia

East Asia has given rise to some of the most spectacular economic performances of the post-World War II era. It has also borne some of the most serious setbacks. As everywhere, boom and bust follow one upon the other in recurring cycles. Notably for Emerging East Asia, as the region has become more integrated internally and with the rest of the world, the cycles have become more synchronized.

Many East Asian economies have managed to sustain double-digit growth rates for a few years at a stretch – Japan, Hong Kong, Singapore, Korea, Taiwan, China, Thailand, and as of the 2000s even Myanmar and Cambodia, are all members of this club. Singapore stands out for having achieved growth in excess of 10 percent for nine consecutive years from its independence in 1965 to 1973. More recently, Myanmar appears to have beaten this record with an 11-year run of double-digit growth beginning in 1999, if official statistics are to be believed (see end of chapter Data Note).

Typically though, boom times are short lived, and what's more, they are often followed by busts. spurts of growth intermix with periods of sluggishness or even contraction. Singapore's storied success was punctuated by repeated setbacks, with growth going negative in 1985, 1998, 2001, and 2009. The Asian Financial Crisis of 1997-98 plunged much of Emerging East Asia into negative growth territory. At the epicenter of the crisis, Thailand experienced a particularly virulent turn, coming through a decade of expansion at near double-digit levels only to see output growth drop to -1.4 percent in 1997 and then to -10.5 percent the following year.

Fluctuations in economic growth, and the policy measures aimed at containing them, are the central concern of this book. This chapter introduces the subject matter and explains why the treatment presented in standard US texts is a poor fit for Emerging East Asia. The 13 economies within our purview are Cambodia, China, Hong Kong, Indonesia, Korea, Laos, Malaysia, Myanmar, the Philippines, Singapore, Taiwan, Thailand, and Vietnam.

The focus of this text is on short-run deviations from long-run potential growth. For our purposes, the conceptual basis for long-run potential growth can be characterized succinctly, and we accomplish that in this first chapter. Long-run potential provides a reference against which to mark output gaps wherein an economy temporarily overshoots or undershoots a sustainable path. A high degree of volatility around the norm rate of growth is undesirable. Shortfalls involve loss of employment and income, as well as missed investment opportunities. But overshooting, too, carries costs as resources are misallocated into projects that are not ultimately viable sowing the seeds of dislocations to come. More generally, volatility complicates planning for the future and inhibits entrepreneurial risk taking. Government policy thus seeks to stabilize growth and keep output gaps – positive or negative – to a minimum.

The first section of this chapter defines macroeconomics, drawing the contrast with microeconomics. It then presents graphically the main phenomenon to be understood: growth fluctuations for our 13 economies as viewed over the last six decades. The second section explains the concept of long-run potential growth, against which output gaps are registered, and examines the controversy surrounding how the early break-out economies of Emerging East Asia

sustained their extraordinary growth rates. Theories of output gaps are introduced in the third section, with attention to why the economies of Emerging East Asia are particularly prone to volatility. The fourth section discusses stabilization policy, again with attention to the particulars of Emerging East Asia. The final section summarizes the book and provides a chapter by chapter outline, then offers guidance on finding a path through it along alternative tracks.

A. Macroeconomics Defined

An economy is made up of multitudes of diverse individuals making choices in pursuit of their own interests. Households make choices about how much of their incomes to spend or save, what products to buy or assets to hold, how to make the most of their time and talents in the marketplace. Business managers make choices about designing and producing products, employing workers, investing in plant and equipment, adopting and developing technologies, borrowing money or taking on equity investors, and distributing profits. No omniscient planner coordinates this vast array of activity, yet somehow it takes on an overall coherence. And in the aggregate, the activity coalesces to move as an integrated whole, cycling through boom and bust.

In this section, we flesh out the concept of macroeconomics by contrasting it with microeconomics. We then offer a first glimpse of the phenomenon at the heart of this text by charting growth fluctuations over the last six decades for the economies of Emerging East Asia.

Macro vs. micro

Macroeconomics looks at the big picture of aggregate output and the general price level, and seeks to understand movement in these indicators over time. Microeconomics focuses on the behavior of individual households and firms and how this behavior is expressed in markets to determine relative prices and patterns of resource allocation among alternative uses. Systematic parallels between macro and micro are drawn in Box 1.1.

Microeconomics takes households and firms, of a stylized sort, as its basic building blocks. Households are assumed to maximize utility (i.e., well-being) by selling the factor inputs to production – labor, capital, land, and entrepreneurship – and buying goods and services. Firms are assumed to maximize profits by operating on the opposite side of these exchanges, buying factor inputs and selling goods and services. Market participants bid against one another to arrive at prices that equate demands and supplies. Under competitive market conditions, microeconomic theory contends that scarce resources will be allocated to the uses in which they are most highly valued. The “Invisible Hand” of the market, in the metaphor of Adam Smith (1776), thus achieves an efficient outcome in a way that no planning authority could hope to match.

Yet, while micro theory adheres to a story of markets reaching equilibrium, macro theory is concerned with instability in an aggregate that is ostensibly the sum of its micro parts. There is a seeming disconnect in this. For macro must deal with resources at times being less than fully utilized and the price level being broadly unstable even as micro presents a vision of markets clearing through price equilibration. At the macro level, the unemployment rate and the inflation rate are standard indicators of how an economy is performing relative to its potential. An economy in a downturn experiences rising unemployment and weakening inflation or even a falling price level. Conversely, in an expansion, labor markets tighten to reduce unemployment and inflation heats up. Equilibrium seems elusive in the macro realm.

Box 1.1 Macro vs micro

Macroeconomics deals with an economy as a whole. Attention is on aggregate production of output and overall utilization of resources. The key performance indicator is the total value of final goods and services produced during a period of time. In contrast, **microeconomics** focuses on the allocation of resources among alternative uses in the production of goods and services. Attention is on how the forces of supply and demand determine activity in particular markets.

Prices are of interest in **macroeconomics** for how they move overall. A key indicator of macroeconomic stability is the inflation rate. In **microeconomics** relative prices are what matters. Some products are relatively cheap, others relatively expensive, and microeconomics explains why.

The degree of resource utilization relative to potential is of concern in **macroeconomics**, the unemployment rate being a standard measure of this and, along with inflation, a key indicator of stability. **Microeconomics** looks at the allocation of resources among competing uses.

Finally, the external sector comes into play in **macroeconomics** with respect to an economy's overall payments position with the rest of the world. Whether an economy is running a surplus or deficit in its international trade and financial accounts has implications for macroeconomic performance and policy. In **microeconomics**, the composition of imports and exports and the role of foreign investment by sector are of interest.

	MACRO	MICRO
General Purview	size of an economy in the aggregate; long-term growth and short-term fluctuations	relative activity in particular markets as determined by forces of supply and demand
Prices	movement in the general level of prices, the inflation rate being the key indicator	relative prices, or why some things are cheap and others expensive
Resources	utilization of resources relative to capacity, the unemployment rate being a prime indicator	allocation of resources among alternative uses
External Sector	overall balance in international trade and financial flows	composition of exports and imports, and impact of trade and foreign investment by sector

How can the disconnect between micro and macro be reconciled? The failure of the labor market to clear – that is, the existence of unemployment – may be explained by lags in adjustment to shocks or by rigidities in wage bargains that limit downward adjustment and thus compel firms to layoff workers when they must cut costs. And movements in the macro price level can occur irrespective of the structure of relative prices that pertain to micro. In any case, some disconnect between micro and macro should not be too disconcerting. Each body of thought is concerned with explaining different phenomena: micro with the way markets coordinate the allocation of resources and the distribution of products to achieve an outcome in the moment; macro with the way the aggregate of this activity moves over time. Each body of theory should be taken on its own terms with a view to its particular purpose.

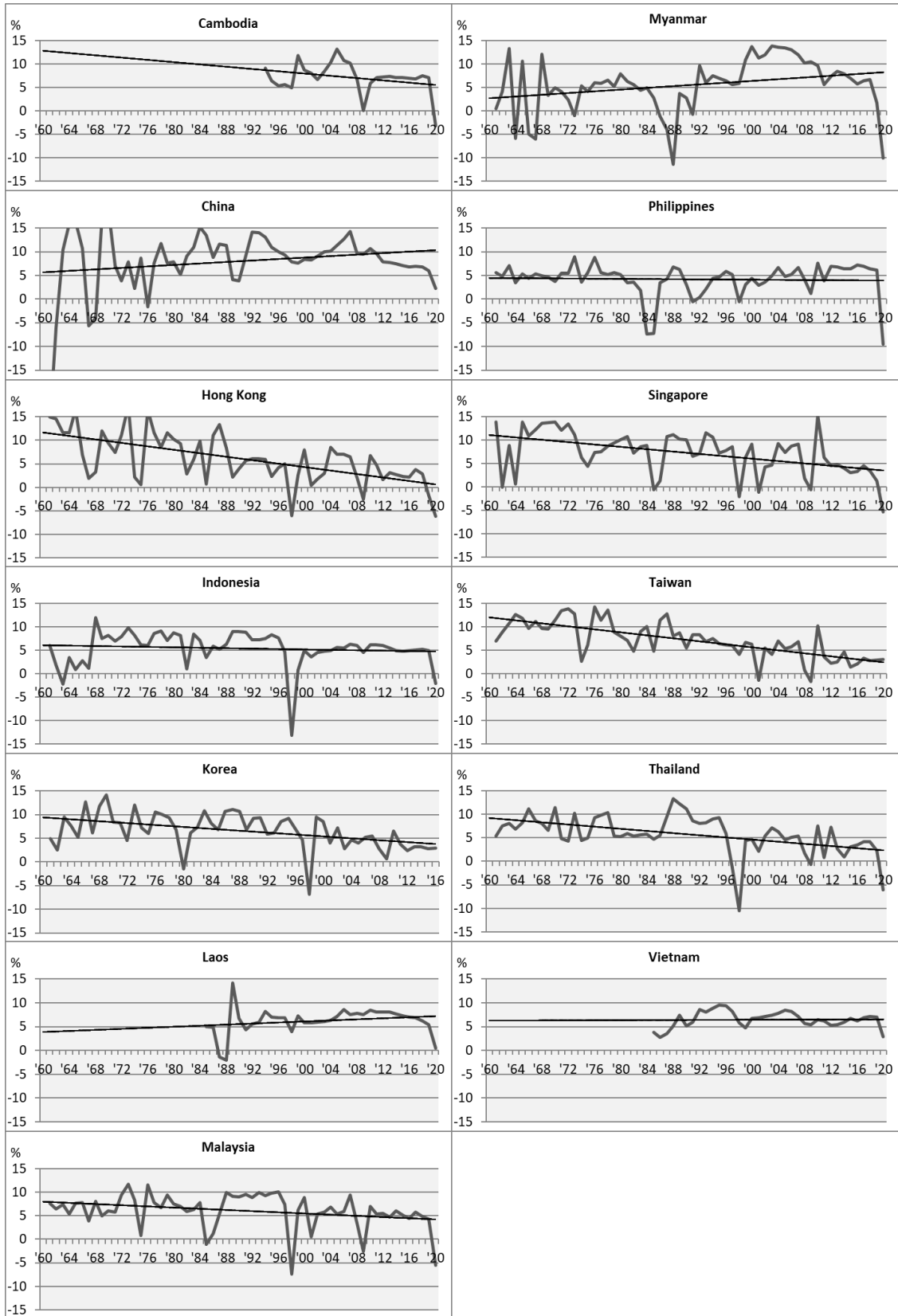
For a large economy with a relatively small foreign sector, the study of macroeconomics can proceed with respect to the domestic realm, leaving an international dimension to be grafted on afterward. This is the typical approach of textbooks focused on the US economy. However, for the outward oriented economies of Emerging East Asia, external influences must be treated as integral. External shocks – for example, swings in global commodity prices, movements in exchange rates, or changing perceptions of risk that drive international capital flows – are major sources of volatility for these economies. External imbalances in trade or financial flows can be sustained to a point, and that point can be stretched with concerted macro policy action. But ultimately, vulnerabilities may develop or tipping points may be reached with disruptive consequences when corrections finally occur. External balance is thus central to the study of macroeconomics for Emerging East Asia.

Fluctuations around potential growth

The principal measure of macroeconomic performance is gross domestic product (GDP) which captures the value of all final goods and services produced in a given period of time. This includes both consumption and investment products. Nominal GDP growth rates are calculated based on current prices. Subtracting the rate of inflation yields real GDP growth at constant prices.

Real GDP growth rates for our 13 economies for the period 1960-2020 are presented in Chart 1.1. The scaling of the axes allows for growth as high as 15 percent and as low as -15 percent, with the numbers sometimes going off the chart in early years although not since the 1970s. The most extreme negative value was for China in 1961 at -27 percent, and indeed this is the only instance of a growth rate dropping below the negative bound of the scale. Known in China as the “difficult period”, the early 1960s saw tens of millions of people lose their lives to famine as food production collapsed under Chairman Mao’s ill-conceived Great Leap Forward. Later in the 1960s and the 1970s, both China and Hong Kong saw growth rates spike above 15 percent within a context of extreme volatility.

Chart 1.1: GDP Growth Rates, Select Economies, 1961-2020

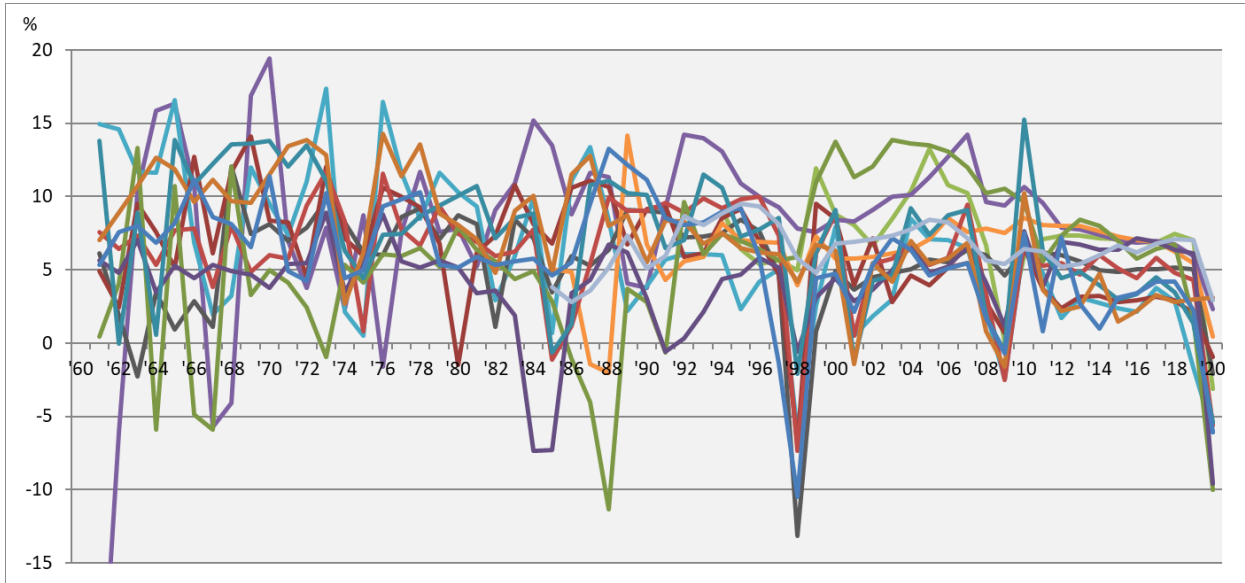


Growth has at some point reached more than ten percent for all economies in the region except the Philippines and Vietnam (the latter on the basis of data only since 1985). And it has plunged into negative territory without exception for all those economies for which time series are available in full. Volatility is a reality no economy has escaped. Even from one year to the next, wide fluctuations in growth rates are common. Of a total 686 year-to-year points of comparison yielded by the sample, 114, or 17 percent, involve a change of more than five percentage points in one direction or the other.

For each economy, Chart 1.1 shows a trend line representing a linear approximation of the growth rate over time. The linear form of the approximation allows values to go to untenable extremes toward the ends of the time period. Subject to this caveat, the slope of the line provides a clue as to general movement in the growth rate up or down over time. Economies that reached middle income status earlier (Hong Kong, Korea, Singapore, and Taiwan) have generally experienced slowing growth rates during the period under examination whereas those emerging later (such as China, Laos, and Myanmar) have shown rising growth rates.

Patterns over time in the region-wide coincidence of fluctuations can be discerned by superimposing the growth rates of the 13 economies, as shown in Chart 1.2. The Asian Financial Crisis stands out for its severe impact across the board in 1998. And the devastating impact of the pandemic is evident in 2020. Prior to the Asian Financial Crisis, deep recessions were usually confined to a single economy, although milder growth slowdowns of a more shared nature are visible in some years (1964, 1967, 1982, and 1985). From the Asian Financial Crisis onward, synchronization is more clearcut. Subsequent sharp dips in growth rates registered broadly in 2001 and 2009. In recent decades, the economies of Emerging East Asia have become more integrated both with one another and with the rest of the world. Individual economies have thus tended to get more caught up in forces emanating from beyond their borders.

Chart 1.2: GDP Growth Rates Superimposed, Select Economies, 1961-2020



B. Potential Growth

With all the variation in growth rates on display – not only from year to year for given economies but in general trends across economies – how are we to discern long-term potential? In this section we examine the underpinnings of potential growth using a formal growth accounting framework. We then review empirical applications of the framework to Emerging East Asia.

Even a formal accounting framework leaves much ambiguity about what *can* be achieved as opposed to what *has* been achieved. For purposes of macroeconomic stabilization policy, the reality is in any case more pragmatic discovery process than modeling exercise. An economy's potential growth is marked most tellingly by that threshold beyond which inflation accelerates. The goal of policy is to bring the economy as close to potential as possible without crossing the line. As a practical matter, potential is discerned by pushing the limits. Growth accounting acts as an aid in envisioning those limits.

Growth accounting

The conceptual foundation for growth accounting, as laid out by Robert Solow (1957), rests on a distinction between increases in the factor inputs to production and increases in the productivity of those factor inputs. For growth accounting purposes, the key factor inputs are capital and labor (land not varying appreciably over time and entrepreneurship, varying or not, not readily measurable). Formally, the contribution of capital to output growth is given by the rate of increase in the capital stock, represented by \dot{K} , times the rate of return to capital, i.e. the profit rate, represented by π . Similarly, the contribution of labor is given by the rate of increase in labor, \dot{L} , times the rate of return to labor, i.e., the wage rate, w . Output growth is given by \dot{Y} , and that part of output growth explained by an increase in total factor productivity by TFP. Putting the pieces together, we have:

$$\dot{Y} = TFP + \pi \cdot \dot{K} + w \cdot \dot{L}. \quad (1.1)$$

More detailed formulations of the contributions of labor and capital are possible. Labor may increase not only quantitatively, but qualitatively through human capital formation, with years of schooling typically taken as the measure of this. Quantitative increases in labor may trace to: (1) increases in the labor force due to (1a) increases in working age population or (1b) increases in labor force participation among those of working ages; or (2) changes in hours worked per worker. Increases in capital result from new investment, which is partially offset by depreciation of existing capital. Breakdowns by form of investment (plant, equipment, residences, infrastructure) and vintage are possible. This finer parsing of labor and capital inputs allows for more closely calibrated measurement of their impact on growth affording a clearer delineation of the residual element, TFP.

The TFP residual captures a wide variety of influences. Foremost among these is technological innovation. The advance of knowledge allows more to be achieved with given resources. Another influence, important in developing economies, is the transfer of labor out of subsistence agriculture into formal industrial and service sector employment. Migration from farm to factory involves a leap across a productivity chasm when poor peasants take up work in the city. Finally, institutional development can contribute dramatically to productivity growth.

The strengthening of market functioning and the fostering of private enterprise are great boosters of effort, entrepreneurial energy, and efficiency in resource use.

Empirical application to Emerging East Asia

Growth accounting exercises for Emerging East Asia have ignited a firestorm of controversy. A study by Young (1995) of Hong Kong, Korea, Singapore, and Taiwan for the period 1966-1990 traced most of the extraordinary growth recorded to increases in factor inputs leaving little, or in the case of Singapore less than nothing, to be explained by improvements in TFP. The four tigers, as they are known, invested heavily in both physical and human capital, and put more of the population to work as females increasingly entered paid labor and falling birth rates concentrated more of the population in working ages. Hard work and sacrifice, then, rather than technological advance and economic progress, were alleged to have been the basis for growth.

The finding that East Asia's success derived mainly from "perspiration" rather than "inspiration" in the words of Paul Krugman (1994) did not sit well within the societies being studied. The findings suggested that growth had come at a very high cost in terms of foregone consumption and leisure, and that in the extreme case of Singapore investment had been pushed to a point of negative returns. With saving rates and labor force participation reaching the limits of feasibility, the implication was that the East Asian development model was close to exhaustion, and that absent improvements in productivity, growth was about to hit a wall.

Results of growth accounting studies are sensitive to tweaks in methodology, and other researchers have come to less extreme conclusions. A report by the International Monetary Fund (2006) offered mixed findings on TFP for a broad selection of Emerging East Asian economies. The period under review started from an economy-specific year of growth take-off and extended to 2005. The report showed TFP growth having contributed more importantly among the four tigers than Young estimated, and very importantly with respect to China's much higher growth, although negligibly to the more modest growth of the ASEAN-4 comprising Indonesia, Malaysia, the Philippines, and Thailand. Heavy reliance on investment in physical and human capital to achieve growth remains characteristic of the region. Once that is recognized, the wedge left for attribution to TFP increases takes on significance only with very high GDP growth.

The formal growth accounting framework is useful for benchmarking potential. Projections of labor and capital increases combined with expectations about productivity growth can suggest a feasible trajectory for an economy. A modeling exercise such as this presents a loose reference point for macro stabilization policy. But more immediate, tangible indicators of output gaps take on greater influence in the practical affairs of policymaking. We now turn attention to these indicators.

C. Output Gaps

Growth above potential is indicated by accelerating inflation, growth below potential by resource under-utilization. We elaborate on the manifestations of output gaps in this section with attention to the particulars of emerging market economies. We then approach the controversial subject of how to interpret fluctuations in growth. Much disagreement revolves around what causes fluctuations and whether or not an economy will tend to self-correct and return to its

potential path automatically. Differences in views on these theoretical issues lead to differences in positions on how to conduct stabilization policy.

Measuring output gaps

Overperformance relative to long-run potential results in a positive output gap, underperformance a negative output gap. A positive output gap is also known as an inflationary gap. As growth outstrips potential, bottlenecks develop in markets for labor and other resources. This puts upward pressure on wages and prices. Low levels of inflation, on the order of 2-4 percent, are generally conducive to healthy economic development. A little inflation allows for easy adjustment in relative prices to reflect changes in costs or other market conditions. Higher and accelerating inflation becomes problematic, however, especially as uncertainty mounts and this clouds decision-making. Lenders worry about lost purchasing power of funds being repaid them and call for higher interest rates, which borrowers may be reluctant to take on. Investment consequently tends to shift to riskier endeavors in an inflationary environment. Keeping inflation low and stable is therefore an important macro policy objective.

A negative output gap is known also as a deflationary or recessionary gap. In mature market economies, the unemployment rate is the most closely watched indicator of a negative output gap. In emerging market economies, however, reported unemployment rates are generally not very meaningful. Much of the labor force is absorbed in agriculture or informal urban activities such as street vending or day labor. For the stratum of society eking out an existence in such pursuits, work is often erratic and insecure. People nevertheless have to survive somehow, and unemployment strictly speaking is not much of an option. Official unemployment rates typically pertain to the formal segment of the labor force, members of which are entitled to benefits and officially register their unemployment status. In the emerging market context, the more telling way to gauge lagging economic performance relative to potential is by comparing the number of jobs created in the urban formal sector with some measure of potential based on demography and urbanization. If the economy is not creating enough jobs to absorb school leavers and a steady stream of those transitioning from agricultural and informal urban activities, this signals a negative output gap. The employment focus is thus on the rate of formal job creation rather than a not readily measured, or even conceptualized, unemployment rate. Job creation is in turn closely tied to GDP growth with a shortfall relative to trend the practical indicator of a negative output gap.

Explaining output gaps

Classical economics, rooted in the works of Adam Smith (1776), Jean-Baptiste Say (1821), and David Ricardo (1817), provides an explanation for how the decentralized decision-making of a market economy succeeds as well as it does to put people to work and provide for their needs. The upshot is that wages and prices adjust to match supplies with demands. Within this framework, such unemployment as may emerge is attributed to shocks that cause temporary dislocations. These shocks can trace to a host of forces from technological advances that bring about substitution of capital for labor to development of new products that crowd out old ones to geopolitical events or natural disasters. A shock is transmitted through the price mechanism to guide a process of resource reallocation that culminates in a return to full-employment equilibrium.

The Classical paradigm largely held sway until the Great Depression of the 1930s. But when unemployment in the US reached 25 percent in 1933 and remained at 19 percent five years later, the credibility of an autonomous mechanism to achieve full employment was seriously undermined.

John Maynard Keynes (1936) stepped into the ideological breach to offer a whole new way of thinking about economic malaise. “Animal spirits”, in Keynes’s view, were the driving force behind booms and busts. For risky investments to be undertaken and consumer spending to thrive, people must be optimistic about the future. When investors lack confidence that new projects will generate returns or workers are worried about losing their jobs, spending contracts all around. Negative expectations held on a broad scale are self-fulfilling. When inventories accumulate on shelves, business managers cut production. Interest rates can fall to a lower bound of near zero, and still entrepreneurs do not deign to borrow out of fear of taking on the risk of new investment. Resistance to wage cuts on the part of workers pushes employers to lay off help to pare expenses. The future seems bleak, so spending is inhibited; but with spending inhibited, the economy indeed fails to regain momentum. The system does not self-correct as Classical theory would have us believe. This opens the way for government to play a role, increasing its own spending or cutting taxes to increase the spending of households and businesses so as to stir the economy out of its doldrums.

The contemporary approach to modeling macroeconomic processes rests on an amalgam of Classical and Keynesian elements. Market equilibration from Classical theory provides the foundation while Keynesian theory injects lags into the adjustment process. In the Classical spirit, output gaps are attributed to exogenous shocks to productivity that disturb the equilibrium course of the economy. But in the Keynesian mode, markets do not respond expeditiously to these shocks to return the economy to a stable, full-employment path. Rather, imperfect competition inhibits output adjustment; wage bargaining and contracting impede labor reallocation; and intransigence in expectations weighs on investment and consumption behavior. From this hybrid model, the Keynesian policy conclusion comes through that government action is needed to get the economy moving forward in a timely fashion.

There is an alternative way of thinking about macroeconomic fluctuations, with a long history going back to Mills (1867) and Bagehot (1874), if not much contemporary following. Rather than attributing macroeconomic ups and downs to exogenous shocks disrupting movement along an equilibrium path, the approach posits an endogenous cyclical process. The process rests on the essential role of credit in a capitalist economy. In a financial upswing, credit expansion fuels asset price increases and risky bets then pay off to encourage more lending driving further asset price increases in a positive feedback loop. The process tends to overshoot, however, with asset prices becoming unsustainable such that ultimately a reversal takes place with loans going into default. A downturn then sets in, only to be propelled by the feedback loop going negative as tightening credit interacts with declining asset prices. The bust deepens and endures until, at last, the skies clear and a sense of opportunity germinates once again. Soon enough, another boom gets underway. The US financial crisis of 2008 brought renewed attention to the role of finance in macroeconomic fluctuations and with that a revival of endogenous cycle theory. In particular, Hyman Minsky (1986) gained prominence for his more recent articulation of the argument, with the crisis dubbed a ‘Minsky moment’.

Perhaps an amalgam of schools of thought is again in order, this one between a shock-based exogenous process and a credit-based endogenous process. Indeed, that is what Bagehot

proposed nearly 150 years ago. As an economy ascends the peak of an expansionary credit cycle, it becomes more vulnerable to shocks landing with disastrous consequences. An economy on a sounder financial footing would weather the same shock more smoothly. Incorporation of the workings of the financial system into a theory of output gaps suggests a role for government policy aimed at regulating and supervising financial institutions to keep risks in check.

Emerging East Asia particulars

The economies of Emerging East Asia differ in important respects from the economy that is the focus of most macroeconomic textbooks used in the region. The US, in all its uniqueness, is possessed of: a low trade ratio to GDP; the world's dominant reserve currency; and deep and diversified financial markets that move global interest rates but are little affected by interest rates elsewhere. In contrast, the economies of Emerging East Asia are: externally oriented to a high degree; home to currencies for which maintaining confidence is a concern; and dependent on financial systems that operate under constraints unknown to the US. These differences have critical implications for vulnerability to macroeconomic instability and the policy mechanisms suited to countering it.

Deep involvement in international trade and finance exposes the economies of Emerging East Asia to external shocks from shifts in global market conditions. Such shocks can drive volatility in domestic production and employment to powerful degree. International capital flows are especially prone to variability given their sensitivity to the fickle nature of confidence and risk tolerance. Once an emerging economy loses the faith of investors, its access to foreign credit can become strained and its currency quickly lose value. Currency depreciation in turn undermines the capacity to service foreign debt to the further alarm of creditors. This is how crises take hold.

To guard against such threats, central banks¹ in Emerging East Asia have accumulated large troves of foreign reserves as bulwarks against loss of confidence. Central banks build reserves by intervening in currency markets, buying foreign exchange with domestic currency newly printed for the purpose. Should the local currency come under threat, reserves can then be sold off in a reversal of the transaction to stabilize the exchange rate. More generally, maintaining a reasonably stable exchange rate against the vagaries of the market – provided the rate does not diverge persistently from a credible long-run level – can facilitate business planning and investment by reducing uncertainty.

Financial systems within the Emerging East Asia region differ greatly in depth and global integration. At one extreme Hong Kong and Singapore have become major international financial centers. At the opposite extreme China imposes controls on the flow of capital in and

¹ Central banks vary greatly in function and governance structures. We use the term broadly in this text to encompass authorities responsible for the implementation of monetary policy and foreign exchange market intervention. These functions may to some degree be shared with other government agencies or non-government entities.

out under a state-dominated financial system that limits the role of market forces in determining interest rates and the allocation of credit. Regionwide, the process of financial liberalization and development has been prone to fits and starts over a span of decades, with credit growth sometimes erratic. Weak regulatory frameworks and implicit government bailout guarantees complicate the opening of immature markets to the riptide forces of global capital.

In sum, Emerging East Asian economies are vulnerable to sources of instability that textbooks on the US economy need never consider. Exchange rate management can help to moderate volatility, but with critical implications for the conduct of macroeconomic stabilization policy. The state of development of the financial system factors into volatility and policymaking as well. The following section on policy elaborates.

D. Stabilization Policy

Two principle arms of policy exist for stabilizing economic growth: monetary policy and fiscal policy. Stabilization policy acts through its effect on aggregate demand, as given by total spending on final goods and services. For monetary policy, the channel involves central bank influence over credit creation by commercial banks. For fiscal policy, it involves government spending and taxation. We discuss each policy arm in turn in this section, highlighting features that distinguish the Emerging East Asia policy milieu.

Monetary policy

Classical economics regards the supply of money as affecting the price level only and not real economic activity. The evidence, however, is compelling that certainly in the short run, changes in money supply affect real output even if the effect is ultimately channeled into prices. Against this conceptual backdrop, some central banks are mandated to focus narrowly on achieving an inflation target with an eye to the medium term while others have leeway to balance competing goals on inflation and output growth under a nearer term perspective.

Monetary policy works through central banks manipulating reserves of commercial banks so as to influence their capacity to lend. In the US, the overnight interest rate on inter-bank lending serves as the principle instrument to guide reserve creation. Expansion of bank reserves lowers the interest rate and stimulates bank lending to speed up economic growth. Conversely, tightening of bank reserves raises the interest rate to restrain bank lending and slow down economic growth. This process works well for the US with its sophisticated financial system, advanced market economy, and indomitability to external trade and capital shocks.

Nowhere in Emerging East Asia does this combination of circumstances obtain. Circumstances in fact vary a great deal across the region, and accordingly, so do institutional arrangements for the conduct of monetary policy. Hong Kong and Singapore are distinguished by their globally integrated financial systems which preclude any influence by domestic authorities over interest rates. Instead, the exchange rate serves to anchor monetary policy, although under arrangements that differ between the two jurisdictions. In Hong Kong the exchange rate is fixed to the US dollar whereas in Singapore it is managed by the monetary authority relative to a basket of currencies. In the Hong Kong case, the authority has no discretion over the supply of money; Hong Kong dollars are automatically issued or withdrawn in response to market demand for them relative to supply at the exchange rate peg. By contrast, in Singapore the authority exercises discretion in setting a target path for the exchange rate. A

path of appreciation of the Singapore dollar reduces demand for it and lowers issuance thereby slowing growth in the economy and damping down inflation. Conversely, a path of depreciation increases demand and raises currency issuance to stimulate the economy. This general principle has broad applicability for the exchange rate as an instrument of monetary policy.

Elsewhere in the region, use of the interest rate as an instrument of monetary policy is limited not because of full global integration of financial markets but the opposite. Where financial systems are immature and not so market driven, controls on international capital flows can create an effective buffer between domestic activity and international forces. China is the foremost case in point. Under the country's system of state capitalism, a degree of government control extends to interest rates and the allocation of credit, which diminishes the functionality of the interest rate as an instrument of monetary policy. In these circumstances too, then, the exchange rate takes on greater import as an instrument of macro stabilization.

Broadly speaking, the exchange rate is an important instrument of monetary policy throughout Emerging East Asia under widely varying conditions of financial market openness and functionality. The International Monetary Fund classifies economies by the degree of official intervention in foreign exchange markets using three broad categories and a number of sub-categories. As of 2020, Hong Kong was classified as having a hard peg to the US dollar; Cambodia, China, Laos, Myanmar, Singapore, and Vietnam as having soft pegs, tied either to the US dollar or to a basket of currencies; and Indonesia, Korea, Malaysia, the Philippines, and Thailand as having "floating" exchange rates, but not "free floating", meaning their exchange rates are mostly market determined but with intervention at the discretion of authorities.

Throughout the region as well, the space in which authorities conduct monetary policy is circumscribed. A number of factors enter in, most importantly: the exchange rate regime; the degree of openness to international capital flows; and the development of the domestic financial system. Macroeconomic textbooks focused on the US take for granted: a freely floating exchange rate; financial markets that are globally integrated, and yet not subordinated to external forces; and a mature financial system. In this environment, the US conducts monetary policy with a focus on domestic interest rates and without regard for exchange rates. This model is not relevant for Emerging East Asia. In this text, our approach to macroeconomic policy takes exchange rate management as a pillar and accords due attention to the degree of openness to international capital flows and the limitations of domestic financial systems.

Fiscal policy

The Keynesian view that recovery from a downturn is by no means automatic or assured looks to the fiscal arm of macroeconomic stabilization policy for deliverance. For Keynesians, increases in government spending or decreases in taxation have the power to boost aggregate demand and get an economy out of a slump. The initial fiscal impetus works with a multiplier effect as new government spending generates additional income which in turn leads to more spending and more income in successive rounds. Though over the years, activist fiscal policy has had its detractors, the Great Financial Crisis of 2008 saw a rallying to Keynesian remedies worldwide. The pandemic induced crisis of 2020 is invoking a similar response as of this writing.

The big concern with fiscal policy is that it inclines toward budget deficits, due to stimulatory spending increases and tax cuts, that must be financed. Government borrowing saddles future generations with the burden of debt repayment with interest. If debt-fueled

spending leads to growth that expands the tax base sufficiently to cover the cost of debt service, the debt load will remain manageable. Putting unemployed resources to work productively during a recession may well achieve this. However, skepticism arises for a number of reasons: government spending works with lags in execution and impact; political factors influence spending choices, to the possible detriment of efficiency; and to the extent that resources are diverted from private sector activities, net gains are diminished.

Emerging market economies present a special sensitivity to rising public debt loads. Concerns about fiscal sustainability can lead creditors to demand higher interest rates. To pay back creditors, government must rely on tax revenues. To pay back foreign creditors in particular, government must further acquire foreign exchange generated through exports or new capital inflows and must do so in competition with potential private users of foreign exchange wishing to purchase imports, invest in foreign assets, or service their own foreign debts. Budget deficits are easy enough to incur, but not so easy politically to rein in again. Governments, especially in emerging markets, must therefore be cautious in exercising deficit spending as a means of stimulating growth.

A key indicator of fiscal policy space is the ratio of the stock of public debt to GDP. The safe zone for this ratio depends on such factors as the GDP growth rate and the interest cost of public sector borrowing. Governments with high debt-to-GDP ratios accumulated through past borrowing will hit up against limits for fiscal activism. The issue of fiscal sustainability is pertinent for many of the economies under our purview, and not touched on in US textbooks.

E. Overview of Macroeconomics for Emerging East Asia

We conclude this chapter with a few general words of overview followed with a chapter by chapter outline and then some guidance on navigating a path.

General overview

This text focuses on short-run growth fluctuations and stabilization policy in Emerging East Asia. Key features of the setting are: a high degree of openness to international trade and capital, and with that vulnerability to external shock; macroeconomic stabilization policies involving exchange rate management; and financial sectors that, whether sophisticated and globally integrated or ringed by capital controls and subject to administrative intervention, pose limits on the scope for an interest rate focused monetary policy.

The book is rich in empirical documentation of the Emerging East Asian experience. Only two chapters (3 and 9) of 16 are confined to pure theory. The remaining chapters illustrate concepts with comparative data for the 13 economies of the region, with most also featuring one economy in particular for in-depth analysis.

Most chapters are followed by a data note and a bibliographic note. The data note identifies the sources for the empirical content of the chapter and offers any comments or caveats. The bibliographic note discusses the origins of the ideas contained in the chapter.

Chapter outline

Chapter 2 takes the broad economic measure of Emerging East Asia. The economies of the region differ greatly with respect to size, level of development, engagement in international

trade and finance, and roles of state versus market. These factors are examined for their bearing on macroeconomic volatility and the policy environment.

Chapter 3 lays out the fundamentals of microeconomics. The focus is on the mechanics of demand and supply and development of the argument that competitive markets achieve efficiency in the allocation of resources. The tools of microeconomics find application in macroeconomics for analyzing markets that pertain to the economy as a whole. These include: the market for labor in which the wage rate is determined; the market for loanable funds in which the interest rate is determined; and the market for foreign exchange in which the exchange rate is determined. This is the first of two chapters that are purely theoretical.

The next two chapters deal with measuring and categorizing economic activity. Chapter 4 covers the national income and product accounts which yield the key aggregate indicator, GDP (gross domestic product). This aggregate is arrived at through three different approaches that involve summing activity along three different dimensions: the product approach based on sector of production, the broad divisions being agriculture, industry, and services; the expenditure approach defined over consumption, investment, government, and exports net of imports; and the income approach encompassing wages, interest, rents, and profits. The diversity of Emerging East Asia comes across vividly in comparisons of the region's economies along these lines. Historic data for Taiwan capture systematic changes associated with the economic development process.

Chapter 5 lays out the balance of payments accounts. These accounts capture cross-border trade and financial flows including the accumulation of official reserves by the monetary authority. Comparison across economies shows most Emerging East Asian economies having run substantial balance of payments surpluses through recent decades resulting in the amassing of vast official reserves. Because China's reserve accumulation has been so extraordinarily large and politically charged, with later reversals in this accumulation so sharp, we examine its balance of payments history in detail.

Chapter 6 deals with money. We begin by defining money as debt and explaining that it derives from the banking system issuing liabilities against itself. We then consider the age old debate in economics as to the effect of money supply increases on the price level versus real output. Data across our set of economies show a clear correlation between money and prices, that is nevertheless not without aberrations. Myanmar makes for an interesting case study because money supply growth there has been so erratic over time.

The importance of finance in macroeconomics came to the fore with the Great Financial Crisis of 2008, textbooks not having given it much attention before then. Chapter 7 considers the role of the financial system in creating debt beyond that narrowly defined as money with the potential to generate destabilizing impulses. The chapter also provides foundations in the functioning of financial markets to determine interest rates and asset values. Hong Kong, as one of the world's leading financial centers, gets a close look.

Exchange rates are the subject of Chapter 8. We begin by studying how market forces act to determine exchange rates and achieve balance in international payments. We then proceed to consider the implications of government intervention in foreign exchange markets and come to understand how external balance can be achieved even under a pegged exchange rate. Our focus economy, Indonesia, has transitioned from a fixed exchange rate to a floating rate, and we examine how the country has contended with external shocks under these alternative regimes.

Chapter 9 is the second of two purely theoretical chapters. In it we review macroeconomic models of equilibrium and disequilibrium. The model of aggregate demand and supply is a model of equilibrium in the Classical spirit in which prices adjust to clear markets and the economy rebounds spontaneously from shocks to recover its potential growth path. In contrast, the income-expenditure model, based on the work of Keynes, depicts an economy that is prone to sustained sub-optimal performance. In this model, wages and prices fail to adjust to achieve full employment in any timely fashion, and aggregate demand thus falls short of inducing production at potential. Finally, the IS-LM (interest/saving-liquidity/money) model elaborates on the Keynesian framework to highlight the role of the interest rate in policy, and the Mundell-Fleming extension of the model brings in a foreign sector with a role for the exchange rate. This model is later put through its paces in Chapter 12 on fiscal policy.

The models of Chapter 9 are comparative static in nature. They capture an initial situation, introduce an exogenous shock, and reveal an outcome with no sense of time passage. By contrast, the models of business cycles presented in Chapter 10 are dynamic. They describe a process of movement with an explicit time dimension. The dominant paradigm for business cycle modeling extends comparative static analysis in a straightforward manner, taking an equilibrium path as the norm and ascribing deviations from it to exogenous shocks. Classical versus Keynesian variations on this theme are distinguished by the speed with which equilibrium is restored post-shock. An alternative approach posits endogenous laws of motion that push an economy to overshoot its potential to the point that finally a correction must occur, and when it does a downward spiral of job loss and business failure leads again to overshooting such that the economy becomes mired below its potential until, eventually, a recovery takes hold and the cycle begins anew. We develop both the standard exogenous shock based paradigm and the alternative endogenous cycle paradigm, then bring the two together in a synthesis. The synthesis involves a cyclical process that affects an economy's vulnerability to shocks such that the shocks play out differently depending on the state of this vulnerability. We apply these theories to interpreting the Philippine experience.

The next three chapters cover macroeconomic stabilization policy. Stabilization policy involves monetary and fiscal action to exert expansionary or contractionary pressure on aggregate demand. Chapter 11 deals with monetary policy, treating the exchange rate and the interest rate as intertwined policy instruments. The options for monetary policy framework are governed by the Trilemma which asserts the impossibility of adopting all three of: a fixed exchange rate; free mobility of international capital; and an independent monetary policy. The trade-offs are managed differently by the economies of Emerging East Asia. At one extreme, Hong Kong, as a global financial hub, fixes its currency to the US dollar and forfeits any discretion over monetary policy. China takes a different tack by imposing controls on capital flows which increases the space for discretionary monetary policy despite a stabilized exchange rate. Most economies in the region have fairly open financial markets and finesse the trade-off between exchange rate stabilization and monetary policy discretion. Singapore's finely honed relationship between exchange rate management and monetary policy under an open financial market provides the case study for this chapter.

Chapter 12 takes up fiscal policy, which involves the use of government spending and taxation to steer aggregate demand. To some extent, automatic stabilizers are built into the tax system and government welfare programs in that booms are restrained by rising tax revenues and falling welfare spending and conversely busts are ameliorated by falling tax revenues and rising

welfare spending. More activist policy, when aimed at promoting stimulus, must be attentive to the sustainability of public debt. We examine debt-to-GDP ratios for the economies of Emerging East Asia and assess the space for fiscal policy reach. Vietnam in the 2010s was on a path of sharply rising debt which it managed to temper, and we examine how that was achieved and the prospects for sustainability.

Monetary and fiscal policy work in complementary fashion to address internal and external imbalances. We analyze the process in Chapter 13 using the Swan diagram. The Swan diagram defines four “zones of economic discomfort” based on the four possible combinations of internal overheating versus underperformance relative to GDP growth potential and external overshooting versus undershooting of a target within the balance of payments. Based on an economy’s position within the Swan diagram, prescriptions for expansionary versus contractionary monetary and fiscal policy can be derived. In the Malaysian case for the late 2010s, the recommendation was for a contractionary monetary policy and an expansionary fiscal policy. We note, however, that Malaysia’s space for such action was constrained, and so we pull back to consider other strategies from a broader perspective.

The essentials of a macroeconomics for Emerging East Asia are covered in Chapters 4-13. Two further chapters explore special topics. Chapter 14 takes up macroprudential policy which involves regulation and supervision of financial institutions to safeguard stability in the financial system as a whole. Systemic risk tends to build in boom times and subside in busts. Such fluctuations are amplified in the Emerging East Asia setting by global capital flows. Macroprudential policy aims at moderating the fluctuations. We analyze the Korean experience for lessons.

Chapter 15 is devoted to crises. Generally, crises originate in financial overshoot when mounting debt becomes unsustainable. Despite centuries of catastrophic experience with this phenomenon, policymakers have not figured out how to consistently avoid it. This chapter inquires into why that is. It then looks at monetary and fiscal policy responses put to their ultimate test. Emerging East Asia suffered a regional financial crisis in 1997. As the epicenter of this crisis, Thailand offers a window into the incubation and eruption of a financial crisis and lessons learned about policy response. From 2020, a crisis of a different sort has been unfolding in the form of a shock to the real economy from a pandemic. We consider the policy response with attention to the limits on policy space as an application of the analytical tools developed in this text.

Chapter 16 is the epilog. This chapter sums up the basics of macroeconomics for Emerging East Asia, then takes on the politically charged topic of currency manipulation. Technically, this term is applied when an economy depresses the value of its currency with the intent of gaining an unfair advantage in exporting. The principles laid out in this text provide a foundation for arguing that the intent of foreign exchange market intervention in Emerging East Asia is instead to achieve macroeconomic stabilization, which is perfectly allowable under the rules of the International Monetary Fund.

Navigating this text

This text is meant to accommodate students of widely differing backgrounds in US-centric macroeconomic instruction. Those entering the discipline of economics for the first time through this doorway will do well to keep their focus on a narrow Emerging East Asia track and

treat as peripheral the doctrinal material. Those already versed in standard doctrine will appreciate the originality of the approach to Emerging East Asia.

The two tracks differ most sharply at Chapter 9, which presents a compact summary of the core models of conventional macroeconomics. These models help us understand why an economy diverges from its potential. The uninitiated may skate lightly over this material to gain a superficial sense of the models for reference. The workhorse of US-centric macro modeling is the IS-LM model which focuses on the interest rate as the key policy variable. The Mundell-Fleming extension of the model brings in the exchange rate. While these models have their place, it is the premise of this text that they do not do the best job of affording insight into Emerging East Asia. Rather, the main track of the text builds foundations in external balance and exchange rates to arrive at the Swan diagram of Chapter 13. For those who must prioritize carefully in their study of Emerging East Asia, this model should take pre-eminence over the models of Chapter 9.

Chapter 10 on business cycles extends the static analysis of Chapter 9 on why an economy diverges from its potential into a dynamic framework to describe movement relative to potential over time. The conventional approach to the subject treats exogenous productivity shocks to the static models of Chapter 9 as the driving force. An alternative approach drawn from the historical literature avoids the models of Chapter 9 altogether to tell a story of endogenous movement wherein the interaction between credit and asset prices acts as the driving force. This alternative gained interest in the West with the Great Financial Crisis of 2008. For Emerging East Asia, the emphasis on finance takes on greater relevance given the importance of cross-border capital flows in economic fluctuations. This is further justification for skipping lightly over Chapter 9.

For the novice in economics with a predominant interest in Emerging East Asia, the foregoing discussion points to a streamlined path through the text that culminates in the monetary and fiscal policy chapters. All readers will need the solid foundations in the mechanics of supply and demand expounded in Chapter 3. Chapter 4 on national income accounting is also foundational and should be readily accessible even to the novice. Then, Chapter 5 on the balance of payments along with Chapter 8 on exchange rates provide the tools for thinking about the issue of external balance that is key to of the distinctive approach of this text. Chapter 6 on money is a precursor to Chapter 8 with the material tailored to the Emerging East Asia context. From there, Chapters 9 and 10 can be approached with discretion subject to reader preparation and time availability. Chapter 11 on monetary policy draws on the required grounding in balance of payments and exchange rates. Chapter 12 on fiscal policy contains an optional application of the IS-LM/Mundell-Fleming model. Students who have skated over this model superficially in Chapter 9 can similarly skate over this application of it with attention on the verbal reasoning. The remainder of Chapter 12 should be broadly accessible, including the treatment of public debt sustainability. Chapter 13 wraps up with the Swan diagram which brings together monetary and fiscal policy to address internal and external imbalance simultaneously.

A secondary narrative thread incorporates finance into the analysis. Foundations are laid in Chapter 7. Chapter 10 on business cycles contains a finance based treatment as an alternative to the standard productivity shock approach. Chapter 14 on macroprudential policy examines regulation and supervision of financial institutions as a means of keeping the economy on an even keel. And Chapter 15 presents a finance based treatment of crises along with discussion of the pandemic as a crisis resulting from shock to the real economy. The financial sector plays an especially important role in macroeconomic processes in Emerging East Asia due to the

influence of international capital flows. Time permitting, study of this material can add appreciably to an understanding of the region's macroeconomic dynamics. No prior knowledge of finance is assumed, although previous study is helpful.

Chapter 16 provides a wrap up for every path taken.

Data Note

The matter of data reliability must be addressed at the outset. We rely on official government statistics throughout this text. Compiling accurate macroeconomic statistics is a difficult undertaking even in advanced economies, and more difficult by far in cash-based economies with large informal sectors. That said, local statistical authorities have access to a great deal more information than their detractors on the outside. These authorities are in a position to provide the best possible numbers, so we use them, albeit questioningly at times.

GDP growth rates in Charts 1.1 and 1.2 are from the World Bank World Development Indicators database for all but Taiwan for which data are from the Macro Database of the R.O.C. (Taiwan) Directorate-General of Budget, Accounting and Statistics.

US unemployment rates during the Great Depression are from the US Bureau of the Census (1975).

Classification of economies by their exchange rate arrangements and monetary policy frameworks is done by the International Monetary Fund and published in its *Annual Report on Exchange Arrangements and Exchange Restrictions*.

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