

Prospects for the Chinese Economy: Potential and Risk Factors

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Hong Kong, 2 February, 2008

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A Preview

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The Chinese Economy Today

- ◆ Mainland China is currently the fastest growing economy in East Asia and the World—averaging approximately 10% per annum since the beginning of economic reform in 1978.
- ◆ Between 1978 and 2007, Chinese real GDP grew from US\$227 billion to US\$3.38 trillion (2007 prices) (4th largest economy in the world) and real GDP per capita grew from US\$236 to US\$2,541. By contrast, the U.S. GDP (approximately US\$13.84 trillion) and GDP per capita (approximately US\$45,671) are respectively 4 and 18 times the comparable Chinese figures in 2007.
- ◆ Despite its rapid growth, China is still a developing economy in terms of its real GDP per capita. An economy is generally considered to be developed if its GDP per capita exceeds US\$10,000. It will probably take another 20-25 years before China joins the ranks of developed economies, and a further 20-25 years before China reaches the same level of per capita GDP as the United States (some time around the middle of the 21st Century).

The Chinese Economy Today

| | 1978 | 2007 |
|---------------------|-----------|---------------|
| | US\$ | (2007 prices) |
| Real GDP | 227 bill. | 3.38 trill. |
| Real GDP per capita | 236 | 2,541 |

The Chinese Economy Today

| | U.S. | China |
|---------------------|-----------------------|-------------|
| | US\$ (current prices) | |
| 2007 GDP | 13.84 trill. | 3.38 trill. |
| 2007 GDP per capita | 45,671 | 2,541 |

The Chinese Economy Today

- ◆ China is one of the very few socialist countries that have made a smooth transition from a centrally planned to a market economy. It is a model for other transition economies (e.g., Vietnam) and potential transition economies (e.g., North Korea).
- ◆ The rate of interest (the price of money) and the exchange rate are the only prices that are still administratively managed on the margin, in addition to the prices of different forms of energy, which are also regulated (although recently price controls have been introduced for many commodities in scarce supply).
- ◆ The private (non-state) sector accounts for more than 75% of GDP and an even greater percentage of employment compared to essentially 0% in 1978. Increasingly, even public utilities, such as electric power and water, are managed by private enterprises.

The Chinese Economy Today

- ◆ The distribution of Chinese GDP by originating sector has become approximately: Primary, 11.7%; Secondary, 49.2%; and Tertiary, 39.1%. But the bulk of the labor force, more than 40%, is still in the primary sector, ensuring that there is no upward pressure on the real wage rate for unskilled entry-level labor for decades to come.

The Chinese Economy Today

- ◆ The Eleventh Five-Year (2006-2010) Plan for Economic and Social Development of China is an indicative rather than a mandatory plan. It is more a set of guidelines.
- ◆ Under the Eleventh Plan, the policy of an open-door to international trade and direct investment is not only affirmed but also further enhanced. Other important objectives are an increase of personal consumption, especially in the rural areas, and maintenance of social harmony and long-term sustainability.

The Eleventh Five-Year Plan for Economic and Social Development

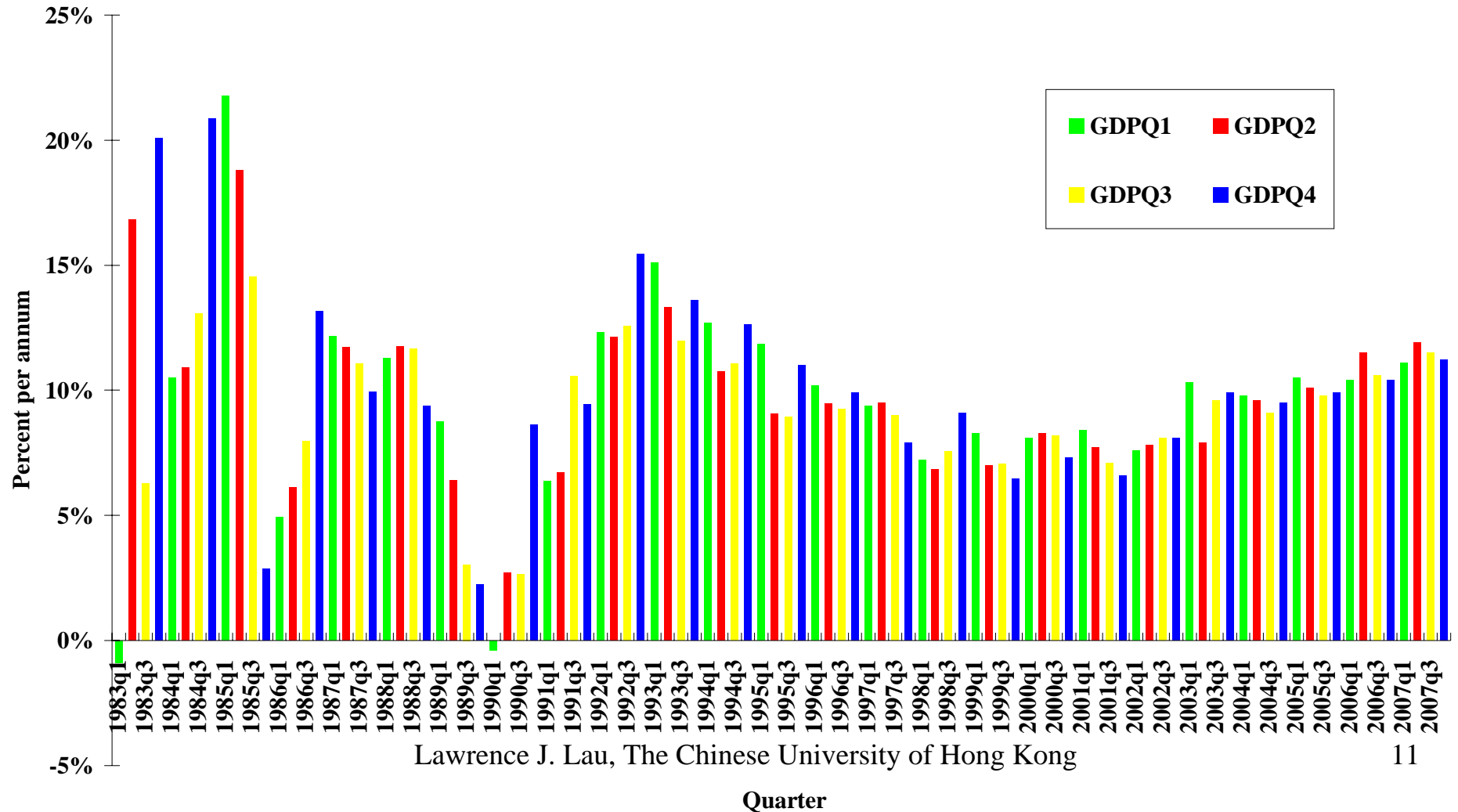
- ◆ The Plan also calls for the doubling of per capita real GDP between 2000 and 2010—implying a rate of growth of 7-8% for the rest of the decade (and doubling again between 2010 and 2020). The doubling of real GDP per capita between 2000 and 2010 has already been achieved.
- ◆ Rapid economic growth is not the only objective:
 - ◆ Encouraging thrift, conservation and efficiency
 - ◆ Promoting social harmony
 - ◆ Ensuring long-term sustainability

Near-Term Macroeconomic Situation

- ◆ The Chinese economy grew 10.1% in 2004, 10.4% in 2005 and 11.1% in 2006. In 2007, it grew 11.1% YoY in the first quarter, 11.9% YoY in the second quarter, 11.5% YoY in the third quarter and 11.2% YoY in the fourth quarter. The real rate of growth for 2007 as a whole is 11.4%.
- ◆ There is a noticeable slowdown in the rates of growth of real GDP since 2007Q2. Since these figures are measured year-over-year, they are lagging indicators, so that the actual slowdown is probably more pronounced. This is entirely consistent with other indicators which show that the economy has been slowing—including the appearance of excess capacity in many sectors; rising increases in stocks (inventories); the slowdown in the rate of growth of exports and imports (and in export orders); and the decline in the price of real estate in major cities. The national income statistics do not seem to reflect the slowdown in the real sector adequately.

Quarterly Rates of Growth of the Real GDP of Mainland China (Year-over-Year)

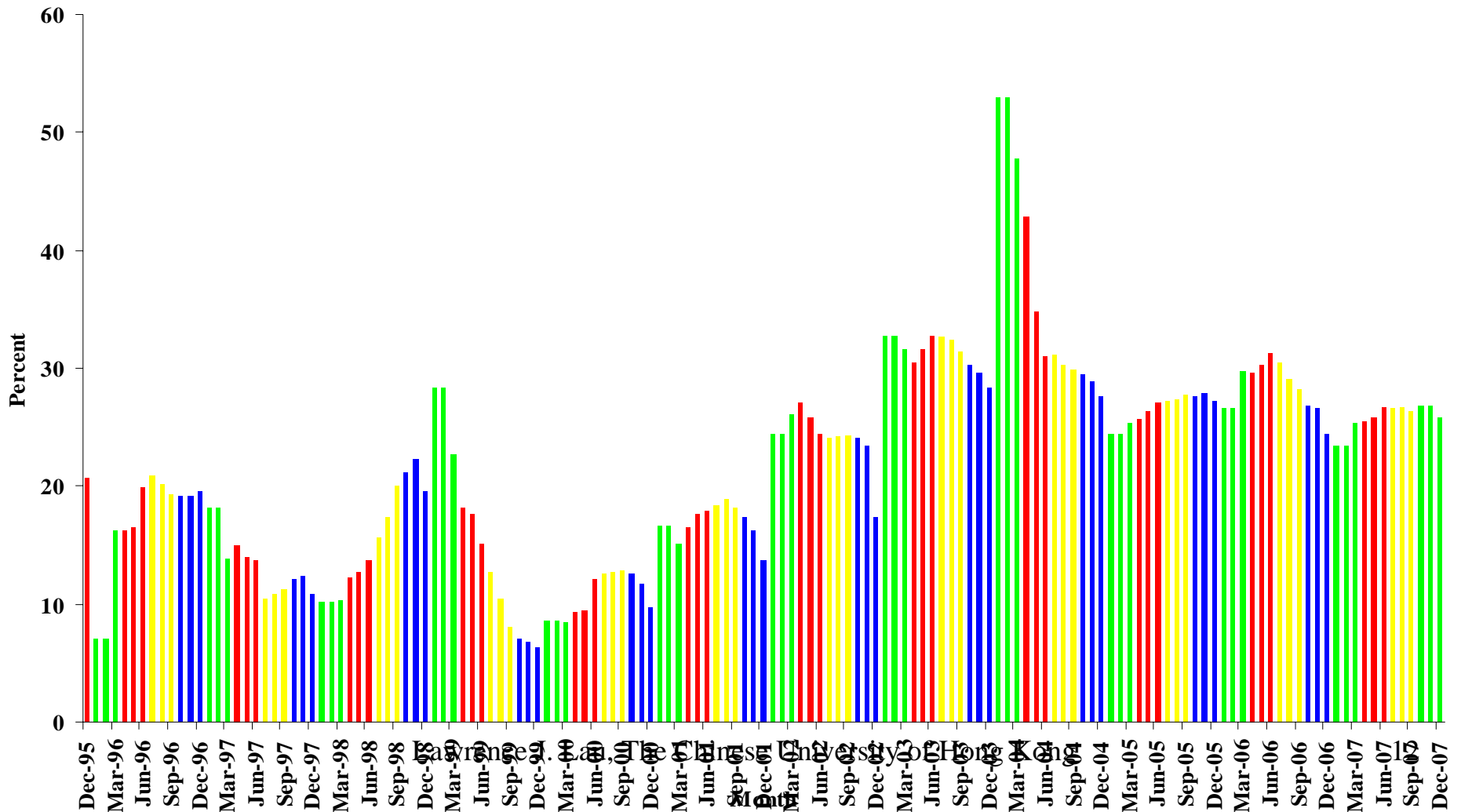
Quarterly Rates of Growth of Real GDP (YoY)



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Rates of Growth of Gross Fixed Investment, Year-over-Year

Rates of Growth of Fixed Investment (Year-over-Year)



Near-Term Macroeconomic Situation

- ◆ We attribute this inconsistency to the fact that the quarterly rate of growth Year-over-Year is a lagging indicator, the lack of provision for recognizing the decline in the value of inventories, the inability to separate the pure appreciation in the price of undeveloped raw land and the price of common stock held from the value added of enterprises engaged in real estate development and common stock speculation and the continued apparent rapid growth in the measured personal consumption of services due in part to the previous under-estimation of its level.
- ◆ The under-reporting (invoicing) of exports in the years prior to 2004 and the subsequent correct or over-reporting (invoicing) since then, caused by the changed expectations of the exchange rate of the Renminbi, the Chinese currency, may have also played a role biasing the measured rates of real economic growth upwards.

Near-Term Macroeconomic Situation

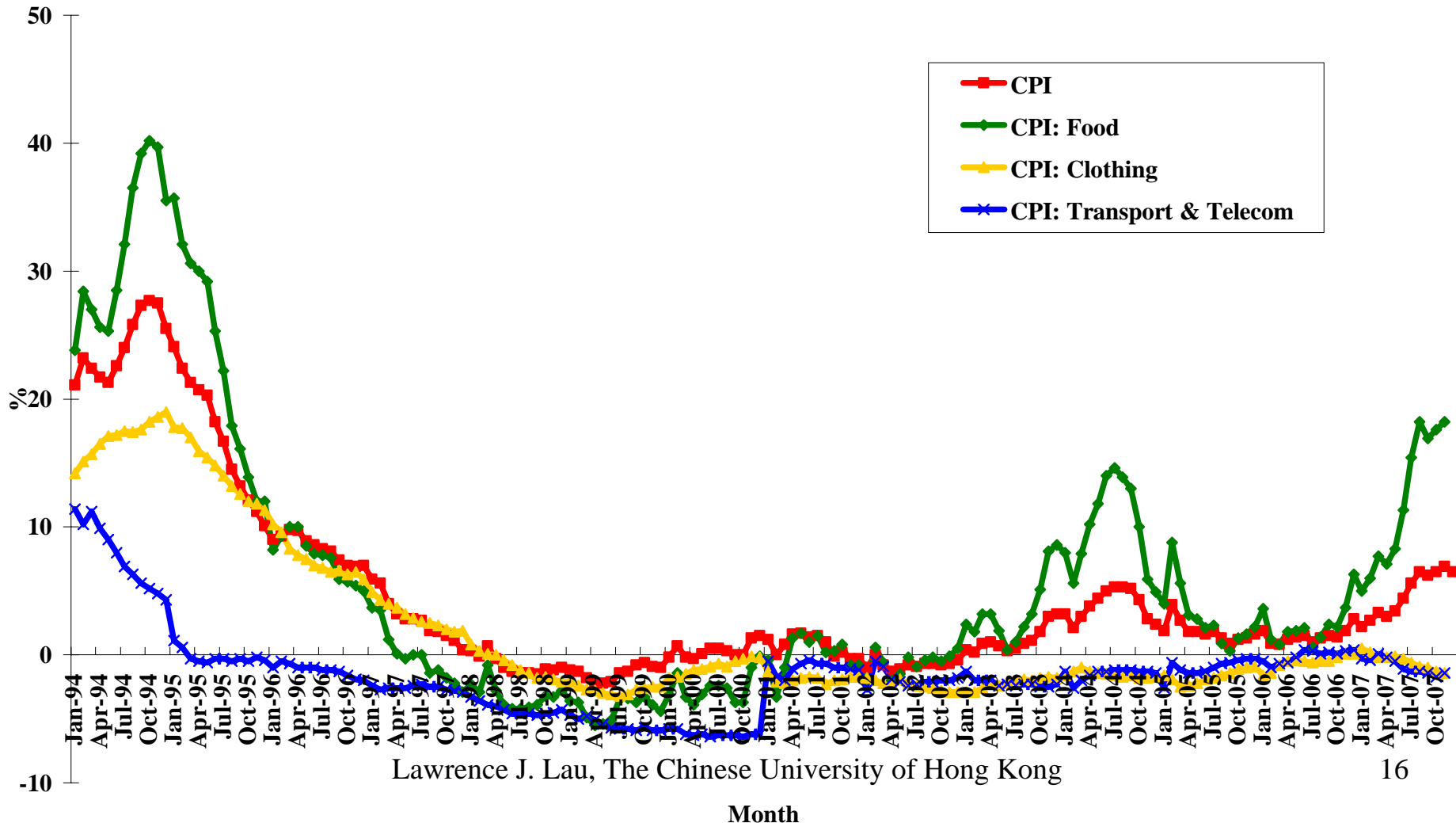
- ◆ One other factor that may also be relevant is that 2007 was the year in which provincial and local leaders were considered for possible promotions. A higher reported rate of growth of the provincial or local real GDP in 2006 and early 2007 could be helpful absolutely as well as relatively, possibly leading to competitive “over-estimation.”
- ◆ There are now some signs that the economy is beginning to slow, not because of the sub-prime loan crisis, but because of internal excess supply in many sectors and because of the tightened availability of credit. For example, the rate of growth of real value-added in the industrial sector has slowed to 17.4% YoY in 2007/12.

The Rate of Inflation

- ◆ The Consumer Price Index (CPI) reportedly grew 1.5% in 2006, following a 1.8% increase in 2005. However, the rate of growth has been accelerating since mid-2007: from 4.4% in 2007/06 to 5.6% in 2007/07, 6.5% in 2007/08, 6.2% in 2007/09, 6.5% in 2007/10, 6.9% in 2007/11 and 6.5% in 2007/12. For the whole year of 2007, the National Bureau of Statistics has recently projected a rate of inflation of 4.8%.
- ◆ Core inflation has remained low, a little more than 1%, thus far, that is, the rate of inflation net of changes in the prices of energy and agricultural goods, despite the relatively high rate of growth of the money supply (M2). The relatively low core inflation rate was the result of the excess capacity in many sectors such as steel and cement, driving down prices from their peaks, and that much of the growth in the money supply was absorbed by the growth of transactions in assets (financial and real) rather than goods and services.
- ◆ But there has been some acceleration in the rate of growth of agricultural prices and the prices of food.

Monthly Rates of Change of the CPI, Year-over-Year

Monthly Rates of Change of Consumer Price Index and Its Components Since 1994, Year-over-Year



The Rate of Inflation

- ◆ China has always been a surplus labor economy. The real wage rate will remain stable as long as the proportion of the labor force in the primary (agricultural and mining) sector (currently more than 40%), exceeds the proportion of GDP produced by the sector (currently less than 12%). There will be little upward pressure on the real wage rate of unskilled entry-level workers for at least a couple of decades to come.

The Rate of Inflation

- ◆ However, paradoxically, China is also a capital-surplus economy. The national saving rate is in the mid-40s, with a similarly high investment rate.
- ◆ There is a great deal of liquidity in the Chinese commercial banking system. Credit is easily available to state-owned enterprises as well as enterprises controlled or sponsored by provincial and local governments. Many such enterprises, or at least their executives, behave as if the loans do not need to be repaid if the investment projects fail. As a result of this moral hazard, there is chronic excess demand for credit, and hence excess investment.

The Rate of Inflation

- ◆ Small increases in the rate of interest are useful only as a signal of the central government's resolve to exercise macroeconomic control but are unlikely in and of themselves deter many of these enterprises from their investment projects.
- ◆ The other constraint to raising the rate of interest is that it may attract even more hot money from overseas.
- ◆ Increases in the reserve requirements of the commercial banks can be effective in reducing overall liquidity. The People's Bank of China (the central bank) has raised the reserve ratio repeatedly and the reserve ratio currently stands at 15% . Lawrence J. Lau, The Chinese University of Hong Kong

The Rate of Inflation

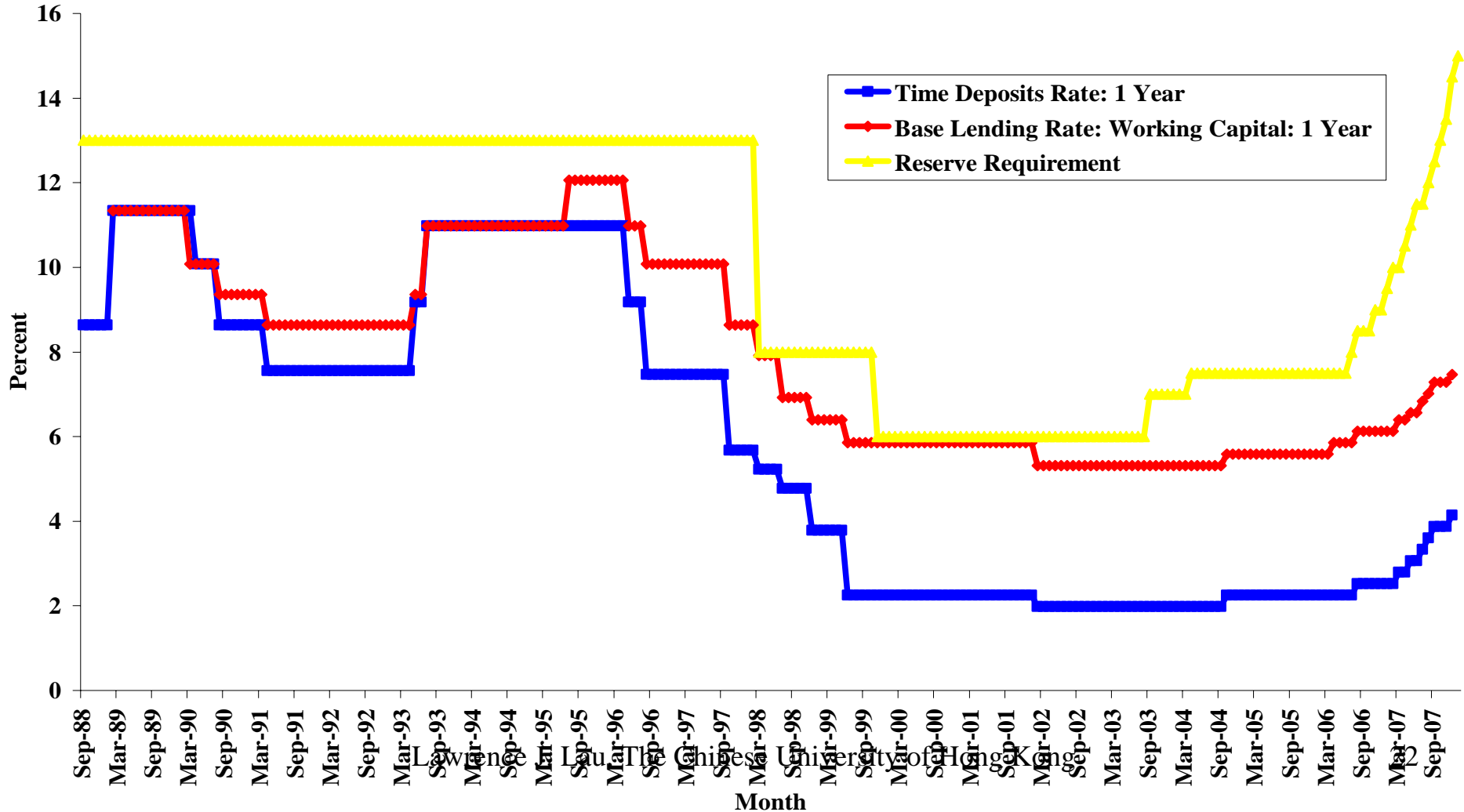
- ◆ The excess investment often results in excess capacity in many industries, especially capital-intensive ones. With excess capacity and a saturated domestic market, the enterprises in many sectors have begun to cut prices in order to compete, despite the rising costs of raw materials and energy. The margins of many enterprises are squeezed. The variable costs are barely covered. And any remaining excess supply is put on the world market as a last resort, even at a loss (in the sense that the total costs, including fixed costs, fail to be fully recovered). Thus, Chinese exports have helped to keep the world rate of inflation from rising.

The Rate of Inflation

- ◆ However, this situation cannot continue forever, especially with an appreciating Yuan and the reduction in value-add tax rebates on exports. Faced with mounting losses, selling and exporting at a loss will eventually come to an end. The price of Chinese exports in U.S.\$ terms has begun to rise. The rates of growth of exports and export orders have already been declining.
- ◆ The rate of growth of imports has declined even faster, indicating a slowdown in the investment boom.

Short-Term Deposit and Lending Rates & Bank Reserve Requirement

Short-Term Deposit and Lending Rates and Bank Reserve Requirement

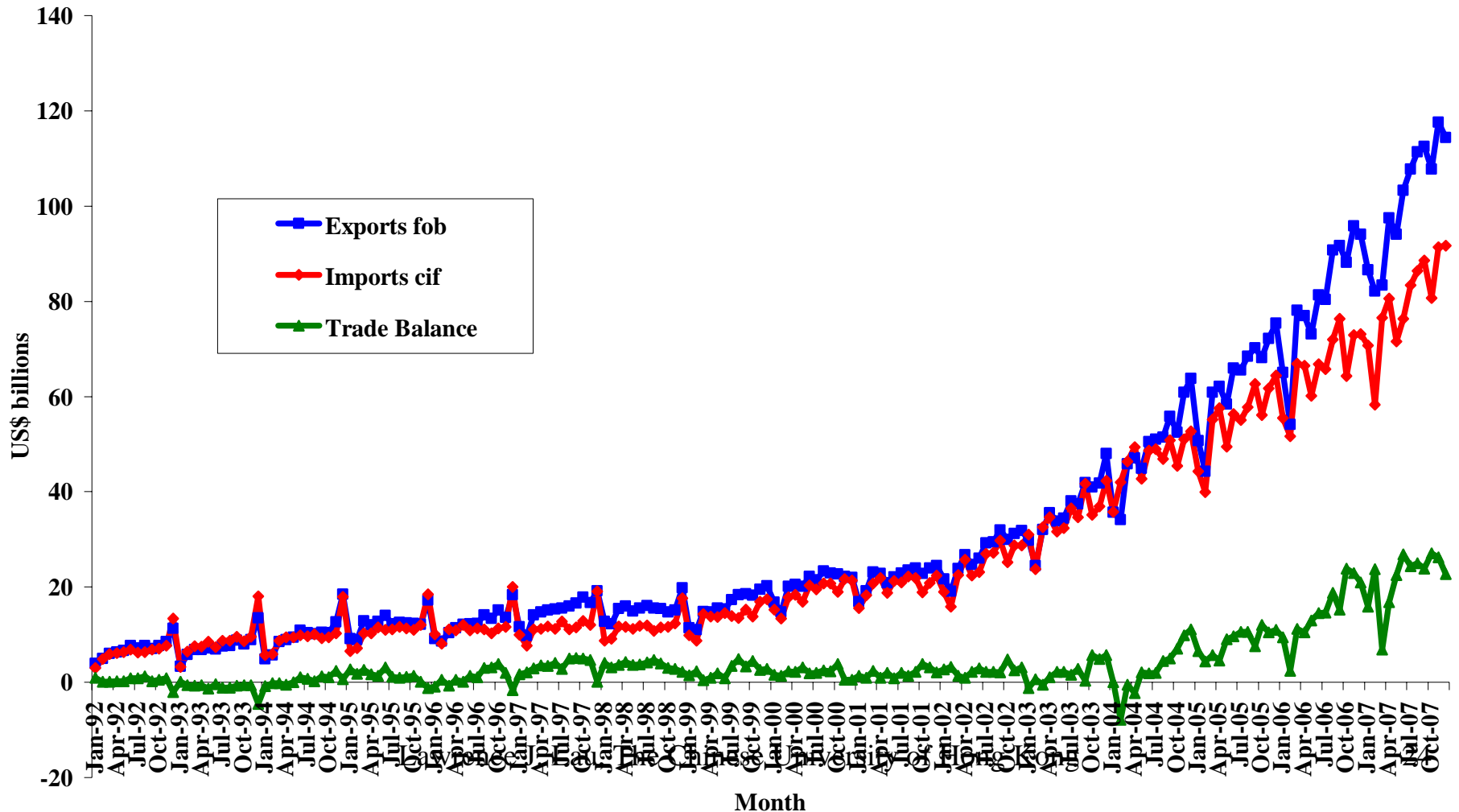


International Trade and Investment

- ◆ In 2006, exports of goods alone grew 27.2 % to US\$968.9 billion while imports grew 20.0 % to US\$791.5 billion; resulting in a trade surplus in goods of US\$177.5 billion, or 10.1% of total trade in goods and 6.6% of GDP.
- ◆ In 2007, exports grew 25.7% to US\$1,218.02 billion. Imports grew only 20.8% to US\$955.82 billion. The trade surplus was US\$262.20 billion, or 12.1% of total trade in goods and 7.8% of GDP.
- ◆ Taking goods and services together, China had a trade surplus of US\$168.64 billion in 2006, or 8.63% of total trade in goods and services and 5% of GDP.
- ◆ However, prior to 2005, the annual Chinese trade surplus was on average below US\$30 billion.

Exports, Imports and Trade Balance: Monthly Data

The Level of Exports, Imports and Trade Balance of Goods at the End of the Month



International Trade and Investment

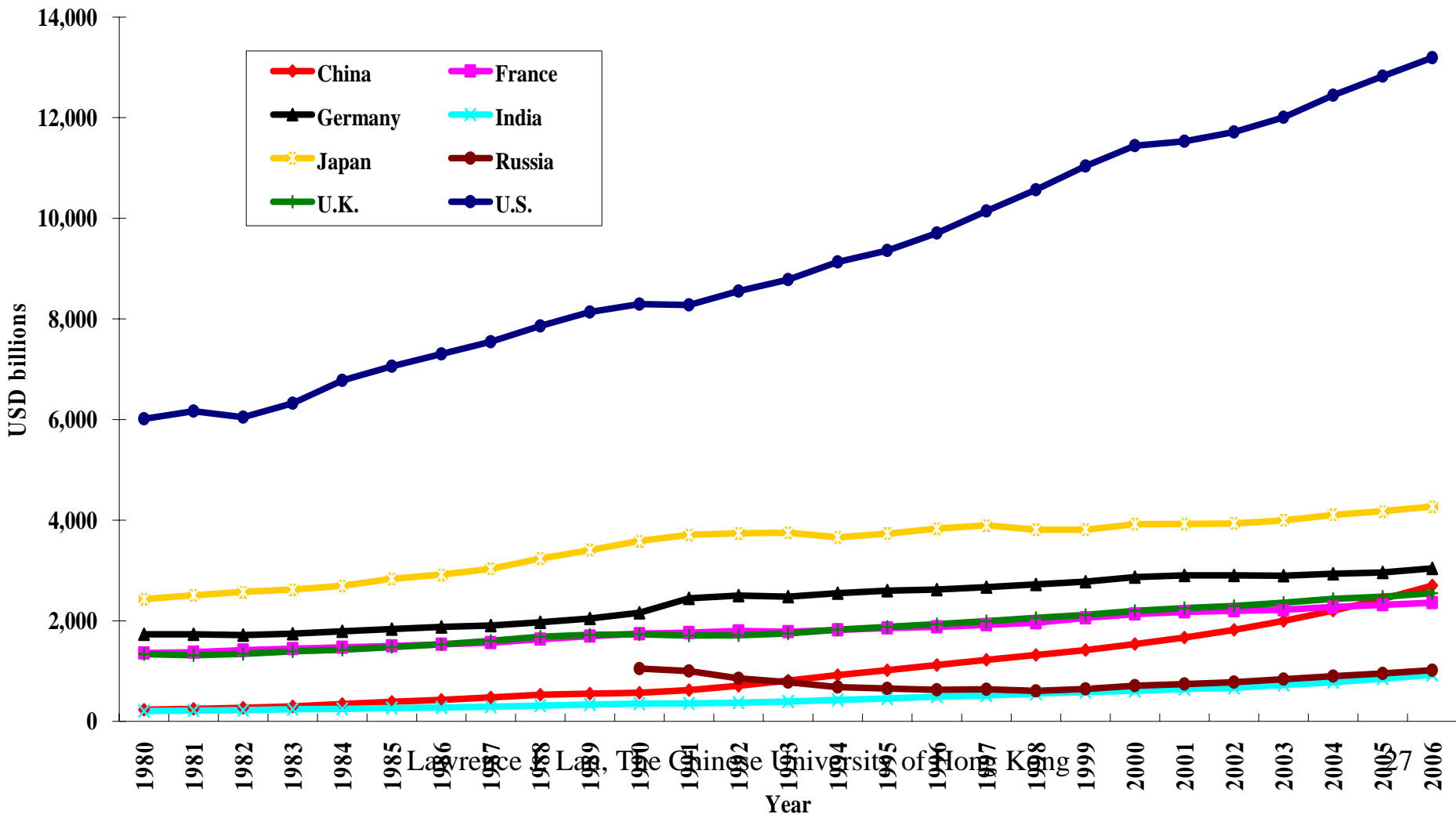
- ◆ The rapid increase in the **measured** Chinese trade surplus during the past few years may be attributed to
 - ◆ The expiration of the quota system of the Multi-Fibre Agreement which effectively restricted Chinese exports of textiles in years prior to 2005;
 - ◆ The appreciation of the Yuan by 13 percent relative to the U.S. Dollar since July 2005 implies that if in real terms the exports and imports remain unchanged, the exports will be worth more in US\$ terms and imports less in US\$ terms and hence the trade surplus will rise, until the real quantity of exports begins to fall and the real quantity of imports begin to rise because of the price effects. But the price effects themselves are expected to be small.
 - ◆ The decrease in the use of under-invoicing of exports and over-invoicing of imports because of the change in the expectation of the relative benefits of holding Yuan and US\$. The prevailing view is that the Yuan is likely to appreciate relative to the US\$. Enterprises in China (whether Chinese or foreign-owned) are therefore more willing to hold the Yuan rather than the US\$. The incentive for under-invoicing of exports and over-invoicing imports has declined. It is even possible that over-invoicing of exports and under-invoicing of imports are occurring.

International Trade and Investment

- ◆ Despite the existence of capital controls, there are many channels of leakages, for both inflows and outflows. For example, the statistical discrepancy in the International Monetary Fund statistics has changed directions in recent years. Over- and under-invoicing, for transfer pricing, tax avoidance, and other purposes, are prevalent, especially in international transactions between connected parties (e.g., in intra-firm trade, which accounts for almost 60 percent of Chinese exports).
- ◆ Over- or under-invoicing of exports and imports by 5% is normally undetectable. 5% of Chinese international trade in goods in 2007 amounts to almost US\$110 billion. This is comparable to the magnitude of the swing in the statistical discrepancy of Chinese balance of payments in the International Monetary Fund statistics.
- ◆ Due to the imminent equalization of the tax rates on domestic and foreign-invested enterprises in China, it is possible that the foreign-invested enterprises in China may once again prefer under-invoicing of exports and over-invoicing of imports.

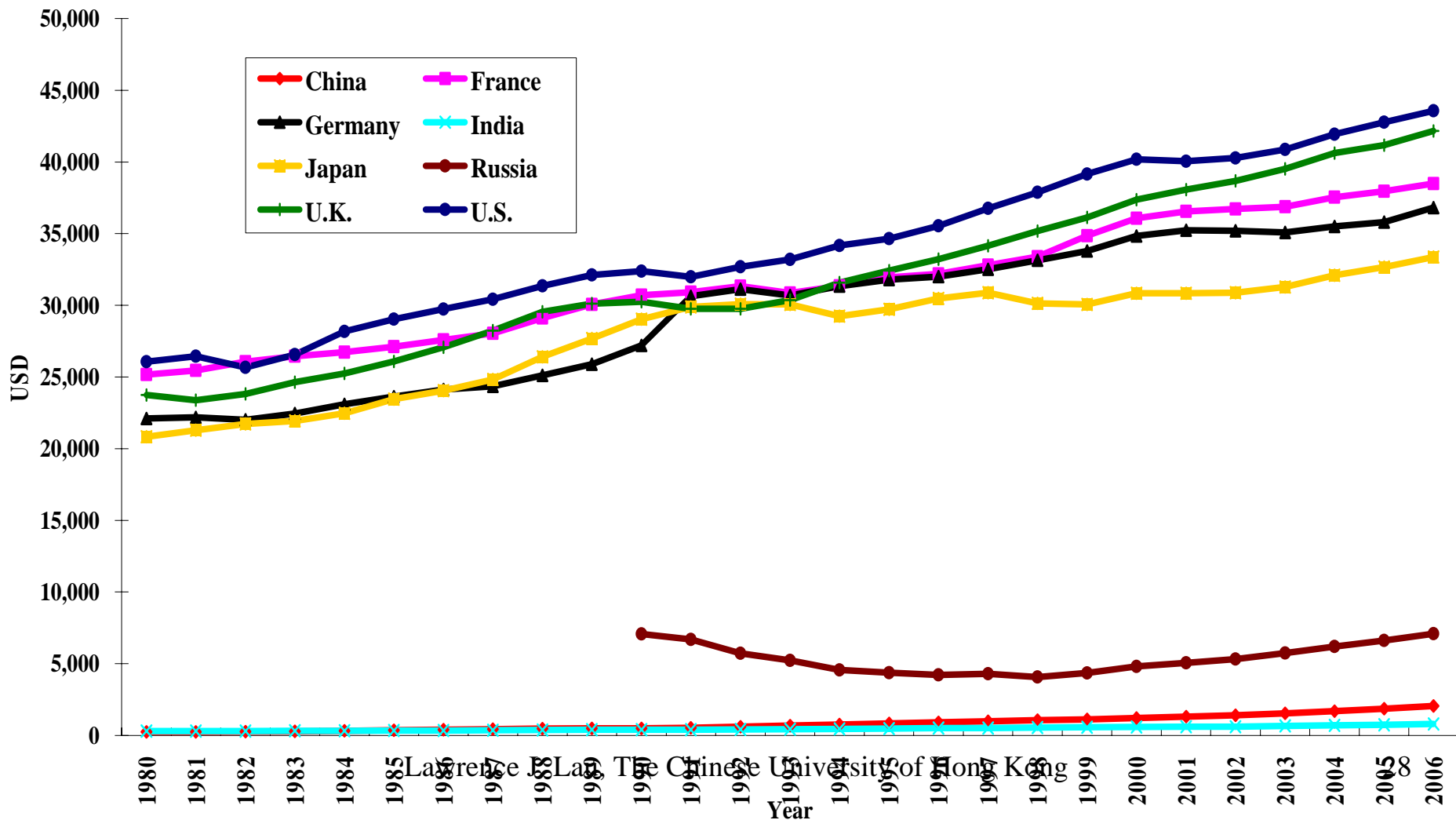
Real GDP of Selected Countries, 2006 Prices

Real GDP of Selected Countries, in 2006 prices



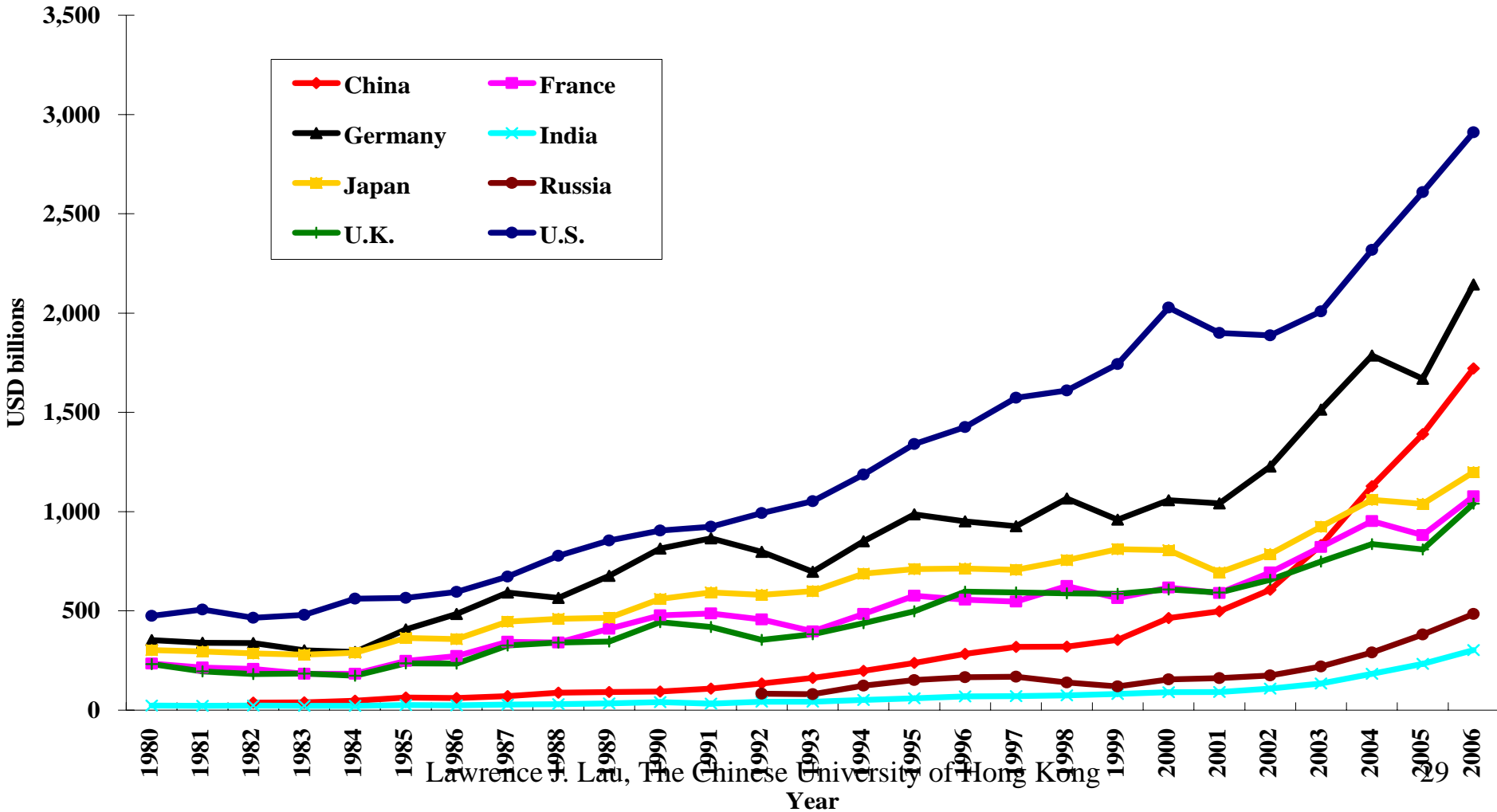
Real GDP per Capita of Selected Countries, 2006 prices

Real GDP per Capita of Selected Countries, in 2006 prices



Total International Trade, Selected Countries

Total International Trade of Selected Countries



One-Off Events

- ◆ The cold spell. The cold spell in early 2008 interrupted transportation and production and will have a negative effect on the rate of growth of GDP in the short-term but should be mildly stimulative in the one- to two-year time frame because of the need to repair the extensive damages to the communication, transportation and transmission networks.
- ◆ The Olympics. The stimulative effects of Beijing Olympics have been largely realized (most of the buildings and infrastructure have been completed). There will be an influx of tourists for a few weeks, offset partially by the fact that many factories in Beijing and its environs may be closed. The net effect should not be large.

Long-Term Development Strategy

- ◆ Investment in intangible capital—human capital, R&D capital, and other forms of intangible capital such as brand names.
- ◆ Ensuring economic sustainability—reorientation from export-led to domestic-demand led growth
- ◆ Ensuring physical sustainability—energy conservation, environmental protection, prevention of global warming
- ◆ Ensuring socio-political sustainability—maintenance of social harmony, providing social services, improving the distribution of income and controlling corruption

Long-Term Economic Growth

- ◆ High real rates of economic growth on the order of 10% per annum for a sustained period are not unprecedented. The Japanese economy grew just as fast between 1955 and 1975 and the South Korean economy also grew just as fast between 1965 and 1985.
- ◆ The Chinese economy has two principal advantages:
 - ◆ A high national savings rate of currently in the mid-40s. China is therefore self-sufficient in capital and not dependent on foreign direct investment or foreign loans to maintain its high rate of investment.
 - ◆ An almost unlimited supply of surplus labor—there will not be any upward pressure on the real wage rate of unskilled entry-level labor for decades to come.

Additional Advantages of the Chinese Economy: A Large Domestic Market

- ◆ A large domestic market permits the realization of economies of scale. It is also much more likely for supply to create its own demand and demand to create its own supply.
- ◆ A large domestic market also allows China a significant influence on the development and setting of technological standards for the domestic as well as the world markets.
- ◆ A large domestic market also enhances the returns to R&D and other forms of intangible capital. Economies of scale in the creation and utilization of intangible capital imply that the rate of return increases more than proportionally with the size of the market. The fixed development costs of innovative technologies or the promotion of a brand name can be more easily recovered from a large base of domestic demand.

China as the World's Factory

- ◆ China is often referred to as the “World’s Factory” because of the dominant position of its exports in the markets for light manufactured goods such as textiles, apparel, shoes, electrical and electronic appliances, and furniture around the world, on the basis of its low real wage rate (surplus labor).
- ◆ However, the average Chinese domestic value-added on these exports remains low, estimated to be 20.4% for all exports and 17.7% for exports to the U.S. The indirect domestic value-added is also very low—estimated to be 26.2% for all exports and 19.1% for exports to the U.S.

China as the World's Factory

- ◆ In part this is because more than 50% of total exports are “processing” exports, that is, production for exports only based on imported intermediate inputs, raw materials, and equipment.
- ◆ Thus a 10% revaluation of the Renminbi will result in only a 2% net increase in the direct costs of Chinese exports in US\$ terms, and hence a very limited impact on the volume of Chinese exports.
- ◆ Moreover, 58.8 % of total Chinese exports is conducted by foreign-invested enterprises. Thus, a high proportion of the “profits” from the Chinese export trade accrues to foreign rather than Chinese nationals.

China as the World's Market

- ◆ China is also rapidly becoming the “World’s Market” because of its increased demands for goods and services around the world:
 - ◆ It is the World’s major user and importer of oil, minerals, and other natural resources and primary raw materials.
 - ◆ It has also become the World’s fastest-growing market for consumer goods, such as automobiles, cell phones, and tourism services, and producer goods such as aircrafts, computers, mass-transit systems, nuclear power plants and specialty steel.
- ◆ It has been an engine of growth for the Asia-Pacific region (Northeast Asia, Southeast Asia, Australia and New Zealand) since 2000. China runs a trade deficit vis-à-vis almost all countries in East Asia. It has become the most important trading partner for Hong Kong, South Korea and Taiwan.

International Trade and Investment

- ◆ Chinese international trade has been growing at double-digit rates in recent years, more than twice the rate of growth of world trade as a whole and is expected to continue to do so in the future, albeit probably at lower rates.
- ◆ Total Chinese exports and imports of goods amounted to US\$2.17 trillion in 2007, an increase of 23.5% from US\$1.76 trillion in 2006. China is the third largest trading nation in the world, after United States and Germany.
- ◆ The rate of growth of exports is expected to continue to slow in 2008 with the combination of the effects of an appreciating Yuan, the unification of the rate of taxation for domestic and foreign-invested enterprises, and the reduction in value-added tax rebates, and of course also because of the economic slowdown in the United States.

The Growth of the Chinese Economy and the Pattern of World Trade

- ◆ Because of the rapid economic growth of China, and the demand and supply that such economic growth has generated, the economies of East Asia now trade more with one another than with economies outside of East Asia, including the United States. This is a sea change compared to twenty-five years ago. Interdependence of the East Asian economies has been rising over the years and dependence on the United States and Western Europe has declined.
- ◆ China has become the most important export market for most East Asian economies and runs trade deficits vis-à-vis almost every one.
- ◆ China has been a staunch supporter of the ASEAN Free Trade Area and has offered “early harvest” to ASEAN countries to foster the ASEAN-China Free Trade Area and the ASEAN + 3 (China, Japan and South Korea) Trade Area.

China as a Continental Economy

- ◆ China is a large continental economy. While individual provinces and regions can pursue an export-led strategy (including exports to not only foreign countries but also other provinces/municipalities/regions), the country as a whole cannot pursue a solely export-led strategy. International trade will never be as important as other, smaller countries and regions and China must rely on domestic demand for further economic growth.
- ◆ Chinese economic growth would be quite similar to the experience of the United States in the 19th century. The United States grew largely on the basis of domestic demand. There was some foreign investment, but by and large exports was not important. The shares of exports in GDP in the United States and Japan are quite low. The share of Chinese exports in GDP will eventually decline to similar levels.

China as a Continental Economy

- ◆ The "wild-geese-flying pattern" metaphor of East Asian industrial migration over time, first introduced by the Japanese economist Akamatsu, can apply to Chinese provinces and regions. East Asian industrialization started in Japan in the 1950s and successively migrated to Hong Kong, Taiwan, South Korea and Southeast Asia as the real wage rates in these economies rose and sometimes also as export quotas were imposed by developed economies, and then to Mainland China. But industrialization can continue to migrate and spread within Mainland China just as it did before, from the coastal region gradually to the inland region, province by province, region by region, until most of China becomes industrialized.

What Does It Take to Fully Exploit the Advantages of a Large Domestic Market?

- ◆ In order to realize the full benefits of a large domestic market and a continental economy, China must take steps to ensure that there are no internal barriers to trade and capital flows.
- ◆ Availability of infrastructure (transportation and communication, including the internet)
- ◆ Maintenance of a domestically open economy (the equivalent of the “interstate commerce” clause of the U.S. constitution)—no inter-provincial tariff or non-tariff barriers
- ◆ Maintenance of an internationally open economy--the role of the "open door" (WTO)
- ◆ Affirmation of tangible and intangible property rights and the rule of law in the economic sphere--a national commercial and tax court empowered to settle all commercial and tax disputes, including intellectual property rights, on a nationwide basis

Vulnerability to External Disturbances

- ◆ Despite fluctuations in exports and imports, the rate of growth of Chinese real GDP has remained remarkably stable at the high single digits and low double digits. This is due to the combination of two factors: the relatively low share of exports in GDP, and the relatively low domestic value-add content of Chinese exports.
- ◆ Chinese economic growth to date has also been investment-led, as opposed to consumption-led or export-led, with the bulk of the investment domestically financed with domestic savings. Foreign direct investment accounts for less than 10% of aggregate domestic gross fixed investment.

Vulnerability to External Disturbances

- ◆ Exports constitute approximately 35-40% of Chinese GDP (36% in 2007); however, the direct domestic value added content of Chinese exports is low. It averages 20.4% on exports to the world, and 17.7% on exports to the United States.
- ◆ Thus, the GDP originating from exports is only approximately 8% (40% times 20% = 8%).
- ◆ 8% of GDP is a very significant amount that will result in hardships if lost overnight; however, even if the 8% of the economy does not grow, the economy as a whole will do fine if the remaining 92% continues to grow.
- ◆ Even if we include both direct and indirect domestic value-added, which amount to 46.6% of exports, the GDP originating from exports would constitute less than 20%. Even if 20% of the economy does not grow, the rest of the economy can still grow healthily.

Vulnerability to External Disturbances

- ◆ China might, however, be vulnerable to interruption of foreign energy supplies. Thus China must pursue a policy of:
 - ◆ (1) Energy conservation;
 - ◆ (2) Imposition of a gasoline tax so that the retail price of gasoline approaches the levels comparable to those of Western Europe and Japan to encourage both conservation and efficiency;
 - ◆ (3) Intensified development of coal resources and clean coal technologies;
 - ◆ (4) Establishment of strategic petroleum reserves;
 - ◆ (5) Development of renewable energy.

The Potential for Continued Rapid Economic Growth

- ◆ Chinese economic reform has been most successful. Everyone is better off by a large margin compared to 1978. No one wishes to roll back the economic reform.
- ◆ In the aggregate, Chinese economic growth since 1978 has been mostly driven by the growth of tangible or physical inputs, principally tangible or physical capital such as structures and equipment and physical infrastructure, and not by technical progress or growth in total factor productivity. In particular, there was relatively little investment in intangible capital (e.g., R&D, human capital, advertising and good will).

The Potential for Continued Economic Growth

- ◆ The growth of tangible capital inputs accounts for the bulk (over 80 percent) of the measured economic growth in China. The tangible capital stock has been growing at approximately 15 percent per year.
- ◆ The absence of overall technical progress is however typical of economies in their initial stages of economic growth. It was true for the United States in the 19th Century, for Japan from the Meiji Restoration of 1868 to the World War II, and for the East Asian newly industrialized economies of Hong Kong, South Korea, Singapore and Taiwan until the mid to late 1980s.

Advantages of the Chinese Economy: Capital and Labor

- ◆ A high national savings rate of currently in the mid-40s. China is therefore self-sufficient in capital and not dependent on foreign direct investment or foreign loans to maintain its high rate of investment.
- ◆ An almost unlimited supply of surplus labor—there will not be any upward pressure on the real wage rate of unskilled entry-level labor for decades to come.

The Fundamental Importance of Domestic Savings

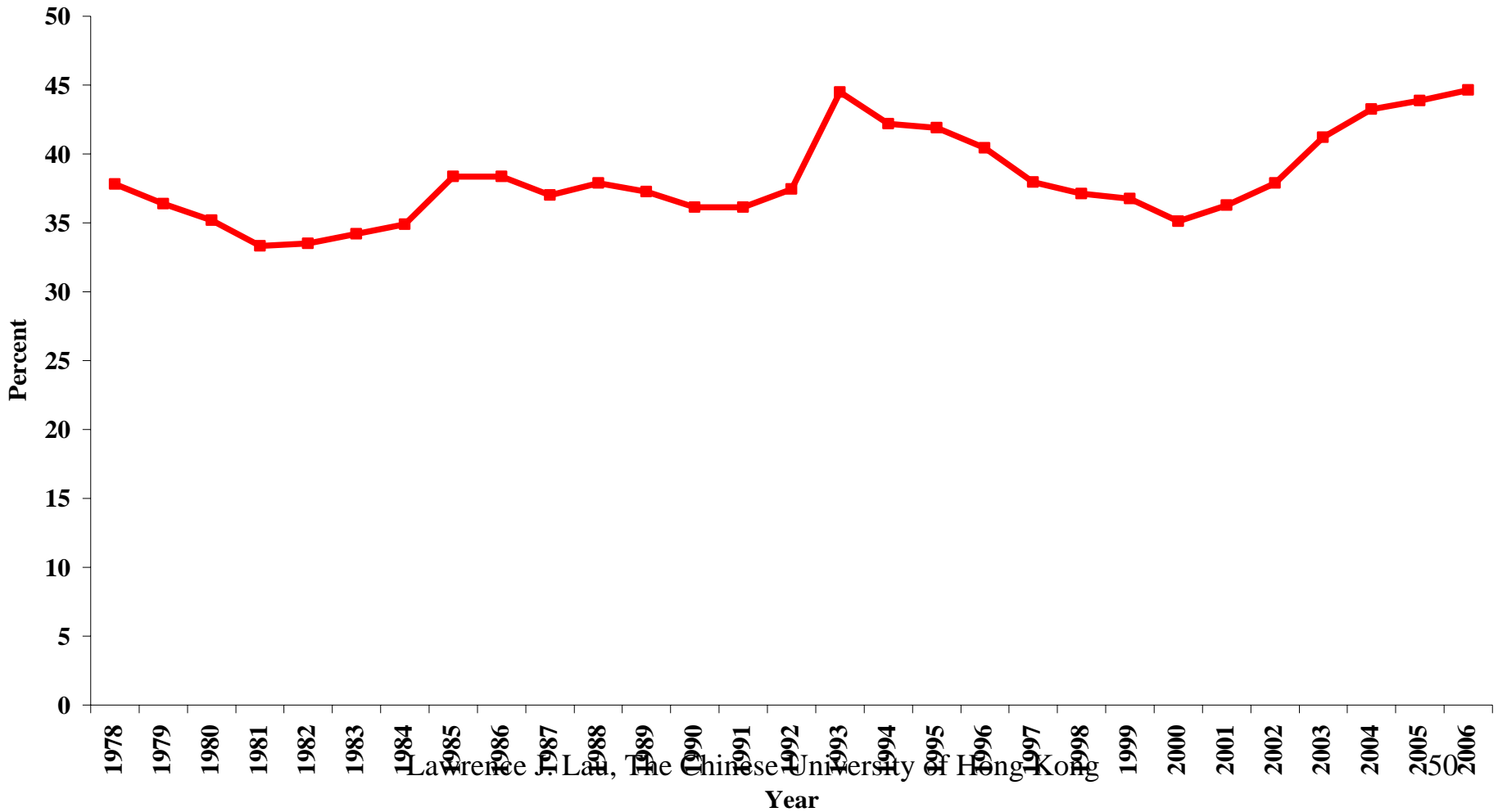
- ◆ The bulk of the gross domestic investment in China is financed by domestic savings. Except for a short early start-up period in the early 1950s, the Chinese domestic savings rate has always been high, on the order of 30 percent. In recent years, it has approached 40-50%.
- ◆ Foreign direct investment accounts for approximately 10 percent of gross domestic investment in China. While helpful, and important in terms of bringing technology, markets, new business models and methods, and know-how to China, foreign direct investment and foreign loans are neither necessary nor sufficient to sustain the rapid economic growth of China.
- ◆ This underscores the fundamental importance of domestic savings in Chinese economic growth--without the domestic savings financing the investment, the rapid growth of the tangible capital input would not have been possible; and without the rapid growth of the tangible capital input, the rapid growth of real output would not have been possible.

The Advantages of a High Domestic Savings Rate

- ◆ A country with a high savings rate does not need to rely on foreign savings—does not need to borrow abroad and bear the potential risks of a large, and often interruptible, foreign-currency denominated debt.
- ◆ With new resources being made available each year from new savings, enabling new investments to be made, the necessity of restructuring and redeploying existing investment is greatly diminished (thus making it more possible to avoid creating losers).
- ◆ Moreover, with a high domestic savings rate, the non-state sector (which is generally more efficient) can grow without significant large-scale privatization, which can themselves be socially disruptive.

China's Gross Domestic Investment as a Percent of GDP

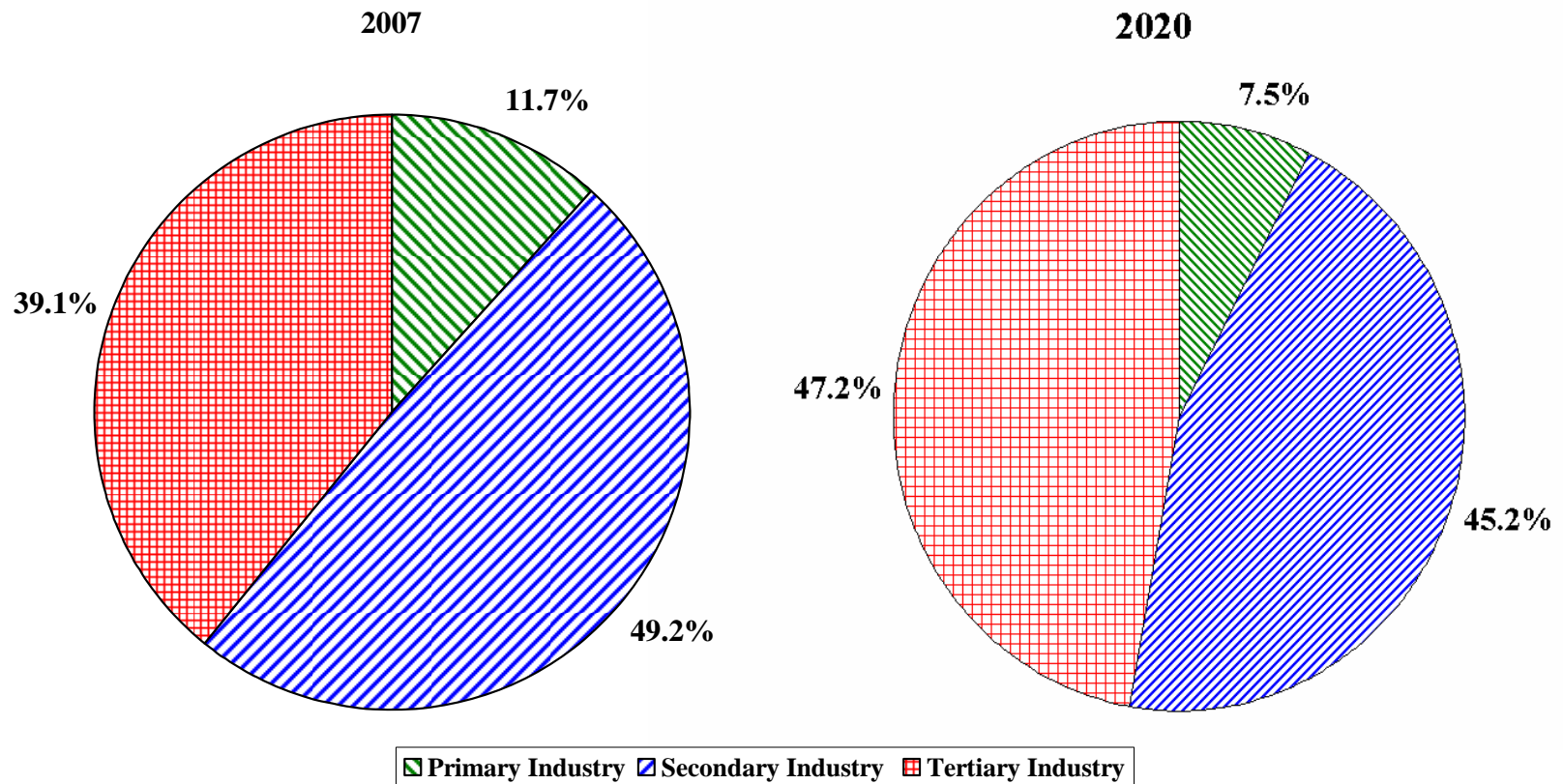
China's Gross Domestic Investment as a Percentage of GDP



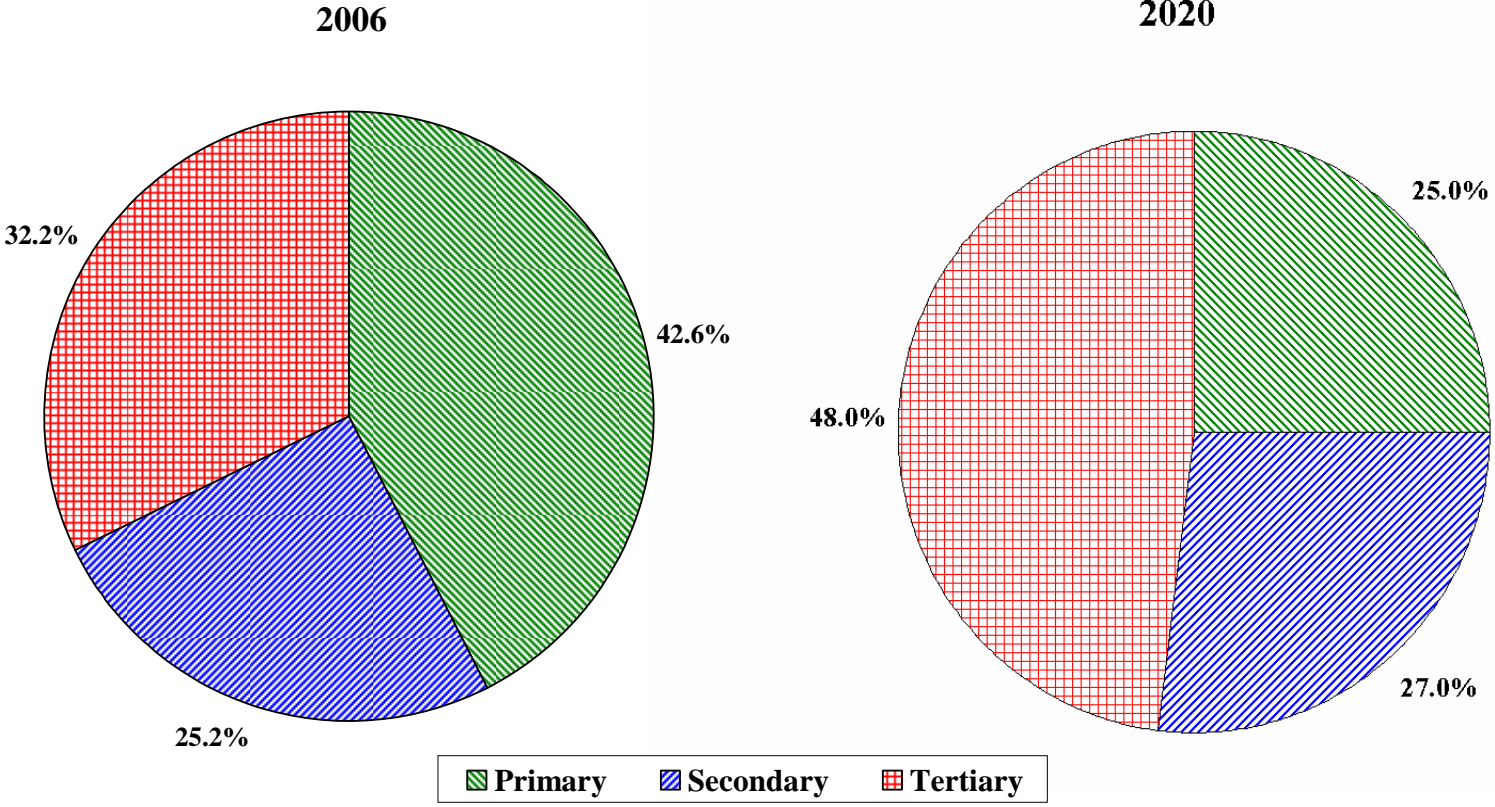
The Advantages of a High Domestic Savings Rate

- ◆ Latin American economies are the chronic sufferers of a low domestic savings rate. They are therefore forced to augment their domestic savings by borrowing abroad in foreign currency. But loans have to be repaid sooner or later. When that happens, domestic investment will have to fall below domestic savings, and economic growth may not be sustainable; and in the repayment process currency crises will often result.
- ◆ The low domestic savings rate in Russia made it necessary for Russia to privatize and restructure, a process which resulted in approximately a decade of declining real GDP and the creation of many losers.

The Structure of the Economy: GDP



The Structure of the Economy: Employment



The Impact of the Sub-Prime Mortgage Loan Crisis

- ◆ The U.S. demand for imports will likely decline with the reduced household consumption, or at a minimum the rate of growth will decline.
- ◆ Such decline will have a negative effect on the rate of growth of Chinese exports to the U.S. and hence on Chinese GDP, but the effect is expected to be marginal.

The Impact of the Sub-Prime Mortgage Loan Crisis

- ◆ Chinese exports to the U.S. constitute between 8% (Chinese estimate) and 12% (U.S. estimate) of Chinese GDP; however, the direct domestic value added content of Chinese exports to the U.S. is quite low, averaging 17.7%. Thus, the Chinese GDP originating from Chinese exports to the U.S. is only approximately 2.2% ($12\% \times 18\% = 2.16\%$).
- ◆ 2.2% of GDP is reasonably significant and will result in hardships in some localities if completely lost. However, even if Chinese exports to the U.S. falls by 10% (which is considered unlikely), it will cause Chinese GDP to fall by only 0.22%, which is clearly tolerable, especially if the remaining 97.8% of the Chinese economy continues to grow.

The Impact of the Sub-Prime Mortgage Loan Crisis

- ◆ If the indirect domestic value added of Chinese exports to the U.S. is also taken into account, a 10% decline in Chinese exports to the U.S. may result in a decline of Chinese GDP of no more than 0.5%.
- ◆ However, the impact may be quite severe on certain localities where most of the economy is dependent of exports, e.g., the City of Dongguan in the Province of Guangdong, where the value of exports is greater than the local GDP. Measures must be put in place in these localities to take care of expected lay-offs of workers as a result of the slowdown in export demand.

The Risks of Inflation

- ◆ Inflation is becoming a real risk. Inflation has two components—the prices of goods and the prices of assets, including real estate.
- ◆ Agricultural and food prices depend on the weather and often have their own dynamics because of the necessary period of production—for example, the hog cycle and the Christmas tree cycle.
- ◆ Domestic energy prices have yet to reflect true scarcity prices and negative externalities on the environment and quality of life (e.g., congestion) in general.
- ◆ Inflation must be nipped in the bud. Once inflationary expectations set in, it will take a long time to change.
- ◆ However, price controls typically have only short-term effects and only encourage a black market.

The Risks of Inflation

- ◆ Excess capacity in manufacturing, resulting from too low a cost of capital, have kept prices of goods from rising in China. But enterprises cannot keep on losing money forever. The rise in the price of raw materials, energy and commercial real estate must eventually be reflected in the price level, even though the real wage rate of entry-level unskilled labor has remained relatively stable because of the abundance of surplus labor in China.
- ◆ Paradoxically, raising the prices of energy to reflect their true scarcity value (and the reduction/elimination of value-added tax rebates on exports), will lead to a decline in the exports of some manufactured goods and thereby a decline in the domestic prices of these goods.

The Risks of Inflation

- ◆ Real interest rates for bank deposits are now negative in China. If allowed to persist over time, it may cause massive withdrawals of deposits from the Chinese commercial banks, leading to disintermediation.
- ◆ One solution is for the commercial banks to offer as an option indexed bank deposit accounts, the rate of interest on which is linked to the rate of change of the Consumer Price Index (CPI) during the period the funds are on deposit. Indexed deposit accounts have been previously introduced in China twice--once in 1949 and the early 1950s, and once in 1988 until the early 1990s, both in response to high and accelerating inflation. They both proved to be effective in stopping the flight of bank deposits from the commercial banks and in lowering the expectation of inflation.

The Risks of Inflation

- ◆ But how can Chinese commercial banks hedge against the changes in the CPI? Securities similar to the Treasury Inflation Protected Securities (TIPS) issued in the United States by the U.S. Treasury should be introduced in China. This enables commercial banks to offer indexed deposit accounts linked to the Consumer Price Index (CPI) without assuming the risks themselves. They can simply purchase inflation protected bonds issued by the Chinese Ministry of Finance with the funds they have in indexed bank accounts.
- ◆ Chinese lending rates are becoming negative in real terms, that is, the rate of interest after subtracting off the rate of inflation, is negative. Negative real interest rates encourage moral hazard and hence indiscriminate and reckless borrowing since the borrower has to repay less in real terms than what he or she has borrowed.

The Risks of Inflation

- ◆ Reduction of the rate of growth of money supply should help to slow down the rate of inflation. However, this is of course also related to the net inflow of capital and the exchange rate and sterilization policies of the People's Bank of China.
- ◆ There is clearly excess liquidity in China today. The China Investment Corporation, the new sovereign wealth management agency of China, has been funded through the issuance of Renminbi denominated bonds equivalent to US\$200 billion by the Chinese Ministry of Finance so as to absorb some of the excess liquidity. China Investment Corporation has used the proceeds to purchase US\$200 billion worth of foreign exchange from the People's Bank of China. The transaction resulted in the reduction of 1.5 trillion Yuan of liquidity and US\$200 billion of official foreign exchange reserves.

The Asset Price Bubbles

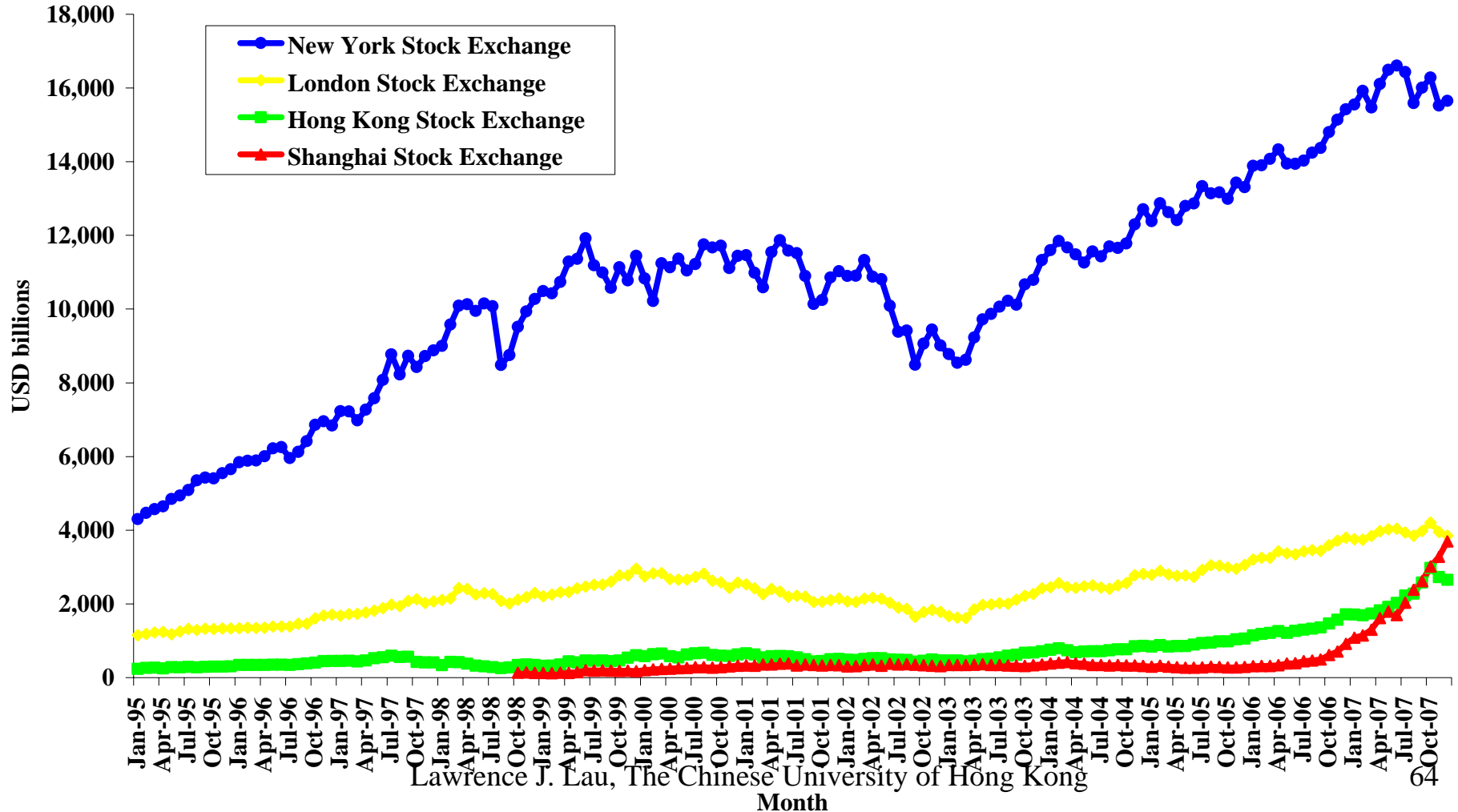
- ◆ Real estate prices have stabilized or begun to decline gradually in many cities in China. However, Beijing may be an exception.
- ◆ There is a crying need for longer-term fixed-rate (as opposed to variable- or adjustable-rate) mortgage loans. Long-term fixed-rate mortgage loans allow home-owners and home-buyers the ease of mind as their interest and principal repayment obligations are fixed and predictable over time.
- ◆ However, since commercial banks do not have access or at least do not have sufficient access to long-term fixed rate deposits, they cannot make long-term fixed-rate mortgage loans without assuming a significant risk of maturity mismatch. The U.S. Savings and Loan Association crisis, caused by these lenders lending long and borrowing short, in the early 1980s is a lesson that should be taken seriously.

The Asset Price Bubbles

- ◆ The price/earning ratios on the Shanghai and Shenzhen Stock Exchanges have begun to decline from their bubbly levels. It is a law of economic sciences that price bubbles will eventually burst.
- ◆ The current market conditions are somewhat reminiscent of those just before the 1929 market crash in the U.S. and the market collapse in Japan in the early 1990s. The objective is to achieve a soft landing and to limit the damages caused by the problems in the capital markets from spilling over to the real sector.
- ◆ It is important to realize that the Chinese economy did not owe its success over the last three decades to its stock market. The stock market was mostly peripheral to Chinese economic development and growth. Rather, the stock market owes its boom over the last 18 months mostly to the success of the Chinese economy.

Market Capitalization of Stock Exchanges

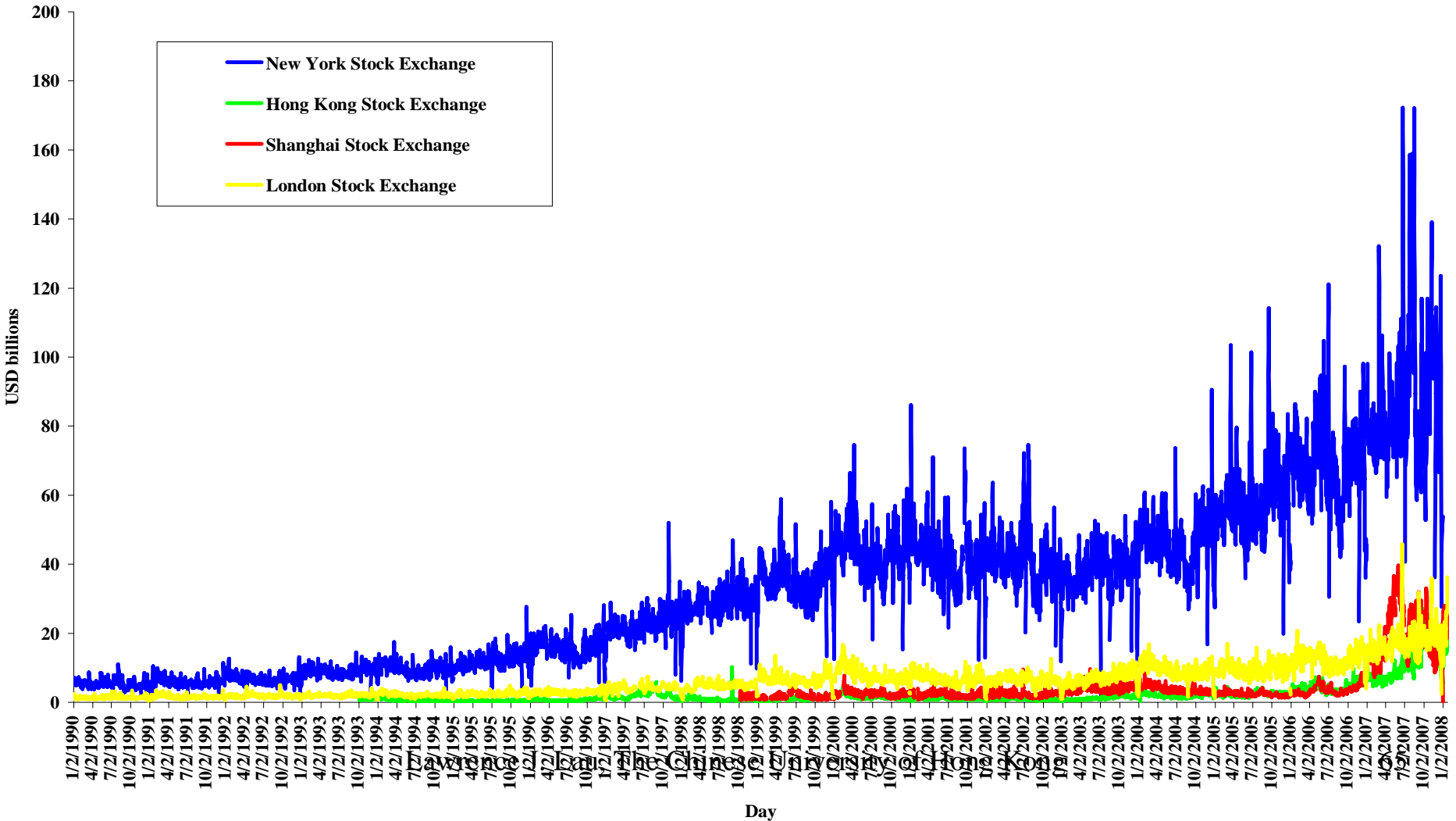
Domestic Market Capitalization of Four Stock Exchanges



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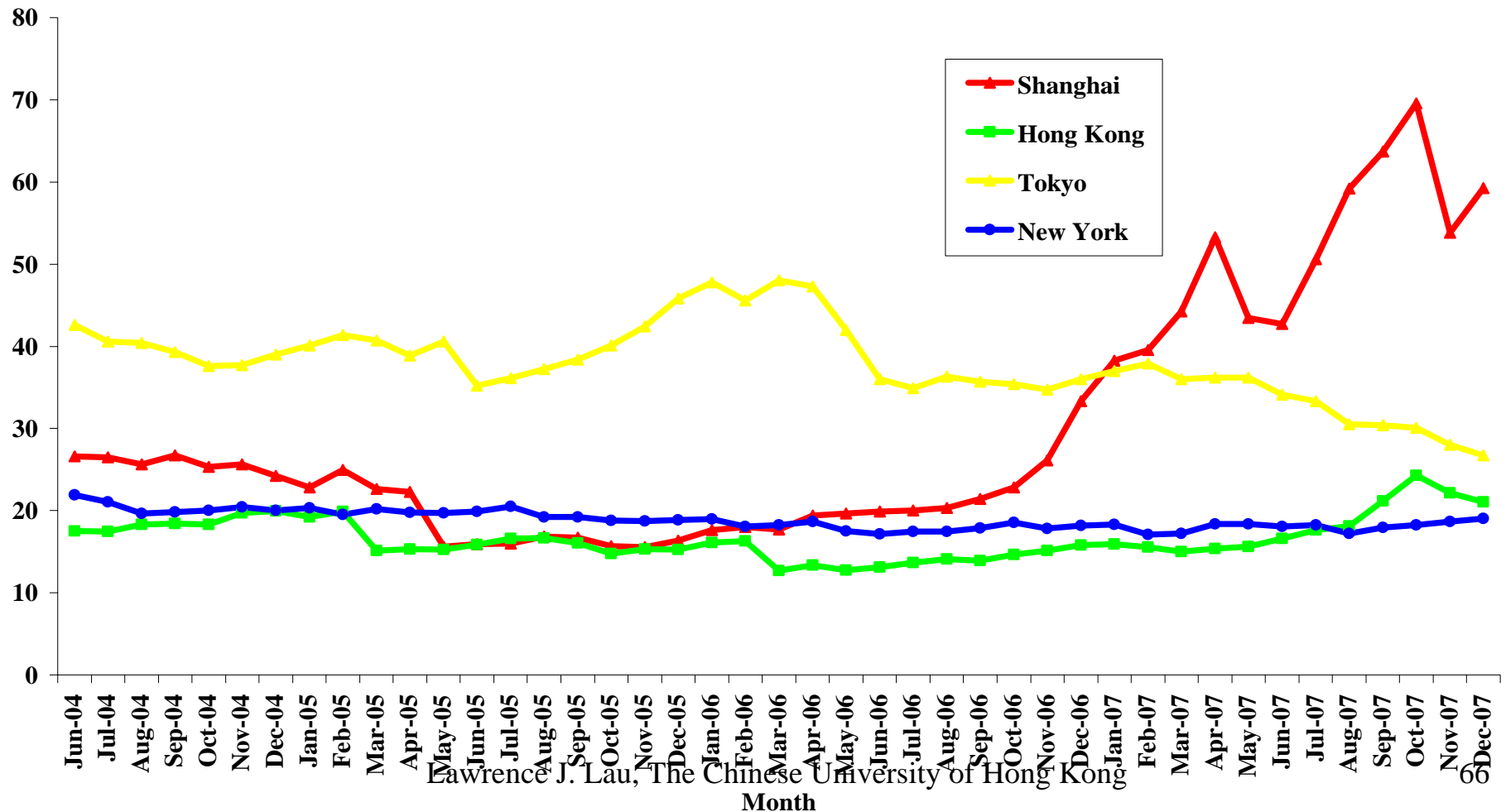
Daily Turnover of Stock Exchanges

Comparison of The Daily Turnover Values of Four Stock Exchanges



The Price-Earning Ratios of Selected Stock Exchanges

Price/Earnings Ratios of Four Stock Exchanges



The Asset Price Bubbles

- ◆ One of the principal problems is that manufacturing and other non-financial enterprises are all speculating in the stock market rather than tending to their core business (不务正业). Stock trading as a direct and indirect source of profit has recently reached levels between 25-50 percent of stated profits for many enterprises. These profits are non-recurrent and unreliable but they do give the impression that the price/earning ratios are still “not too high”. However, it should be recognized that these profits cannot be recurrent and are primarily the result of enterprises buying the stocks of one another and driving and propping the prices up and do not reflect the fundamentals of their core business operations.
- ◆ The state-owned non-financial enterprises should not be allowed to purchase any additional shares beyond what they already own. However, they should not be forced to sell their entire holdings precipitously but should be allowed to divest them in a gradual and orderly manner.

The Asset Price Bubbles

- ◆ The U.S. since the 1929 market crash has not allowed non-financial enterprises and commercial banks to invest in the stock market except for an occasional buyback of its own shares, with prior approval from the Securities and Exchange Commission. Japan has since the early 2000s also disallowed the purchases of shares of one another by non-financial corporations.
- ◆ The State Assets Regulatory Commission should require the publicly listed state-owned enterprises to declare significant cash dividends to their respective shareholders. Since the Chinese Government is the owner of on average 70% of the outstanding shares of publicly listed state-owned enterprises, the cash dividends should generate significant revenue for the Government that can be put back into the budget and used to finance social services such as education, environmental preservation and protection and health care as well as social infrastructure.
- ◆ For the ordinary shareholders, the cash dividends represent additional income that is available for consumption, saving, and other expenditures.

The Asset Price Bubbles

- ◆ The Chinese Government can help by allowing enterprises to deduct actual cash dividends paid to shareholders as a cost just like interest paid to banks on loans, before taxes. This will accomplish a couple of desirable objectives.
- ◆ First, the bias in favor of debt-financing will be removed. Enterprises will no longer find it advantageous for tax reasons to prefer debt financing over equity financing.
- ◆ Second, enterprise income (profit) will no longer be subject to “double taxation”—taxed once at the enterprise level, and again at the shareholder level. Profits paid out as dividends will only be taxed once, at the shareholder level. Moreover, if the Government wishes to do so, it can also exempt the first, say, 5,000 Yuan of cash dividends received each year, from individual income taxation, encouraging households to purchase and hold shares for the long term.

The Asset Price Bubbles

- ◆ Third, the gross revenue to the Government will actually increase—even as it loses the corporate tax on enterprise profits actually paid out as cash dividends, it gains by the additional cash dividends paid and received by the Government, as the 70% majority shareholder of the enterprises.
- ◆ Fourth, if enterprises wish to invest in new projects, it may have to borrow from the commercial banks instead of using its own retained earnings, and hence will be subject to some financial assessment and discipline.

The Asset Price Bubbles

- ◆ Moreover, the cash dividends paid provide a floor for the price of stocks. For example, if an enterprise pays 4 Yuan a year as cash dividends, its price is not likely to fall below 100 Yuan (assuming that the rate of interest is approximately 4%). This is a good time to encourage state-owned enterprises to begin paying significant cash dividends, bring the cash yield to the 4% level. This will provide support for the prices of the common stock of these enterprises if and when the bubble begins to burst.
- ◆ Cash dividends are also a good signal of the enterprise's health. Unless it is really making money and has cash flow, an enterprise will not be able to pay cash dividends. Thus, one can falsify the financial accounts and show profits as much as one wants, but one must have real cash flow to pay cash dividends.
- ◆ Finally, cash dividends make it much more attractive for shareholders to hold the stock of an enterprise for a longer period.

The Asset Price Bubbles

- ◆ The most serious problem faced by the Chinese stock market is the very short average holding period of the shares by the investors. It is typically around a week, which makes it not an investment but a bet or gamble. Encouragement of longer-term holding of common stock should be an important goal.
- ◆ Short-term quick profits in the stock market also encourages the psychology of “free lunch”, of “gain without pain” (不劳而获), which is not sustainable but also undermines the work ethics of the population.

The Asset Price Bubbles

- ◆ Direct and indirect lending by commercial banks and financial institutions for the purchase of common stocks should be tightened up. This is not only to cool down the stock market, but also to protect the small investors. Households can be wiped out completely if they borrow money to buy common stock and the stock market crashes. The solution is to not allow any more common stock to be purchased on credit, direct or indirect. Again the rule can be enforced on the margin, so that shares already bought on credit do not have to be sold immediately to repay the loan. But no new loans will be extended for the purpose of purchasing shares.
- ◆ The simple fact is that trading assets, whether they be real estate or common stock, alone does not create new value, does not increase GDP.

China as a Source of Savings and Investment

- ◆ More and more Chinese enterprises will be making foreign direct investments overseas, much as their Japanese counterparts did in the 1970s and 1980s.
- ◆ The investment by the China Investment Corporation (CIC) of US\$3 billion in the Blackstone Group is only 1.5% of its total expected capitalization of US\$200 billion.
- ◆ The Chinese objective is to maintain an overall balance of payments equilibrium (of zero) going forward. With its official foreign exchange reserves standing at US\$1.53 trillion at the end of 2007/12, China has overtaken Japan to become the country with the largest official foreign exchange reserves and certainly does not need more foreign reserves.

Excessive Investment

- ◆ Aggregate personal consumption is low in China not because it is crowded out by investment. On the contrary, the high investment rate is caused by the low consumption rate (high savings rate) and the abundance of liquidity in the commercial banks.
- ◆ There are many reasons for the high household savings rate (low personal consumption) in China.
 - ◆ (1) The absence of a credible social security system (pension, health care, unemployment);
 - ◆ (2) The inadequate provision of social services (education, health care);
 - ◆ (3) The relative unavailability of consumer credit; and
 - ◆ (4) The unequal distribution of income (high-income households have low marginal propensities to consume).
- ◆ However, comparisons of household consumption behavior across Hong Kong and Taiwan households suggest that the behavior of Mainland Chinese households is not that different—the household savings rates are all approximately 30%.

The Growth of Personal Consumption

- ◆ China's consumer market did register a steady and relatively fast growth since 2005. It is expected to grow faster than the rate of growth of GDP. Personal consumption of services is extremely difficult to measure accurately.
- ◆ More recent data suggest that household consumption has been rising as a percentage of household income. Survey data indicate that on average, the savings rates of households in Mainland China, Hong Kong and Taiwan are all around 30%. Thus, the high national savings rate must be due to savings by enterprises (the central government typically runs a small budget deficit).
- ◆ Continuing significant demand for consumption can come from two sources, both related to urbanization—affordable owner-occupied housing and transportation.

The Growth of Personal Consumption

- ◆ The time has come for the government to promote and build mass-transit systems in both old and new cities. An efficient and clean mass transit system can reduce the demand for automobile usage (but not necessarily ownership) and hence environmental pollution and traffic congestion. It also permits the government to plan the urban locational patterns for commercial, industrial, and residential uses efficiently and effectively.
- ◆ The demand for other consumer durables—automobiles, motorcycles, bicycles, electrical appliances, furniture—many of which are also housing-related, will continue to be strong, especially in the urban areas on the coast.
- ◆ There has been and will continue to be a rapid increase in the demand for personal consumption services—education, health care, food and beverages services, and tourism.

China and the Environment--

Early Awareness

- ◆ Early awareness relative to other developed economies. China, with a per capita GDP of only US\$2,541, is to be congratulated for focusing on environmental quality at this stage of its economic development. The U.S. did not begin to clean up the air in Los Angeles until the 1970s, when its per capita GDP was already well in excess of US\$20,000. And Japan did not begin to clean up the pollution in Tokyo Bay and Osaka until the early 1970s when its per capita GDP was well in excess of US\$10,000.

China and the Environment--

Early Awareness

- ◆ It is definitely true that the earlier an economy begins the environmental clean-up and protection process, the less costly, both monetarily and socially, it is.
- ◆ Enforcement of environmental protection laws on air and water against polluters.
- ◆ Promotion and encouragement of the use of renewable and non-polluting energy sources—solar energy, wind energy, and geothermal energy, co-generation.
- ◆ Promotion of a recycling economy (e.g., making an enterprise responsible not only for the quality of its products but also for their ultimate disposal).

China and the Environment-- Prevention of Global Warming

- ◆ All countries, developed and developing, must work out a formula for a fair sharing of the costs of preventing global warming.
- ◆ Simply setting a ceiling based on current usage is unfair and unreasonable as far as the developing economies are concerned. Any goal for controlling carbon emissions must involve both the developed economies reducing their emissions per capita and for the developing economies controlling the increases of their emissions per capita.
- ◆ Developing economies must price carbon fuels taking into account their external effects on global warming and adopt the latest most efficient technologies.
- ◆ China can contribute its part by providing leadership to craft such an agreement.

Environmental Degradation

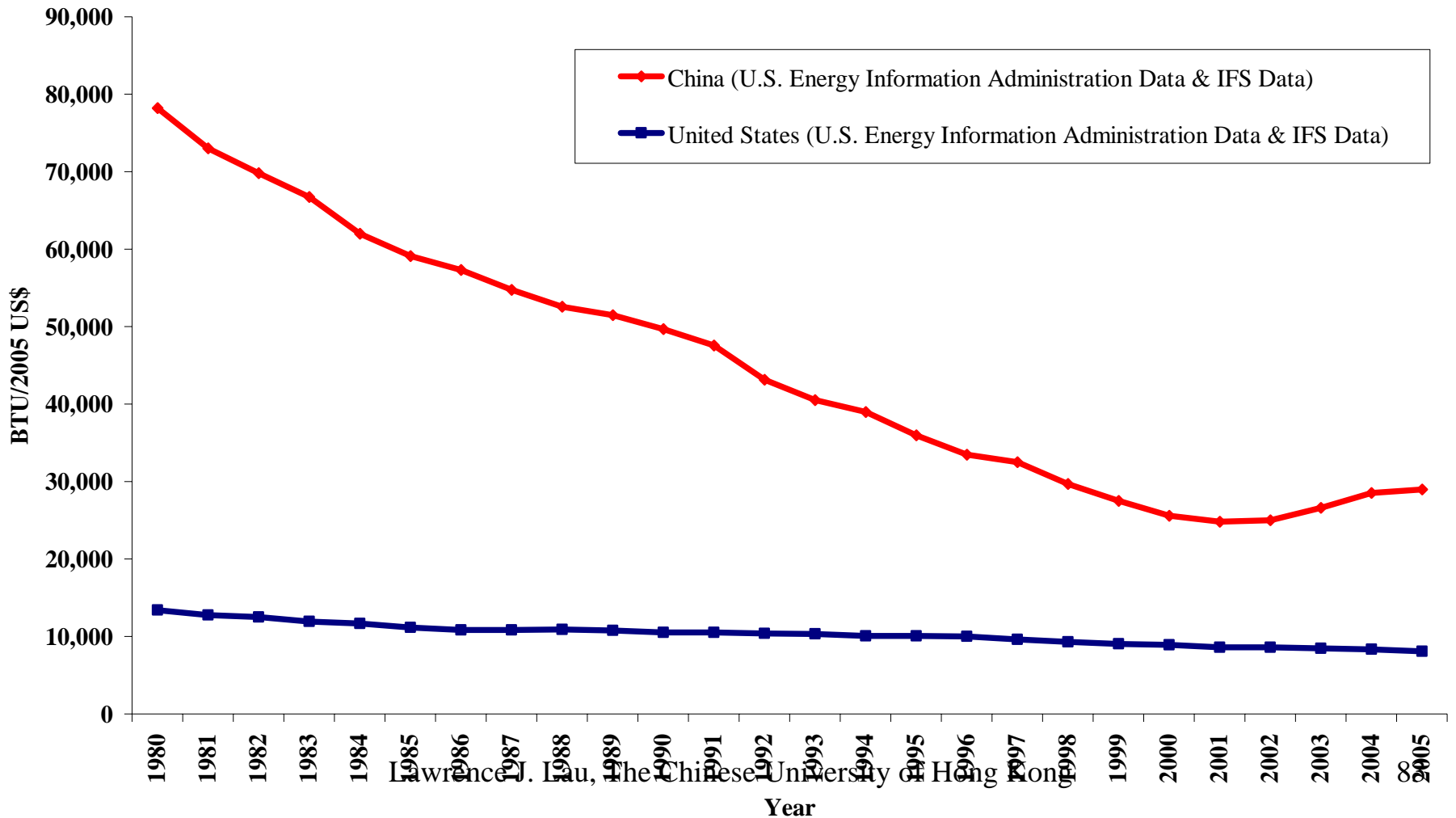
- ◆ Energy consumption in China has been growing more slowly than real GDP until 2002.
- ◆ Energy efficiency, in terms of energy consumption per unit GDP, has actually improved significantly during the past two decades, until the last couple of years.
- ◆ It is, however, still considerably higher than those of the United States, Japan, and other developed economies. This is due, in part, to the lower price of energy to the end users; but also, in part, to the different sectoral composition of GDP originating—which in turn also depends on the domestic consumption patterns (e.g., the distribution between goods and services).

Energy Efficiency

- ◆ It is also affected by differences in life-styles: locational patterns, including residential patterns, densities, types of housing, types of transportation, temperature preferences, etc.
- ◆ It is also affected by the differences in the energy efficiency of the existing capital stocks of both the enterprises and the households—structure and equipment, housing, automobiles—which are legacies of the historical actual and expected prices of energy.
- ◆ But this also indicates considerable room for further improvements in energy efficiency in China.

Primary Energy Consumption-GDP Ratios (China and the United States), 1980-2005

Primary Energy Consumption - GDP Ratio (China and United States)



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Incentives—Appropriate Pricing and Taxation of Energy

- ◆ Pricing must reflect economic scarcities. Thus the prices of the different forms of energy--oil, natural gas, coal--should be set at world levels. Low-income households can be protected through lifeline rates on different forms of energy, e.g., electricity. Similar rate structures can be used to protect the existing enterprises and their employment without encouraging expansion of uneconomical and inefficient uses of energy. Mass transit can be directly subsidized.
- ◆ One can also use peak-load pricing for electricity which lowers the capital costs of providing electricity through higher utilization rates.
- ◆ Renewable energy and nuclear energy must also be part of the solution.

Incentives—Appropriate Pricing and Taxation of Energy

- ◆ Pricing must also reflect externalities. Externalities can also be priced in through the imposition of taxes on specific industries and/or products. For example, the price of gasoline, if left to the market, may not reflect the (social) costs of congestion, air pollution and global warming. Thus, a gasoline tax can be justified.
- ◆ Also, for certain investments, the private rate of discount may be higher than the appropriate social rate of discount and thus may require public subsidies or regulation.
- ◆ Wherever possible, the externalities should be internalized so that the total social costs are fully reflected.

Incentives

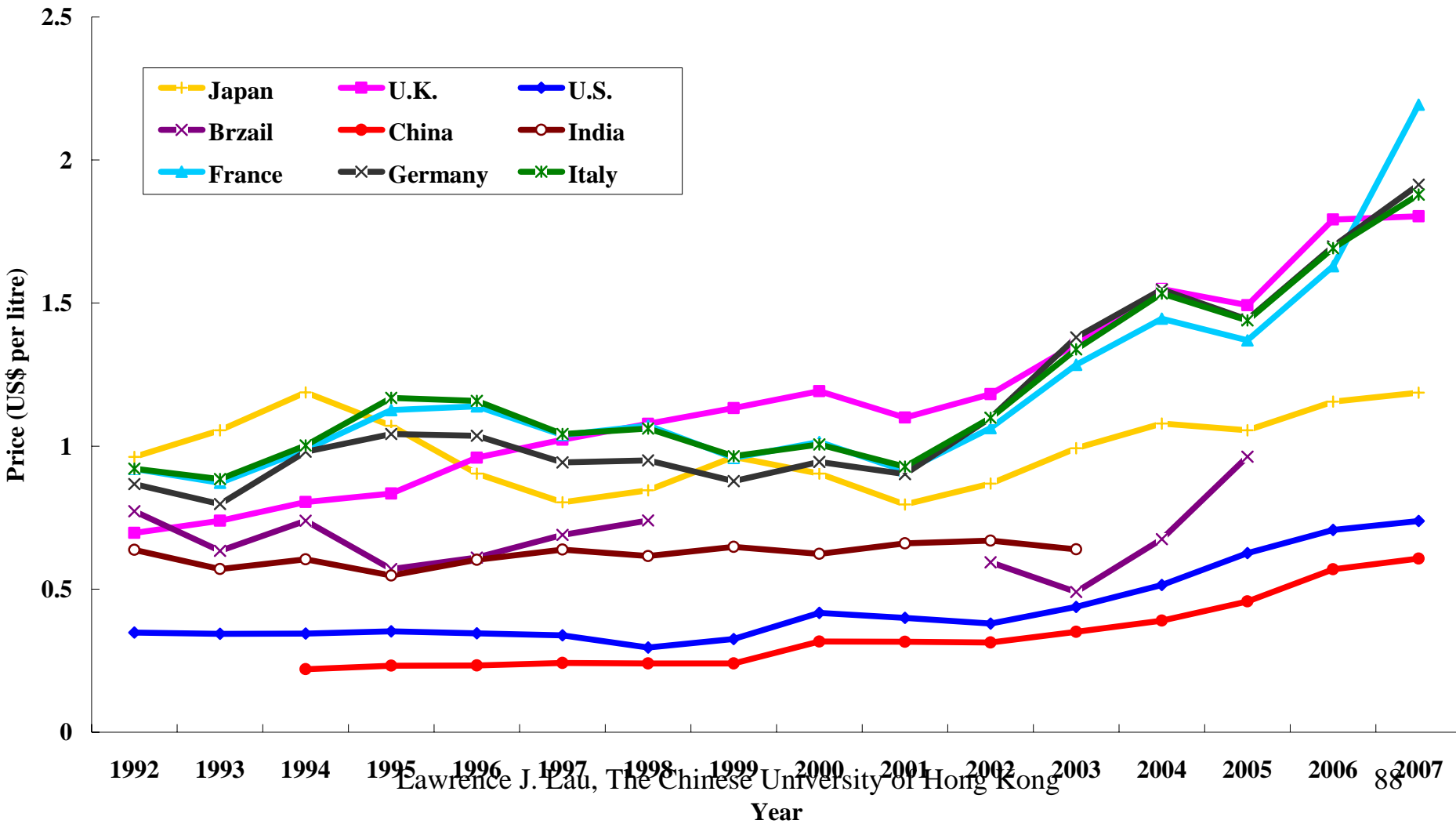
- ◆ Incentives for capital cost-operating cost substitution—for examples: better insulation and construction of buildings lead to lower energy consumption for the useful life of the building; energy-efficient light bulbs are more expensive; more durable products; buildings with higher ceiling height per floor for better natural ventilation and reduced demand for air conditioning; solar heating systems. The government can provide credit subsidies for financing these incremental capital expenditures do as to encourage life-cycle costing.
- ◆ (For example, triple-paned windows are more expensive but houses equipped with them consume much less energy. Without incentives the developers are likely to opt to use single-paned windows to lower the up-front capital cost.)
- ◆ The government can also mandate energy efficiency standards. For example, the government can mandate double-paned windows in regions where the average winter temperature is below a certain level.

Incentives—The Gasoline Tax and the “Gas Guzzler Tax”

- ◆ The retail price of gasoline in China is among the lowest in the world, even lower than in the United States. China can impose a tax on gasoline that is similar in order of magnitude to that in the Western Europe and Japan.
- ◆ It is a myth that the high price of domestic gasoline deters the development of the automobile industry. Both Japan and Western Europe have long had high retail prices of gasoline and both have prosperous automobile manufacturing firms.
- ◆ China can also impose a gas guzzler tax (license fee) linked to the fuel efficiency of the automobile that penalizes inefficiency.
- ◆ The gasoline tax and the “gas guzzler” tax can reduce the externalities generated by the use of the automobile (e.g., congestion and public health (including loss of productive time), local and global environmental pollution, as well as global warming).

Retail Prices of Gasoline in Selected Countries

Retail Price of Gasoline in Selected Countries



The Gasoline Tax and the “Gas Guzzler” Tax

- ◆ The best time to impose and/or raise gasoline taxes and other user taxes is before there are too many automobile owners, not afterwards. It becomes politically difficult or even impossible to do so once the majority of the households own and depend on automobiles for their daily transportation needs.
- ◆ The gasoline tax does not necessarily discourage automobile ownership—it does change the relative demands for different types of automobiles by making it more advantageous to acquire more “fuel-efficient” automobiles. It does have impact on the usage of automobiles, especially if a good alternative mode of transportation is available.
- ◆ Such taxes as the gasoline tax and the “gas guzzler” tax are likely to be progressive in China because only high-income people are likely to have private automobiles. It may therefore be viewed as another means of “redistribution”

The Implementation of the Gasoline Tax and Other Measures

- ◆ The gasoline tax can be flexibly structured so as to maintain the retail price of gasoline (in real terms) at a stable level, independently of the short-term fluctuations in the world price of oil.
- ◆ The proceeds of the gasoline tax can be used to finance public investment in mass transportation. But it can also be done in a revenue-neutral manner, reducing the income taxes of the low income households, providing some compensation for the increase in the retail price of gasoline.
- ◆ Access fees to the central business districts during peak periods, as used in Singapore, are also an option.
- ◆ The promotion of a car rental industry and the encouragement of ride-sharing and car-pooling.

Adverse Demographic Development

- ◆ The Chinese population is aging rapidly, in part because of the one-child policy, and in part because of the increase in life expectancy as a result of the significant improvement in the living standards.
- ◆ Fortunately, the one-child policy is successfully enforced only in the urban areas. In rural areas, multiple-child households are still common.
- ◆ There also begin to be changes or exceptions to the one-child policy—it does not apply to ethnic minorities, one can pay for the right to have a second child legally (as in Shanghai), and a married couple of single children is allowed to have two children. My own favorite proposal is a one-boy policy.

Demographic Development

- ◆ Chinese population is expected to peak around 2035. Thereafter it will begin a slow decline.
- ◆ There will also be a rise in the dependency ratio; however, this is not necessarily negative as it will lead to a lower national savings rate.
- ◆ In 2025, GDP originating from the primary sector would have fallen below 7.5%; however, employment in the primary sector would still constitute over 20% of the total labor force, indicating that substantial surplus labor will still exist in the Chinese economy—consequently the real wage rate of unskilled entry-level labor will remain low and stable during at least the next couple of decades.

Geo-Political Risks

- ◆ The rise of protectionism
- ◆ A Taiwan Strait crisis
- ◆ A Middle East crisis that results in the interruption of the oil supply

Concluding Remarks

- ◆ Chinese economic growth during the next several decades will depend mostly on internal factors and be largely unaffected by the policies of other countries or events outside of China (a disruption of the oil supply may be an exception).
- ◆ There are numerous serious internal problems confronting the Chinese economy—however, these problems are not intractable.
- ◆ On the margin, foreign involvement in the Chinese economy will make some, but not a critical, difference; but it can be mutually beneficial for both China and the foreign countries.

Concluding Remarks

- ◆ Chinese GDP per capita will remain low relative to the industrialized economies (G-7) for at least four or more decades.
- ◆ The share of Chinese GDP produced by the non-state-owned sector will rise to 80% in another decade.

Long-Term Economic Trends

Aggregate GDP

- ◆ The Chinese economy is likely to continue to grow, more or less independently of what happens in the rest of the world, over the next several decades at an average annual rate of approximately 8%.
- ◆ The source of this growth will come primarily from tangible capital accumulation, supported by a national savings rate of over 30% (in 2005, the savings rate approached 50%), human capital accumulation, and economies of scale, and to a lesser extent on the growth of intangible capital (for example, R&D capital) and improvements in efficiency.
- ◆ By 2020, aggregate Chinese GDP may be projected to be US\$7 trillion (exceeding the then aggregate GDP of Japan and slightly less than one half of the then aggregate U.S. GDP).
- ◆ Some time between 2030 and 2040, aggregate Chinese GDP may reach the same level as aggregate U.S. GDP.