3.1 External Outlook

Global Growth Prospects Dim

The world economy has entered an uncertain phase.

In the six months since the last *Review*, the outlook for the global economy has been increasingly clouded by economic uncertainty and financial market volatility. Sovereign debt problems in the Eurozone periphery intensified over the summer, while a long-drawn political debate on the fiscal debt ceiling in the US also cast a pall over growth prospects. Investors were unnerved by these developments, precipitating a sell-off in equity markets in early August. While sentiment has improved somewhat in the US following a deficit-reduction deal and slightly more positive economic data, significant concerns remain about the situation in the Eurozone despite some progress on measures to contain the sovereign debt crisis.

The close inter-linkages between the US and Europe mean that financial turbulence in one continent quickly spills over to the other and results in amplified effects on the real economy. The trade-oriented Eurozone economies are particularly vulnerable to a slowdown in the US, a key export market that accounts for approximately 11% of the region's total exports. In addition to financial contagion and a credit crunch, a synchronised downturn in the US and the Eurozone will have serious knock-on effects on the rest of the world via the trade channel.

Consequently, consensus forecasts for world economic growth have been revised sharply downwards since April 2011. The latest forecasts indicate that US and Eurozone growth projections for 2012 have been lowered by more than a percentage point, as compared to six months ago. Growth in Asia ex-Japan has also been downgraded, albeit by a smaller amount. (Table 3.1 and Chart 3.1)

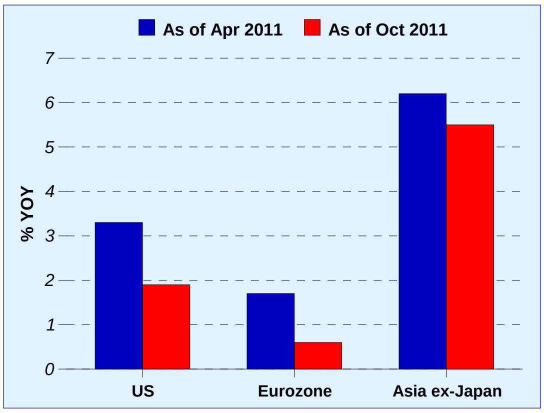
Table 3.1
GDP Growth Forecasts

(%)

	2010	2011F	2012F
Total*	**6.3**	**4.5**	**4.4**
G3*	**2.7**	**1.2**	**1.5**
US	3.0	1.7	1.9
Eurozone	1.8	1.6	0.6
Japan	4.0	−0.5	2.2
Asia ex-Japan	**8.2**	**6.1**	**5.7**
NIE-3*	**7.8**	**4.7**	**4.0**
Hong Kong	7.0	5.3	4.2
Korea	6.2	3.8	3.8
Taiwan	10.9	4.5	3.8
ASEAN-4*	**7.0**	**5.0**	**4.9**
Indonesia	6.1	6.4	6.1
Malaysia	7.2	4.5	4.3
Thailand	7.8	3.7	4.0
Philippines	7.6	4.4	4.6
China	10.4	9.1	8.5
India**	8.9	7.5	7.9

Source: Consensus Economics Inc.
* Weighted by shares in Singapore's NODX.
** Forecasts refer to fiscal year ending March.

Chart 3.1
Consensus Forecasts for
World Economic Growth in 2012



Source: Consensus Economics Inc.

US growth will be restrained by weak economic sentiment.

Amidst concerns about long-term US fiscal sustainability and a sovereign credit downgrade, consumer and business confidence in August slumped to their lowest levels since the recession ended in June 2009. (Charts 3.2 and 3.3) As a result, US retail and food sales dipped by 0.3% m-o-m SA and new factory orders fell by 0.2% in August. Notwithstanding some signs of stabilisation as consumer and business sentiment ticked up slightly in September, the economy remains vulnerable to further weakness.

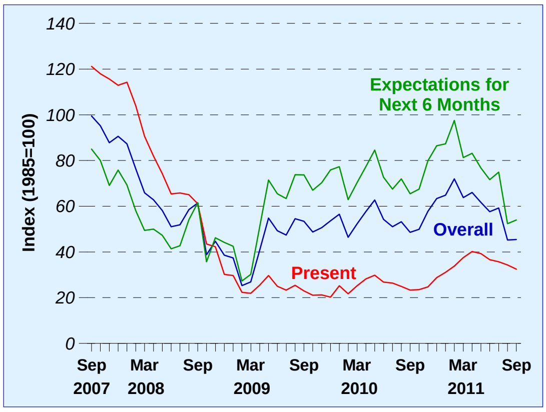
Household consumption will continue to be held back by slow labour income growth, in part due to the expiry of the fiscal measures implemented during the Global Financial Crisis and extended by President Obama last November. Moreover, the proposed US$447 billion Jobs Recovery Act failed to pass the Senate, and although new plans are being drawn up, a prompt resolution to the issue is unlikely. As such, US GDP growth is expected to come in at just 1.7% in 2011 and 1.9% in 2012, much weaker than the average of around 3% in the decade prior to the Global Financial Crisis.

The Eurozone faces a stagnant economy.

In addition to falling equity markets, credit spreads in the Eurozone have widened as the sovereign debt crisis extended beyond the periphery to Spain and Italy in July. Despite ECB intervention in secondary bond markets, default risks remain. As a result, bank lending standards are tightening and funding costs are on the rise in the core countries. (Chart 3.4) This will curtail consumption and investment spending in the quarters ahead by raising borrowing costs for households and firms.

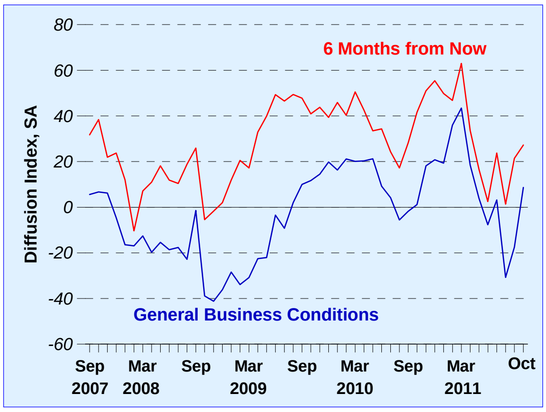
The waning global trade cycle will impair Eurozone industrial exports, which has been a key growth driver in H1 2011. In September, the region's composite PMI for the manufacturing and services sectors fell to 49.1, the first contraction in over two years. Germany's new orders of capital goods also saw declines in July and August, suggesting a continued deterioration in manufacturing activity. With the Eurozone sliding into a downward spiral of weakening confidence and heightened risk aversion, analysts expect the economy to stagnate in the next six months, with GDP growth in 2012 projected to be a mere 0.6%.

Chart 3.2
US Consumer Confidence Indices



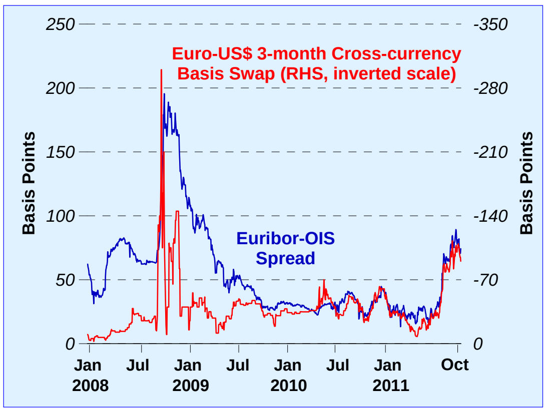
Source: Conference Board

Chart 3.3
US Business Outlook Survey



Source: US Philadelphia Fed

Chart 3.4
Bank Funding Costs in the Eurozone



Source: Bloomberg

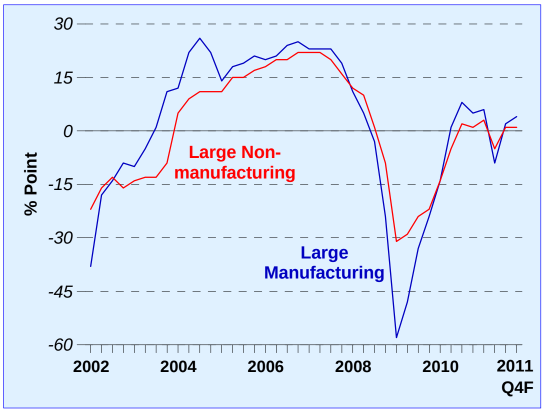
Note: The Euribor-OIS spread reflects risk premia in the interbank money markets. Negative Euro-US$ cross-currency basis swap spreads are an indication of dollar funding pressure.

Growth in Japan will pick up on production normalisation and reconstruction spending.

Japan's near-term economic growth is expected to rebound from the trough in Q1 2011, when the earthquake and tsunami hit. With the restoration of supply chains, industrial production has almost returned to its pre-quake level while exports have fully recovered. Electricity shortages might still arise during the winter season, but their impact will be mitigated by ongoing measures to raise energy efficiency.

According to the September BOJ Tankan survey, business conditions will improve further in Q4 2011, but by less than in Q3. (Chart 3.5) The recovery should extend into early 2012, and may receive a further boost if the proposed third supplementary budget, totalling around ¥12 trillion, is passed by the Diet. Of this, about half or 1.3% of GDP is earmarked for reconstruction purposes. On the external front, however, the global economic slowdown, together with the strong yen, will adversely affect exports and business investment.

Chart 3.5
Japan's Tankan Diffusion Indices



Source: CEIC

Note: The diffusion index is the percentage of favourable responses minus the percentage of unfavourable responses.

Asia ex-Japan will be affected by the slowdown in the US and Eurozone …

In the rest of Asia, GDP growth is set to slow on the back of slackening external demand as well as previous monetary tightening. The consensus forecast for the region has been revised down to 6.1% in 2011 and 5.7% in 2012, compared with growth of 8.2% in 2010. (Table 3.1) This prognosis is consistent with the fact that the G3 still accounts for about 60% of final demand for Asia's goods, while only about one-fifth is destined for markets within the region.[1] In fact, the contraction in G3 demand during the Global Financial Crisis had a cascading effect on Asian trade flows as a result of vertically-integrated cross-border production networks in the region.

[1] See Kim, S, Lee, J and Park, C (2010), "The Ties that Bind Asia, Europe and United States", *ADB Economics Working Paper Series* No. 192.

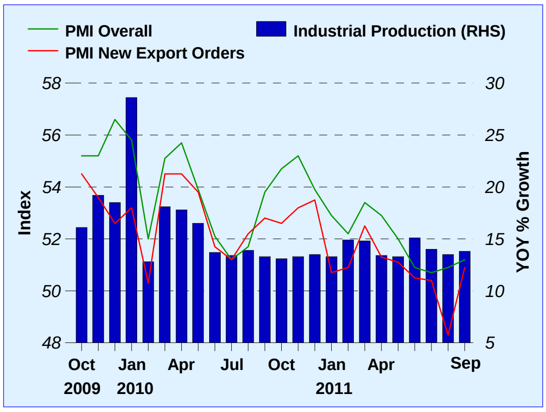
… although the impact will vary across economies.

The impact of a further slowdown in the US and the Eurozone on individual economies in Asia will vary according to their degree of outward orientation. Economic growth in domestic-oriented China and Indonesia will be cushioned by private consumption and investment spending, which is in turn supported by increases in household income and the pipeline of infrastructure projects.

The Chinese economy has also become less reliant on exports. In 2010, net exports accounted for less than one-tenth of GDP growth, compared to a fifth in the years before the Global Financial Crisis. Meanwhile, China's imports from the region have risen fourfold in the last decade, out of which the share of consumption and capital goods imports used to satisfy domestic demand has risen steadily to 59% in 2010 from 41% in 2000. As such, China is likely to remain a mainstay of regional growth. Manufacturing in China has remained resilient, with the official PMI still in expansion mode in September. (Chart 3.6) Retail sales and fixed asset investment are also growing robustly.

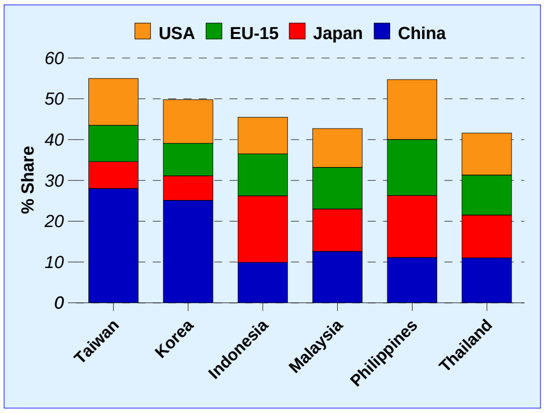
The export-driven economies in the region will be most vulnerable to a renewed slowdown in the US and Eurozone, although growth prospects for each country will depend on its export markets and commodity mix. Korea and Taiwan will be shielded, to some extent, by their relatively large share of exports to China. (Chart 3.7) At the same time, reconstruction demand from Japan will boost exports of steel, timber and petrochemicals from the resource-rich ASEAN countries, especially Indonesia and Malaysia. However, electronics producers, such as Malaysia and the Philippines, will be negatively affected by a downswing in electronics demand. (Chart 3.8) In Thailand, near-term growth will be curtailed by the severe floods inundating the country, although forthcoming expansionary fiscal measures and reconstruction spending will help limit downside risks to overall growth.

Chart 3.6
China's Industrial Production and PMI



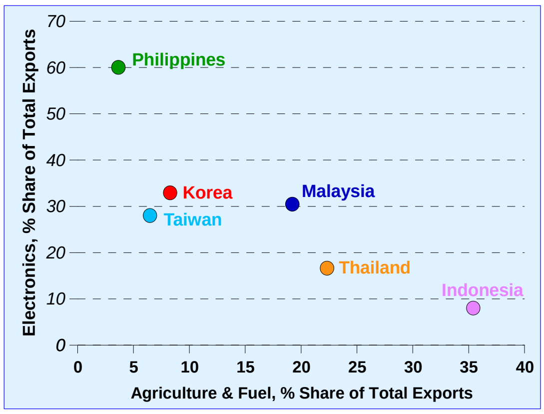
Source: CEIC

Chart 3.7
Exports of Selected Asian Economies by Destination in 2010



Source: CEIC

Chart 3.8
Exports of Selected Asian Economies by Commodity Type in 2010



Source: CEIC and EPG, MAS estimates

A reversal of capital flows would hurt Asia.

Further volatility in international financial markets also presents a significant downside risk to global growth. Apart from the trade channel, events in the US and Europe could potentially hurt Asian economies through a sudden reversal of capital flows, such as a repatriation of funds by foreign banks, thus causing a tightening in financial conditions and trade credit.

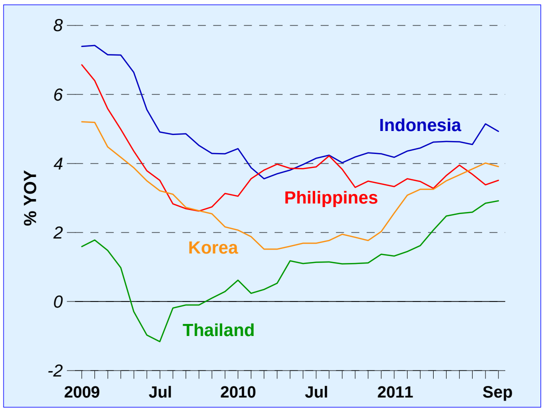
There is, however, some scope for Asian policymakers to counter the fallout on the real economy by implementing countercyclical fiscal measures. Indeed, the Philippines recently unveiled a US$1.7 billion package to stimulate growth while Malaysia announced measures to boost domestic demand in its Budget for 2012.

Headline inflation is likely to moderate in Asia although some core price pressures could persist.

As inflationary pressures moderate in tandem with the softening external environment, central banks in the region will have scope to recalibrate the monetary policy stance. Headline inflation is expected to peak this year and moderate gradually going into 2012, partly due to stabilising commodity prices. After two years of rapid expansion, however, capacity constraints in some Asian economies could keep cost pressures elevated in the near term and lead to some downward stickiness in core inflation. (Chart 3.9) Meanwhile, higher rice prices caused by policy adjustments and flooding in Thailand could pose an upside risk to food inflation.

Headline inflation in the US and the Eurozone should trend down over the next few quarters, as lower oil and commodity prices feed into the production chain. With a weaker growth outlook, negative output gaps will widen again, thus dampening inflationary pressures. In Japan, price pressures are also expected to remain subdued given the continued slack in the economy.

Chart 3.9
Core Inflation in Selected Asian Countries



Source: CEIC

3.2 Outlook for the Singapore Economy

Subdued Growth amidst Persistent Global Vulnerabilities

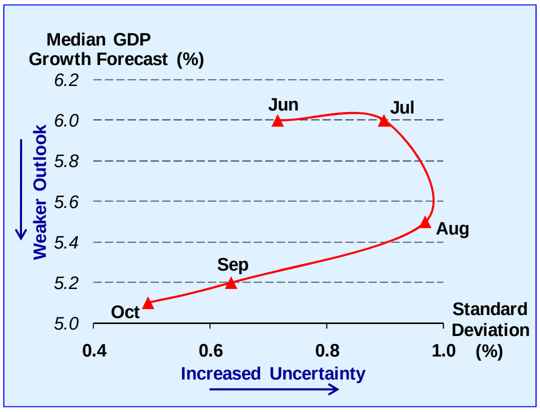
GDP growth is expected to come in at around 5% this year.

Two years after the recovery from the Global Financial Crisis, strong global headwinds once again confront the Singapore economy. The surge in domestic economic activity in the first quarter of the year has given way to an external-led slowdown in the second and third quarters.

Chart 3.10 traces the revisions to private sector growth forecasts of the Singapore economy. Following the release of the *Advance Estimates* in July, which showed a decline in GDP growth in Q2, the median forecast remained unchanged from the 6.0% in June as the supply-chain disruptions arising from the Tohoku earthquake were widely thought to be temporary. However, renewed jitters over the prospect of sovereign debt defaults in the Eurozone cast a shroud of uncertainty over the domestic economic outlook. Consequently, the range of forecasts widened in July. In August, following the slew of negative news from the US and Eurozone, the median growth forecast was revised downwards. In September and October, when high-frequency data confirmed the slowdown in trade-related activities, the median forecast was further downgraded.

Singapore's GDP growth is expected to come in at around 5% in 2011. While some pickup is envisioned next year, the underlying recovery momentum is likely to be modest, due to the structural fragilities in some of Singapore's major trading partners. Against this backdrop, Singapore's GDP growth next year could slow to below its potential rate of 3–5%.

Chart 3.10
Consensus Forecasts of Singapore's GDP Growth in 2011



Source: Consensus Economics Inc.

Singapore is likely to be confronted with strong cyclical headwinds in the immediate quarters.

The outlook for the Singapore economy over the next 15 months can be divided into two phases: stalled growth over the next few quarters, followed by a modest recovery, probably sometime in the latter half of 2012.

The first phase depicts the drag on domestic economic activity in the near term due to continued uncertainty and financial volatility in the external environment. Given Singapore's heavy exposure to global production, trade and financial flows, the economy will not be able to avoid the knock-on effects of the deteriorating external environment and the softening global IT cycle. The manufacturing, transport-hub, financial and tourism services sectors will be disproportionately affected. Moreover, the squeeze on corporate profits could further impact the labour market and consumer sentiment and subsequently spill over into domestic-oriented activities.

The global IT industry will remain lacklustre amidst the midstream inventory overhang and softening end demand …

The outlook for the global IT industry is a key determinant of the performance of the Singapore economy over the next few quarters. As developments in the global IT industry are closely tied to the broader macroeconomic environment, Table 3.2 links the performance of global GDP to activity in the IT supply chain for the first three quarters of the year.

As explained in Section 1.2, the midstream global semiconductor industry has started to contract, alongside the general weakness in the external environment since Q2 this year. Following broad-based contractions across the Americas, Europe and Asia Pacific, global chip sales have declined over the last five months, reversing gains in Q1. (Chart 3.11) Reflecting the inventory overhang, average selling prices for memory chips in the DRAM market have fallen sharply, coming in 20% lower in September compared to March. (Chart 3.12)

Table 3.2
The Global IT Supply Chain

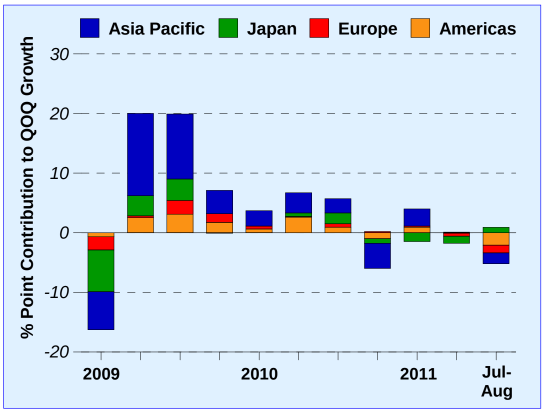
QOQ % Growth	2011		
	Q1	Q2	Q3*
Global GDP			
Final IT Demand			
Developed Markets			
Emerging Markets			
Global Chip Sales			
Semi Book-to-Bill Ratio**			

Positive Growth Flat Growth Negative Growth

* Based on available Jul–Aug data, where necessary.

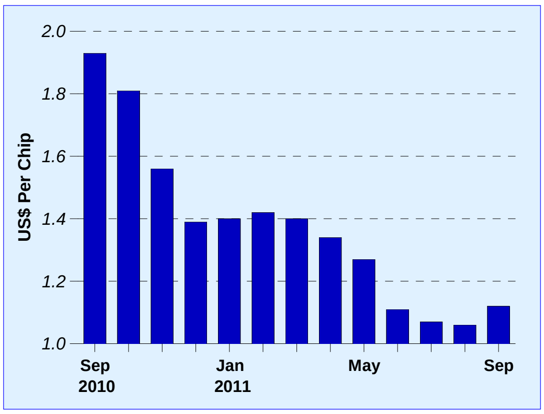
** Refers to a ratio of below one.

Chart 3.11
Global Chip Sales by Region



Source: Semiconductor Industry Association

Chart 3.12
Price of 1GB DRAM Chips



Source: DRAMeXchange

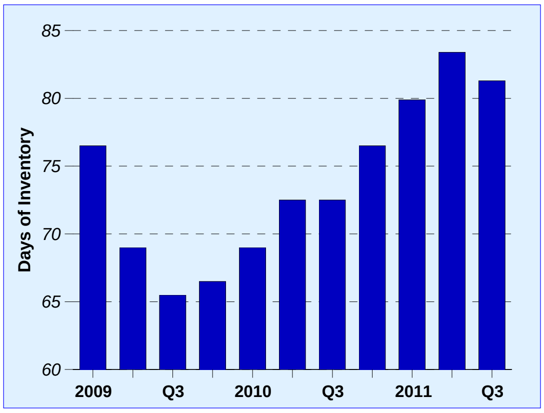
The weakness in the midstream segment is also evident from the build-up in semiconductor days of inventory (DOI) in Q2, which rose to a record high of 83.4, breaching the 80-day mark for the first time in 12 consecutive quarters. (Chart 3.13) In the aftermath of the Tohoku earthquake, major industry players stocked up aggressively on fears of component shortages. Slowing global demand in the latter half of the quarter, however, resulted in further inventory accumulation. This led firms to cut back on production in Q3, as they sought to unwind their excess inventories.

The fall in midstream demand has spilled into the upstream capital equipment segment. Correspondingly, the North American book-to-bill ratio for semiconductor equipment has fallen steadily over the past five months, from 0.98 in April to 0.75 in September, as a result of cutbacks in capacity expansion in the semiconductor industry. (Chart 3.14)

In comparison, final demand for IT has shown some signs of a slowdown, rather than an outright contraction, supported by the emerging market segment. More recently, however, end demand from key emerging markets such as China, has started to slow in both the corporate and retail segments. (Chart 3.15) This follows, in part, from the expiration of government subsidies for the trade-in and purchase of electrical appliances. Given the more subdued macroeconomic outlook, the boost from emerging markets could wane in the quarters ahead. Moreover, IT investment from the US corporate sector, which tracks profits fairly well with a lag of 1–2 quarters, could also slow amidst the broader economic weakness.

Softening IT final demand could lead to a protracted adjustment in the midstream semiconductor segment, dampening production over the next few quarters. Indeed, IHS iSuppli estimates that global chip stockpiles fell by only 2.5% to 81.3 DOI in the latest quarter.[2] Assuming that the reduction in inventory continues at the current rate, it would take at least three more quarters before inventory levels revert to their historical average of around 75 days. Accordingly, the expectation is that the global IT industry could consolidate further in the coming quarters before stabilising sometime in mid-2012.

Chart 3.13
Global Semiconductor Inventories

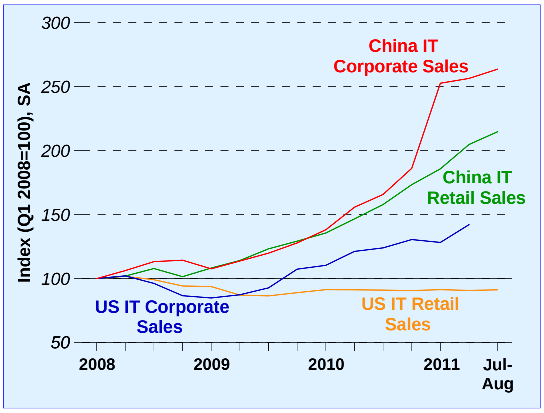


Source: IHS iSuppli

Chart 3.14
North American Book-to-Bill Ratio for Semiconductor Equipment

Source: SEMI

Chart 3.15
US and China IT End Demand



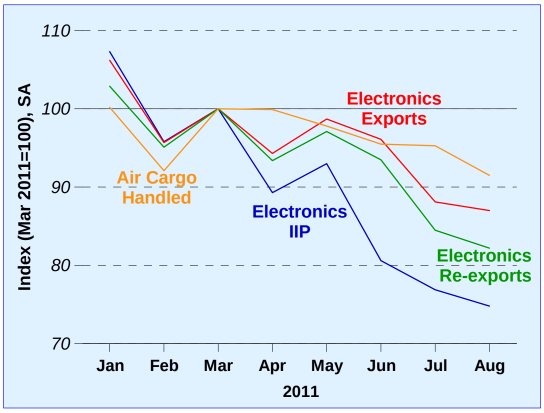
Source: CEIC and EPG, MAS estimates

2 According to the latest IHS iSuppli Inventory Insider Report, Issue 5, 2011.

… dampening activity in the domestic IT-related sectors.

The subdued profile of the global IT industry will have a significant impact on Singapore's domestic trade-related industries. Over the last six months, the decline in electronics production has been more severe than that in exports, suggesting that firms have been drawing down inventories to meet their existing orders, which have been on a downtrend since the middle of the year. (Chart 3.16) The weakness in electronics production has had attendant spillover effects on the trade-related sectors. Air cargo volumes, for instance, have fallen for the fifth consecutive month in August, alongside continued declines in electronics re-exports.

Chart 3.16
IT-related Activities



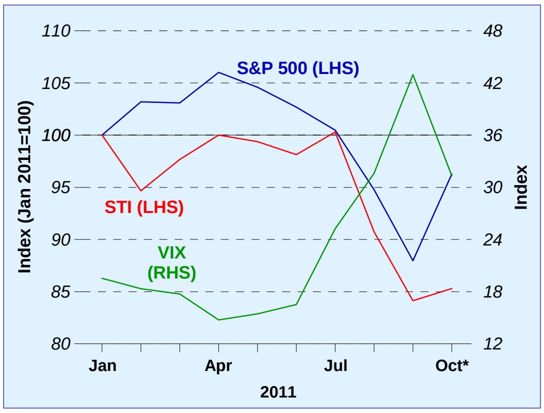
Source: EPG, MAS estimates

While the divergence in electronics production and exports will probably narrow over the next few quarters as the inventory destocking process runs its course, the recovery is likely to be muted amidst a generally weak macroeconomic environment.

Asset market-related activities could see a further pullback.

In the financial sector, ongoing worries over economic challenges in the industrialised economies will dominate trading themes in the immediate quarters ahead. Consequently, sentiment-driven activities could continue to perform poorly. In early October, global financial markets weakened substantially, with the S&P 500 Index losing 19% from its peak in April. The STI shed 21% over the same period, plunging to an all-year low of 2,528.71. The CBOE Volatility Index (VIX), a forward-looking indicator, has also remained at elevated levels of above 30 since August, higher than the historical average of 21.[3] This suggests that volatility in global financial markets could persist in the months ahead. (Chart 3.17)

Chart 3.17
Key Stock Market Indices



Source: Bloomberg
* As of 21 Oct 2011.

Growth in non-bank lending could also see some deceleration. On the domestic front, softer demand for credit from the trade-related segments, which have accounted for 29% of business lending gains in 2011 thus far, will weigh on non-bank loan growth. In addition, offshore lending activity will slow as firms in the region postpone their expansion plans. Tepid sentiment in the advanced economies could also cap the demand for funds.

[3] The CBOE Volatility Index measures investors' expectations of volatility in the S&P 500 Index over the next 30-day period.

The tourism industry could be affected if global weakness persists.

The tourism-related cluster, which has remained resilient thus far, could record more moderate growth should global weakness persist. In particular, business travel could be more adversely hit, as it is more dependent on travellers from the developed economies. Consequently, demand for tourism-related services could soften, especially in the meetings, incentive travel, and conventions & exhibitions (MICE) segment. However, this might be offset, to some degree, by gains in recreational travel.

A modest recovery in the latter half of next year is expected as cyclical headwinds gradually recede ...

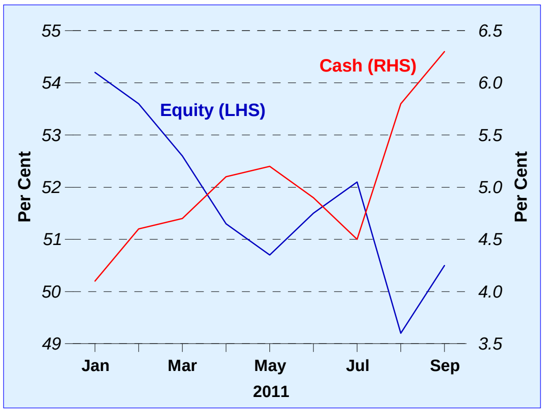
If external uncertainties subside in the latter half of next year, the Singapore economy will move into the modest recovery phase, with a more discernible pickup in activity. However, the timing and extent of recovery in this phase is extremely uncertain, and hinges heavily on how events in the US and Eurozone unfold. Nonetheless, the pickup will most likely be mild, as long as structural fragilities in the G3 economies linger.

... providing a boost to investor sentiment.

Sentiment-sensitive industries could be the first to see a turnaround in 2012, following a possible bottoming out in investor sentiment, which could prompt investors to reduce their elevated cash positions and channel capital back into asset markets. (Chart 3.18) Meanwhile, the life insurance segment could also see an increase in demand for investment-linked policies if there is a recovery in investors' risk appetite.

An upturn in investor sentiment would see companies reviving their plans for debt and equity issuance. Underlying demand for equity fund raising in Singapore has remained strong, with nearly US$3 billion worth of proposed IPO issuances in the last two quarters put on hold. This would also complement an increase in mergers & acquisitions (M&As) as companies seek new platforms for growth. Indeed, more than half of the M&A deal advisors surveyed expect regional deal volumes to gather pace as market volatility subsides.[4]

Chart 3.18
Share of Global Assets



Source: Reuters Asset Allocation Poll, Sep 2011

[4] According to a survey by Clifford Chance/Finance Asia M&A in September 2011.

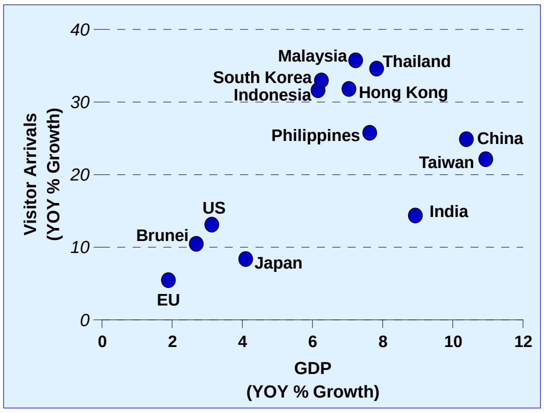
Trade-related activities will benefit from a pickup in global demand ...

Within the manufacturing and trade cluster, activity in the IT-related sectors could see an upturn as the inventory destocking process in the semiconductor segment runs its course, and final demand registers a modest increase alongside the stabilisation in the external environment. The non-electronics clusters, such as chemicals and pharmaceuticals, could also provide support to growth. In addition, the impact of recent transitory shocks, such as the fire outbreak that led to the shutdown of the Shell refinery in Pulau Bukom, is likely to have dissipated.

... as will tourism-related industries.

Regional-oriented services, such as tourism, will also be well placed to provide an additional boost to growth. (See Box B for an in-depth analysis of the underlying drivers of global trade in services). Global visitor arrivals into Southeast Asia are expected to grow apace, expanding by 6–7% in 2012–13.[5] The fast-growing source markets in Asia, such as China and Malaysia, should continue to provide support. (Chart 3.19) For instance, over the next few years, the Chinese market for international travel, already the third largest market by tourist spending, is expected to grow by 17% annually.[6] Singapore's tourism sector will be able to leverage on these developments, given the strong investment and increases in capacity that have come on-stream or are in the pipeline. Several attractions such as the Gardens by the Bay, River Safari at the Singapore Zoo, and new attractions at the Integrated Resorts such as Marine Life Park, are scheduled to open in the latter half of next year. (Table 3.3) The new International Cruise Terminal, which will expand berthing capacity substantially, should also attract more cruise passengers to Singapore.

Chart 3.19
GDP Growth and Visitor Arrivals to Singapore by Country of Origin in 2010



Source: CEIC and EPG, MAS estimates

Table 3.3
Upcoming Tourist Attractions in Singapore

Attraction	Estimated Completion
Maritime Experiential Museum	Q4 2011
Gardens by the Bay (Bay South)	2012
River Safari	2012
International Cruise Terminal	2012
Marine Life Park	2012
Equarius Water Park	2012
Sports Hub	2014
National Art Gallery	2014

5 According to the Pacific Asia Travel Association.

6 Lui, V, Kuo, Y, Fung, J, Jap, W, and Hsu, H (2011), "Taking Off: Travel and Tourism in China and Beyond", Report by the Boston Consulting Group; available at: http://www.bcg.com/documents/file74525.pdf

However, for 2012 as a whole, the Singapore economy could grow below its potential rate.

The Singapore economy is expected to be grow at below potential in 2012, due in part to the near-term weakness of our key trading partners. However, the downturn is unlikely to match the severity of the Global Financial Crisis.

The step-up in uncertainties in the external environment over the recent months has tilted the risks clearly towards the downside. Much depends on how events in the US and Eurozone unfold. Should there be a full-blown crisis in the developed economies, the Singapore economy will be more adversely affected.

Structural Adjustments amidst Cyclical Uncertainties

Medium-term growth will be underpinned by a shift toward higher-value, productivity-driven activities.

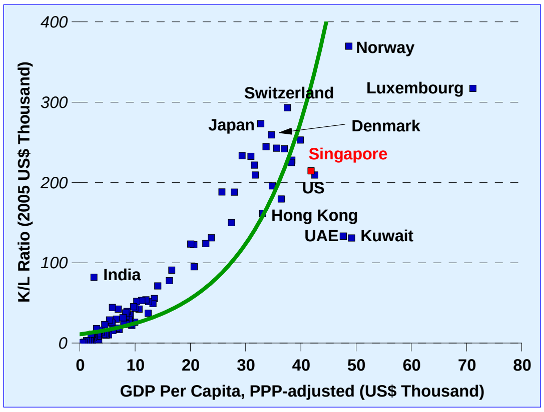
The following section highlights some of the necessary adjustments that will be taking place in the Singapore economy over the medium term, notwithstanding the near-term cyclical headwinds.

As articulated in the 2010 Report of the Economic Strategies Committee (ESC) and reinforced by recent government budgets, the Singapore economy has to shift towards productivity-driven activities in order to raise real median incomes, create higher-value jobs, and support medium-term economic growth. In a similar vein, the April 2010 *Review* put forward a case for capital deepening, particularly in machinery equipment & software (MEQ).[7]

Cross-country comparisons suggest scope for further capital deepening in some industries.

There is clearly some scope to increase the capital-to-labour (K/L) ratio in the domestic economy. A cross-country comparison, which plots the K/L ratio against GDP per capita in 2005 for 93 countries, indicates that Singapore's estimated K/L ratio is lower than what its level of income would predict. (Chart 3.20) Since the capital data includes residential

Chart 3.20
Capital-to-Labour Ratio and GDP per capita in 2005 Prices



Source: EPG, MAS estimates, IMF, International Labour Organisation and the World Bank

7 Monetary Authority of Singapore (2010), "Sources of Singapore's Economic Growth 1990–2009", *Macroeconomic Review*, Vol. IX(1), pp. 66–77.

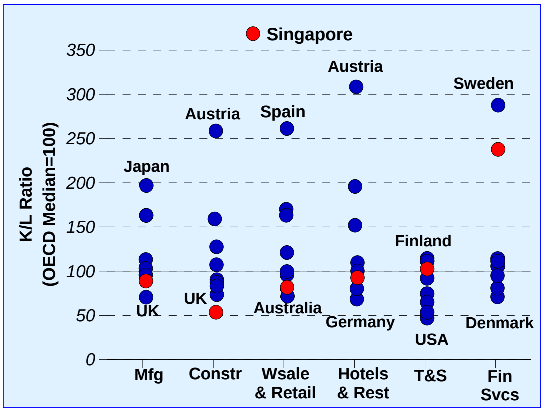
property, the K/L ratio for industrial production would be even lower in a built-up city-state like Singapore.

However, the extent of capital deepening could vary considerably across the economy. At the sectoral level, some sectors, such as construction and wholesale & retail trade, appear to have more scope for capital deepening, when benchmarked against the median of selected OECD economies. (Chart 3.21) In comparison, other sectors such as transport & storage already have K/L ratios higher than the sample median. This is not surprising since Singapore is a major transport and logistics hub, and has continuously upgraded its infrastructure and facilities amidst strong competition from the region.

The elasticity of substitution, which measures the ease with which capital can be substituted for labour and vice versa, will also differ across sectors.[8] The higher the elasticity of substitution, the easier firms can replace labour inputs with capital equipment given changes in relative prices. Sectors which employ more labour-intensive processes, such as construction and hotels & restaurants, could face difficulties when substituting capital for labour. Conversely, sectors which already employ capital-intensive technologies, such as manufacturing, may exhibit a greater ease of substitution. (Table 3.4)

Exhibit 3.1 plots the scope for capital deepening against the ease of substituting capital for labour across the major sectors in the domestic economy. The wholesale & retail trade sector offers the most scope for improvement, given its relatively higher ease of substitution and relatively lower K/L ratio. It may be more difficult, however, for sectors such as construction and hotels & restaurants.

Chart 3.21
Sectoral Capital-to-Labour Ratio



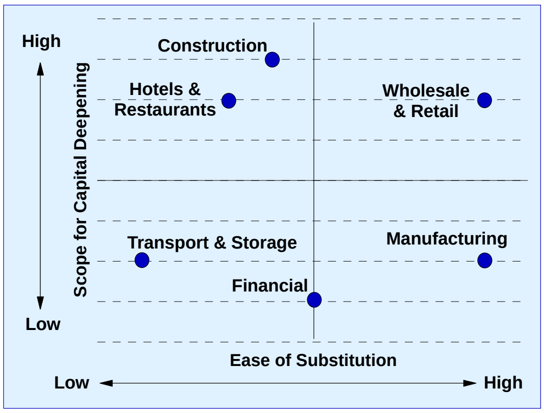
Source: EUKLEMS and EPG, MAS estimates

Table 3.4
Elasticity of Substitution by Sector

Sectors	Elasticity of Substitution
Manufacturing	0.99** (high)
Wholesale & Retail Trade	0.95** (high)
Financial	0.67* (average)
Hotels & Restaurants	0.21* (low)
Construction	0.05* (low)
Transport & Storage	0.00 (low)

Source: EPG, MAS estimates
* Statistically significant at the 10% level.
** Statistically significant at the 5% level.

Exhibit 3.1
Matrix for Capital Deepening by Sector



8 Formally, the elasticity of substitution, σ, is equal to the percentage change in capital per worker divided by the percentage change in relative input prices. To estimate the elasticity of substitution for the major sectors, the following framework was adopted and applied to quarterly data from Q1 1983 to Q4 2010.

$$\ln\left(\frac{\text{Output}}{\text{Labour}}\right)_t = \alpha + \sigma \ln\left(\frac{\text{Price of Labour}}{\text{General Price Level}}\right)_t + \varepsilon_t$$

where α is a constant term and ε_t is a random disturbance term. For more information on the methodology, please see Berndt, E R (1991), *The Practice of Econometrics: Classic and Contemporary*, Addison-Wesley Publishing Company, Massachusetts, Chapter 9, pp. 449–506.

Firm-level data point to greater capital deepening in larger firms.

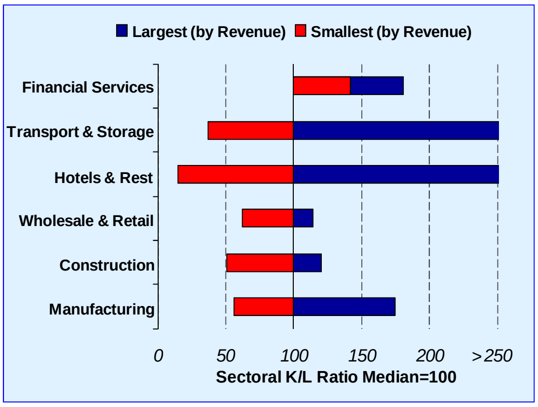
At the firm level, there appears to be a positive relationship between capital deepening and the size of firms. Using a corporate database[9], EPG calculated the K/L ratios by sector and by firm size for the top 4000 companies in Singapore. Within each sector, the K/L ratio varies considerably, and is much higher among the larger firms. (Chart 3.22) For instance, in both transport & storage and hotels & restaurants, the K/L ratios among the largest firms are more than twice the sector median; in both manufacturing and construction, the K/L ratios among the smallest firms are nearly half the sector median.

In addition, there appears to be a positive correlation between capital deepening and profitability, although it is weak for the smaller firms. One possible explanation could be that these firms lack the technological know-how or production scale to make efficient use of new machinery or IT. Indeed, the relationship between capital deepening and profitability seems to be stronger for larger firms. (Table 3.5)

MEQ investment tends to be sensitive to downswings in the business cycle.

As growth prospects for the coming quarters weaken and uncertainty continues to mount, firms may postpone, or even scale down, their capital expenditures. An increase in GDP growth volatility as a proxy for uncertainty is empirically associated with a pullback in MEQ investment, as reported in Special Feature A of the previous *Review*.[10] Indeed, MEQ investment plunged by 22% between Q1 2008 and Q2 2009 in the wake of the Global Financial Crisis. Although MEQ investment has since rebounded and exceeded the peak in Q3 2008, it could soften again in the coming quarters if firms reduce investment in response to slower economic growth and increasing uncertainty.

Chart 3.22
Firm-Level Capital-to-Labour Ratio by Sector



Source: EPG, MAS estimates

Table 3.5
Correlation between Capital Deepening and Profitability by Size of Firm

Size of Firms (by revenue)	Correlation between K/L Ratio and Profitability
Bottom decile	−0.02
11th to 30th percentile	0.10*
31st to 70th percentile	0.12*
71st to 90th percentile	0.16*
Top decile	0.31*
Overall	0.25*

Source: EPG, MAS estimates
* Statistically significant at the 5% level.

[9] DP Information Group S1000 & SME 1000 Database, Year 2011.

[10] Monetary Authority of Singapore (2011), "What Drives Private Machinery Investment in Singapore?", *Macroeconomic Review*, Vol. X(1), pp. 68–74.

Capital deepening positions firms for the cyclical rebound, and for productivity-driven growth in the medium term.

Despite the deteriorating global outlook, it is important for firms with the ability to do so to continue with capital deepening initiatives. Sustained capital spending now could augment their productive capacity and position them favourably for the cyclical rebound.

In the longer run, labour market conditions could become more challenging. The resident labour force participation rate is already at a historical high, while restrictions on the hiring of foreign workers will remain tight. Capital deepening would help ease labour market cost pressures on firms and provide innovation dividends over the medium term.

Box B
Global Trade in Services and its Implications for Singapore[1/]

There has been a surge in global services trade over the last decade, facilitated by improvements in technology that have transformed services from a largely non-tradable sector—due to constraints imposed by production and proximity to consumers—to one that is increasingly tradable across borders.[2/]

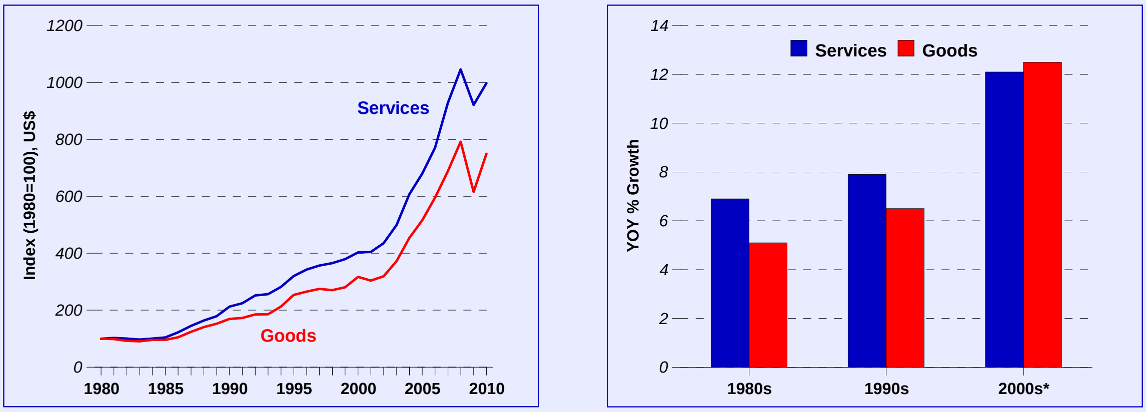
In Asia, this phenomenon was perhaps most visible in India, which witnessed a “services revolution” in the 2000s. Recent studies have also documented that total factor productivity (TFP) growth in the new service sectors—long thought to be stagnant—could be large enough to be a significant engine of growth.[3/] Productivity gains in these sectors can arise from the potential for learning, networking, knowledge spillovers, economies of scale and other externalities. These sources of productivity gains have further underlined the need for investment in infrastructure and human capital for countries to take advantage of the global market in tradable services.

This box examines recent trends and growth drivers for services exports, along with shifts in the trade patterns of services. It also explores the implications of the recent boom in services exports for Singapore.

Rapid Growth and a Shifting Composition

Services exports grew more strongly during the 2000s, compared to the previous two decades. The average annual growth in services exports accelerated to 12% in the 2000s, from 7% in the 1980s and 1990s. (Chart B1) This was a consequence of rapid advances in information and communication technology (ICT), which spurred the fragmentation of services exports and the subsequent specialisation within the services sector itself.

Chart B1
Global Exports of Goods and Services



Source: WTO

*2000–08

The unbundling and technological innovation in services gave rise to a host of new tradable services activities, predominantly in the *modern services* sector comprising financial, business and ICT services. As a result of their more rapid growth, modern services have accounted for the lion’s share of total services exports over the last decade, at 53% in 2009. (Chart B2)

1/ We are grateful to Sanjay Kalra, IMF Resident Representative, Vietnam and Laos, for his valuable contributions to this box, during his visit to EPG in H1 2011.

2/ See Bhagwati (1984).

3/ See Bosworth and Collins (2008).

Chart B2
Breakdown of Services Exports

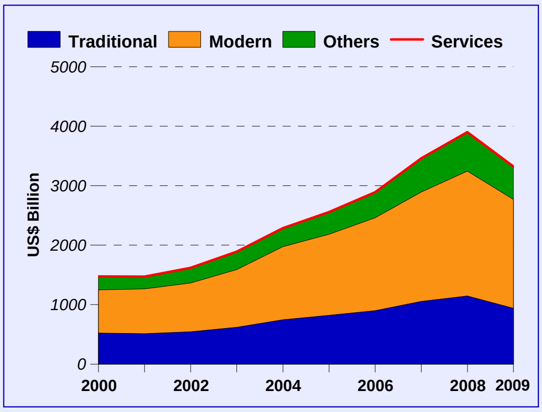
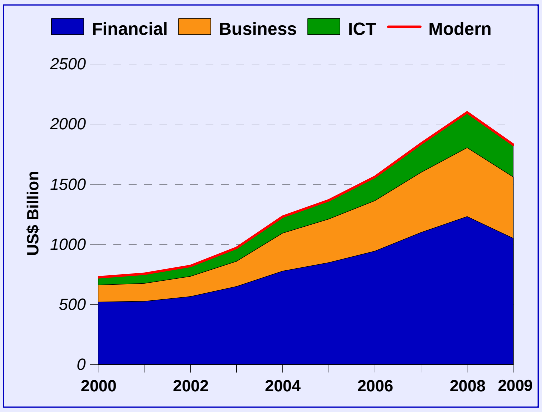


Chart B3
Breakdown of Modern Services Exports



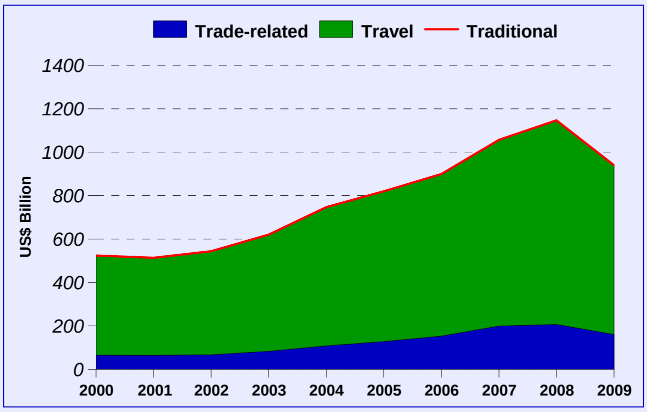
Source: UN Service Trade
Note: Other services include construction services, royalties and license fees, personal, cultural and recreational services and government services.

The growth in modern services, in turn, has been driven largely by financial services, which now constitute 62% of modern services exports. (Chart B3) The cross-border reach of financial activities has increased exponentially, boosted by financial sector liberalisation and the increasing fragmentation of job functions. For example, while Morgan Stanley had 110 personnel and one New York office in 1972, it now has 50,000 workers and offices around the globe. Business services, which include legal, accounting, consulting and marketing services, and ICT services have similarly benefited from advances in IT and the trend towards the outsourcing of support functions.

The growth in financial services trade between 2001 and 2008 was principally supported by the advanced economies and a number of high-growth Asian countries.[4/] The advanced economies still have the largest market share at 72% on average, although they generally registered lower growth rates than the global average of 11%. The US dominated with a 17% share in financial services, while, in terms of growth China and India led the Asian pack. Singapore also averaged fairly high growth of 23% over the last decade, similar to Ireland.

Traditional services, comprising travel and trade-related services (including commerce and transportation), made up 31% of total services exports over the last decade. (Chart B4) The bulk of growth in this category came from travel services, which averaged 84% of traditional services exports over the decade. The boom in tourism was facilitated by rising levels of disposable income in emerging markets, and by the proliferation of budget airlines in the 2000s.

Chart B4
Breakdown of Traditional Services Exports



Source: UN Service Trade

4/ Our sample of 103 countries over the period 2001–08 included 29 advanced economies based on the IMF's classification, 10 Asian economies (China, Hong Kong, India, Indonesia, Malaysia, the Philippines, Singapore, Korea, Taiwan and Thailand), and 64 developing economies.

While the largest source markets for tourism remain concentrated in the advanced economies, emerging markets are catching up. According to the UN World Tourism Organisation, growth in outbound tourists from Asia and the Middle East grew by 5.6% and 9.9% respectively over the period 2000–10, compared to an average of 2.1% for both Europe and the Americas. In particular, Chinese tourists have emerged as the fastest-growing spenders: expenditure by outbound Chinese visitors has multiplied four times since 2000, propelling China up to third position in the international tourism spending rankings in 2010, just behind Germany and the US.

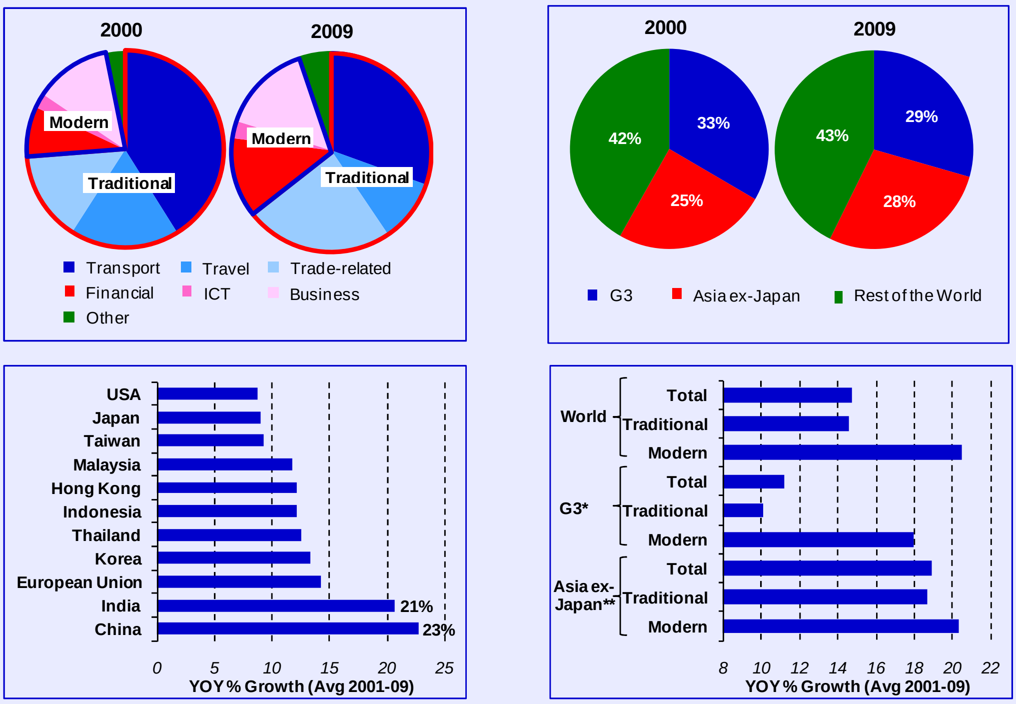
Exports of travel services have similarly been dominated by the advanced economies, followed by Asia and the popular tourism destinations of Mexico and Turkey. The US has an established foothold in travel services exports, commanding a global market share (18%) which is greater than the combined shares of runners-up Spain and France. In Asia, China (4.3%) is the star performer, with Hong Kong and the popular Singapore-Malaysia-Thailand holiday route a step behind.

Singapore and Global Services Trade

Over the period 2001–09, the growth of Singapore's services exports at 15% surpassed the world average of 10%. Growth in both traditional and modern services exports was strong, at 13% and 18% respectively. Nevertheless, the share of modern services in overall services exports of 26% was low compared to the global average of 53%. Given Singapore's advanced infrastructure and human capital, this suggests that there may be some scope to raise both the share of modern services exports and their growth rate.

As far as services export destinations are concerned, the share of Asia ex-Japan rose steadily from 25% in 2000 to 28% in 2009 while that of the G3 fell by 4% points to 29% over the same period, as a result of rising incomes and rapid GDP growth in the region. (Chart B5) In particular, services exports to China and India grew rapidly at annual rates of 23% and 21%, respectively. Overall, the growth of exports to Asia ex-Japan was higher than to the G3 for both traditional and modern services, providing a resilient source of external demand during the Global Financial Crisis.

Chart B5
Singapore Services Exports: By Category and Destination



Source: DOS and UN Service Trade
* G3 proxied by USA and Japan.
** Asia ex-Japan proxied by China, Hong Kong, India and Korea.

For the global economy, services will play an increasingly important role in driving overall growth, even as manufacturing remains a core pillar of growth. To identify variations in import consumption based on various stages of economic development, a panel regression was estimated over the period 2000–09, with the income effect proxied by GDP (in US$) and the price effect proxied by the Real Effective Exchange Rate (REER). Fixed country and period effects were included to control for unobserved heterogeneity across countries and time. Countries were grouped into advanced economies (29), Asian economies (10), and developing economies (64) according to the classification given in footnote 4 above. The full sample consists of over 900 observations.

The results in Table B1 suggest a higher income elasticity of imports for services compared to goods. This is particularly true in Asia, where a 1% rise in income increases services imports by 1.14% and increases goods imports by a smaller 0.76%. Within services, modern services have higher income elasticities compared to traditional services in Asia. Thus, as incomes rise in Asia, regional demand for Singapore's exports could expand strongly, particularly for modern services.

Table B1
Income Elasticity Estimates

			Traditional		Modern Services		
	Total Goods	Total Services	Trade	Travel	Fin	Biz	ICT
Full Sample	0.31	0.56	1.00	0.77	1.06	0.57	1.14
Advanced Economies	0.97	0.93	1.37	0.95	1.47	1.24	1.90
Asian Economies	0.76	1.14	0.89	1.16	1.13	2.19	2.06
Developing Economies	0.09	0.62	1.01	0.71	1.07	0.56	1.27

Note: All variables were estimated in logs and all coefficients were statistically significant at the 1% level.

Sum-up

Global trade in services grew strongly between 2000 and 2009, as the leap in IT created a host of new services activities and changed the very nature of services exports. Moreover, modern services appear to have benefited most from the digital boom, and doubled in size over the decade. At the same time, Singapore's services exports have grown rapidly, but the relatively low share of modern services in Singapore's overall services exports, coupled with potentially strong regional demand for services imports, should provide considerable scope to increase its exports of modern services in the future.

References

Bhagwati, J (1984), "Splintering and Disembodiment of Services and Developing Nations", *The World Economy*, Vol. 7, pp. 133–144.

Bosworth, B and Collins, S (2008), "Accounting for Growth—Comparing China and India", *Journal of Economic Perspectives*, Vol. 22(1), pp. 45–66.

3.3 Labour Market

Labour Market Tightness to Ease

Employment gains will slow, relieving the tightness in the labour market.

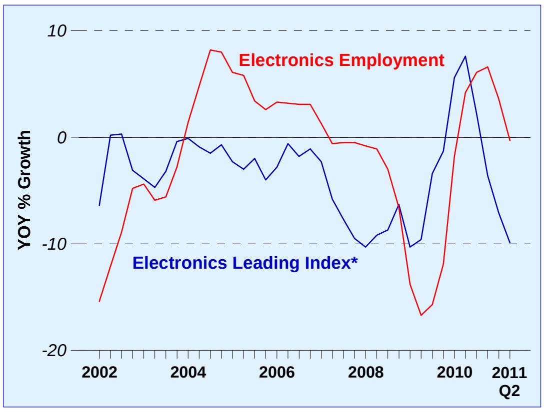
Beyond the short-term rise in labour demand during the end-of-year festivities, employment gains are expected to grow more moderately going forward. While certain sectors have already scaled back on hiring, this will intensify and broaden across more industries in the next few quarters. This pullback will have the effect of relieving the short-term tightness in the labour market and bringing down wage growth closer to its historical average. Meanwhile, short-term labour productivity growth will continue to slow.

Job creation will weaken, especially in the sentiment-sensitive and external-oriented sectors …

As noted in Chapter 2, the financial services and trade-related sectors turned more cautious in hiring in H1 2011. The financial market uncertainties and more evident signs of weakening global growth are likely to further dampen employment prospects in these sectors. Notably, job cuts will persist in the electronics industry as leading indicators continue to show a sharp fall-off in final demand. (Chart 3.23) Other parts of manufacturing, including upstream industries such as precision engineering, could also start to reduce hiring or cut staff.

Employment growth in the tourism-related industries is also expected to soften due to less business-related travel and a general cutback in corporate spending. However, this could be partially offset by more leisure travellers with the completion of the first phase of the Gardens by the Bay in 2012 and other tourism-related facilities.

Chart 3.23
Electronics Leading Index and Electronics Employment



* EPG, MAS estimates.

… though some non-cyclical domestic-oriented sectors will provide support.

Employment in the domestic-oriented industries, in comparison, will be more resilient. Notably, capacity expansion in education & public administration and health & social services will support job creation. Demand for workers is strong in these two industries, which together accounted for 20% of the 55,300 seasonally adjusted job vacancies in Q2 2011, substantially above their 10% share of total employment. (Chart 3.24) Construction employment growth is also expected to remain firm, underpinned by a strong pipeline of public sector and infrastructure projects.

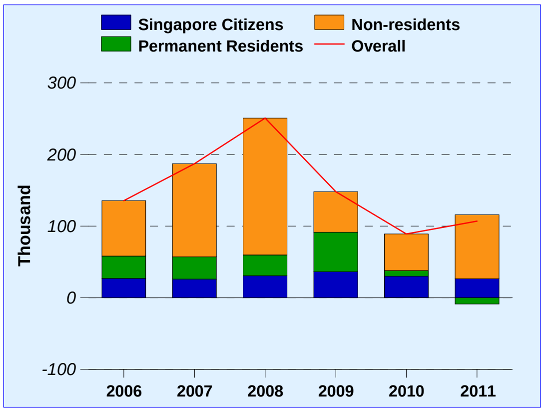
Chart 3.24
Job Vacancies in Education & Public Administration and Health & Social Services

Certain sectors could still face tight labour supply due to changes in foreign worker policy.

Labour supply will expand much slower as several changes to foreign labour policy take effect in January 2012. In particular, the intake of both skilled and unskilled foreigners will be tightened, along with the continuation of the more selective immigration policy that began in 2010. The increase in the foreign population has moderated to 70,000 a year over the last two years compared to 114,000 annually over 2006–09. (Chart 3.25) The slowdown will probably continue into 2012 due to higher foreign worker levies and stricter qualifying criteria for employment-pass holders.

Thus, even as demand for workers softens, certain sectors could still face labour shortages if they are unable to substitute foreigners with local workers, or raise the productivity of existing workers.

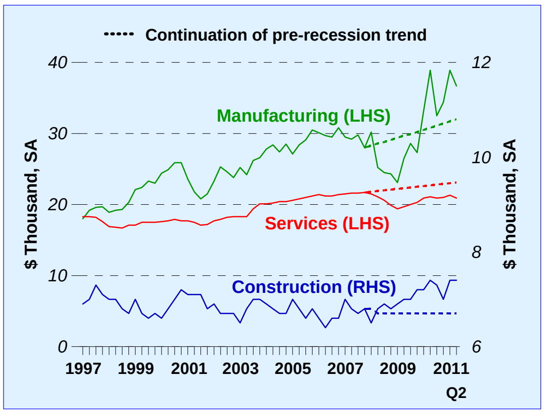
Chart 3.25
Mid-year Population Changes



Productivity in both manufacturing and services dipped in Q2.

Productivity fell in both manufacturing and services in Q2 2011, dragged down by weaker output growth. (Chart 3.26) This situation is likely to persist as firms tend to hoard labour to some extent during a downturn for fear of being unable to hire when economic conditions improve. The fall in average labour productivity will be compounded by a shift in employment creation towards sectors with low measured productivity, such as education and healthcare.

Chart 3.26
Labour Productivity by Sector



Source: EPG, MAS estimates

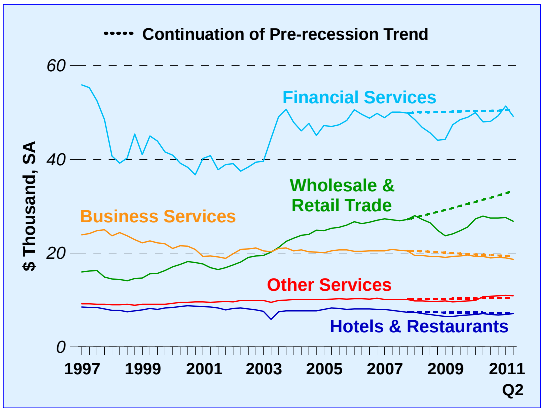
As the economy slows further, there is a risk that underlying productivity growth may be impaired beyond the cyclical downturn. As observed in Section 3.2, firms may invest less in capital amidst an environment of economic uncertainty, falling profits and tighter credit conditions. Furthermore, as some slack opens up in the labour market, they may delay the adoption of new work processes to improve labour efficiency. Employees will also have less opportunity to upgrade their skills as firms scale back training budgets and remuneration.

Nonetheless, trend productivity growth has shown signs of a pickup in manufacturing and construction.

Abstracting from the current downshift in economic activity, the government's push for productivity-led growth appears to have yielded some early results. In particular, manufacturing productivity has been above its pre-recession trend for several quarters, suggesting some form of restructuring is taking place.[11] (Chart 3.26) For instance, some advanced electronics manufacturing facilities have opened in recent years while the precision engineering segment has taken on more complex activities. The strong performance of pharmaceutical manufacturing has also contributed to the step-up in average output per worker. Meanwhile, productivity growth in construction has picked up modestly, after remaining broadly flat in the last decade, supported by government and industry initiatives to boost productivity.[12]

In comparison, labour productivity in services continued to remain below trend, weighed down in particular by the retail trade segment. (Chart 3.27)

Chart 3.27
Labour Productivity in the Services Sectors



Source: EPG, MAS estimates

[11] The pre-recession trend is calculated by using the average quarterly growth rate from Q1 1998 to Q4 2007 implied by the Hodrick-Prescott filtered trend of output per worker.

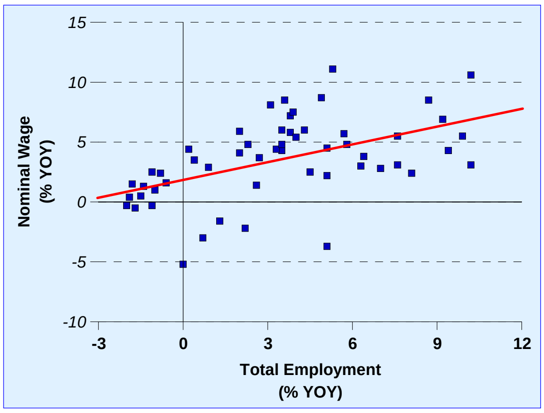
[12] For instance, BCA set up the $250 million Construction Productivity and Capability Fund in June 2010, of which $26 million has been committed to firms for technology adoption and workforce development. In all, about 900 companies have benefited from the scheme, of which 60% are smaller firms.

Wage growth will slow to around its historical average rate.

In the immediate quarters, the softer labour market will help to contain wage pressures. Historically, wage gains have slowed in tandem with a moderation in employment growth. (Chart 3.28) For the year as a whole, wage growth could slow from around 5.0–6.0% in 2011 to 2.0–4.0% in 2012, which is close to its historical average.

The higher CPF employer contribution rates and ceiling that came into effect in September, as well as higher foreign worker levies, mean that firms' labour costs will inevitably edge up. Together with slowing productivity, this means that unit labour costs will rise further in the next few quarters, albeit at a slower pace.

Chart 3.28
Total Employment Growth and Nominal Wage Growth



3.4 Inflation

CPI Inflation will Moderate

Inflationary pressures will ease in 2012 as economic conditions weaken.

The expected slowdown in economic activity, signalled by a gradual narrowing of the positive output gap, will have a restraining effect on domestic costs and prices in 2012. The strong positive correlation between the changes in the output gap and inflation is borne out by historical data. (Chart 3.29) Indeed, the rapid switch in the output gap from positive to negative during the recent Global Financial Crisis produced a corresponding fall in inflation.

This suggests that the prices of most items in the CPI basket are sensitive to the business cycle, i.e. they have procyclical characteristics. In an economic downturn, prices tend to moderate either because demand has fallen off or because cost pressures have eased. In Singapore's case, consumer prices tend to respond quickly to changes in demand. In comparison, wage adjustments tend to lag the business cycle by two quarters on average, and the pass-through to prices, particularly in services, will also take time.

With the expected slowdown in the economy, prices of cyclically-sensitive items, such as recreation services, are likely to decline. (Chart 3.30) Domestic cost pressures will abate as the tightness in the labour market gradually eases. As such, the price increase of non-cyclical items that are driven more by wage costs, such as education and healthcare services, will moderate. Meanwhile, price pressures from external sources, such as oil, are likely to subside as global growth slows. Thus, a broad range of consumer goods and services are set to witness more modest price increases or even price declines going forward. Accordingly, MAS Core Inflation on a year-ago basis should gradually ease from Q2 2012.

However, accommodation costs and car prices will remain sticky in the near term, given continuing supply constraints. This will keep headline CPI inflation high for the rest of 2011 and into the early part of 2012 before falling more significantly in the second half of the year.

Chart 3.29
Output Gap, CPI Inflation and MAS Core Inflation

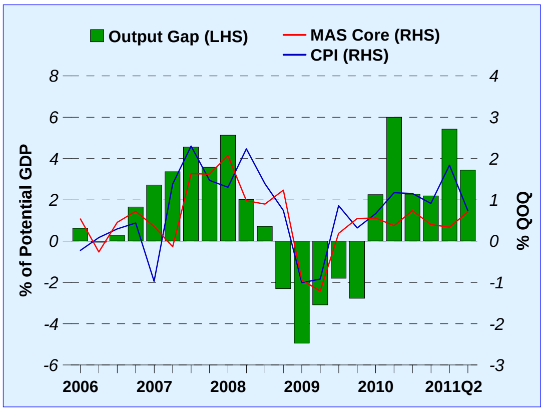
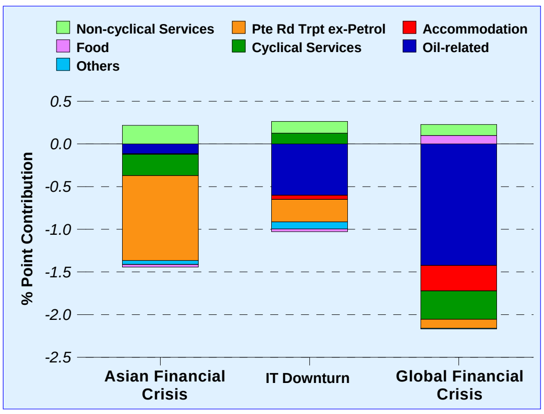


Chart 3.30
Contributions to the Decline in CPI during Previous Downturns



Source: EPG, MAS estimates

The overall increase in services fees will slow.

The costs of sentiment-sensitive services, such as holiday travel and entertainment, are likely to fall, as consumers turn cautious and business cost pressures ease. The decline in the most recent Nielsen Consumer Confidence Index is indicative of consumers' plans to cut back on discretionary spending over the next few quarters, which will in turn dampen price increases. (Chart 3.31)

However, the costs of non-cyclical services, such as education and healthcare, could increase further, albeit at a more moderate rate. This is due to resilient consumer demand for these types of services and sticky wages arising from a general shortage of manpower, even during an economic slowdown.

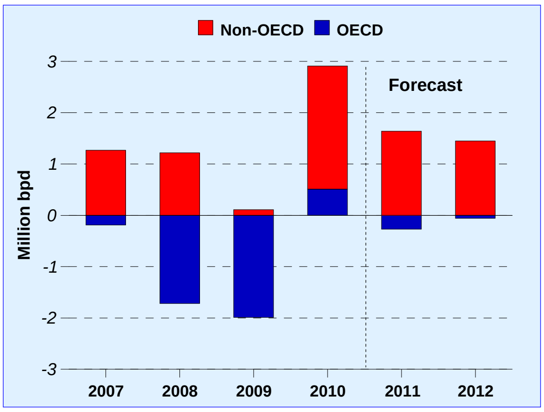
Oil-related items will contribute negatively to inflation in 2012 …

Global oil prices, as measured by the WTI benchmark, dipped to around US$85 recently. Further, IEA, the US Energy Information Agency (EIA), and OPEC have all cut their forecasts for global oil consumption growth in 2012. OECD oil consumption is forecast to decline further in 2012 from the current level, which is itself already around 10% lower than that before the Global Financial Crisis. (Chart 3.32) The expected incremental oil demand from the emerging economies has also been shaved down.

However, a repeat of the 2008–09 collapse in prices is unlikely as the oil market is still generally tight because of the loss of Libya's output.[13] Global oil prices could therefore remain close to current levels for the next few months until some of Libya's output is restored, averaging slightly below US$90 in 2012, compared to around US$95 in 2011. (Chart 3.33) Hence, direct oil-related items will contribute negatively to inflation next year.

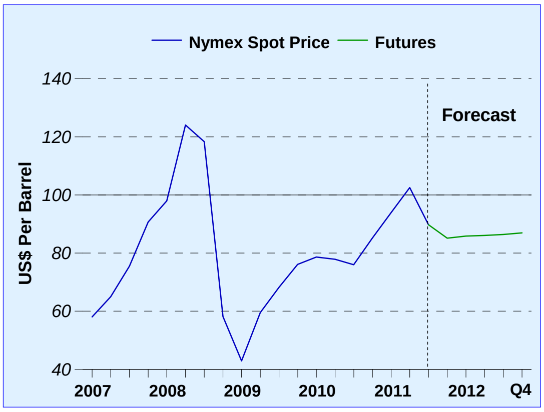
Chart 3.31
Nielsen Consumer Confidence Index: Singapore

Chart 3.32
Incremental Demand for Oil



Source: EIA

Chart 3.33
WTI Oil Price



Source: Bloomberg

13 Libya's pre-war oil output of 1.6 million barrels per day constituted around 40% of OPEC's surplus productive capacity in 2010. International agencies' projections of the resumption of Libya's oil production differ significantly. OPEC expects Libya to restore two-thirds of its production within six months and return to full production within 12–18 months. Meanwhile, IEA projects Libya's production to grow only marginally by the end of this year and by almost 75% at the end of 2012. EIA expects only half of Libya's pre-disruption production to resume by end-2012.

… while food prices will continue to rise, albeit more moderately.

Global food prices, as measured by the FAO food price index, have also corrected somewhat as global growth slowed. During the Global Financial Crisis in 2008–09, for example, the index slumped by close to 40% in eight months.

Nonetheless, a number of commodities continue to display significant price pressures. In particular, export prices of Thai white rice have surged as farmers hoarded stocks after the Thai Government promised to purchase their harvests at a 40% premium to the prevailing market price in October. (Chart 3.34) Severe monsoon floods in several Asian countries, such as Thailand and Pakistan, as well as the expected re-emergence of the La Niña weather phenomenon later this year, will also dampen grain crop yields.[14]

On balance, domestic food prices will continue to rise but modestly. For the whole year of 2012, food price inflation is expected to come in slightly below the outcome in 2011.

Chart 3.34
Thai Grade B 100% White Rice Price

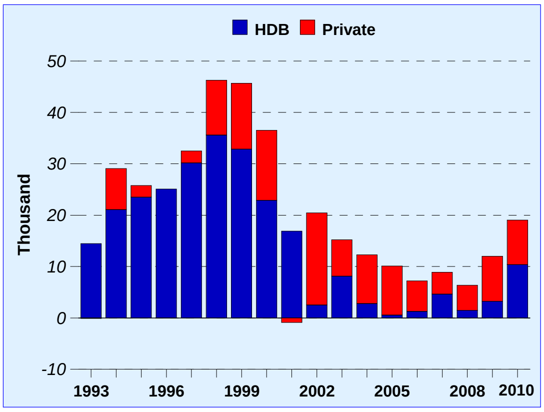
Source: Bloomberg

Rental increases will continue given supply constraints in the HDB segment.

Despite the economic uncertainty, accommodation cost inflation will be sticky in the near term, given strong housing demand arising from the continued inflow of foreigners and the current tight supply.

HDB rents, in particular, have seen sharp increases due to supply shortages. HDB's residency requirement implies that only HDB flats built in 2007 or earlier can potentially be added to the leasing market in the next year.[15] However, net additions to the stock of HDB flats was modest over 2002–09 due to the slowdown in construction since the early 2000s. (Chart 3.35) Hence, the number of HDB flats that can be added into the rental market will remain low in the near term.

Chart 3.35
Change in Stock of HDB and Private Residential Units



14 The Australian Bureau of Meteorology and US National Weather Service have reported that a second wave of La Niña effects is expected during the coming northern hemisphere winter. If so, current indicators suggest that it will be weaker than that in 2010–11.

15 For owners to sublet the entire flat, they typically need to satisfy the condition of a five-year Minimum Occupation Period.

In contrast, the number of private residential units to be completed in 2012 is expected to be twice the five-year historical average. These can be added to the rental market quickly and will help to ease the current tightness in the market.

Overall, leasing contracts will continue to be renewed at values that are higher than those under previous contracts. As such, accommodation costs in the CPI will register increases on a year-ago basis until the end of 2012 and account for around half of CPI inflation for the whole year.

COE premiums will remain elevated due to further tightening of the vehicle population policy.

With the poorer economic outlook, the demand for new cars will be weak. Indeed, the number of COE bids submitted has fallen by another 8% in September. In particular, demand from the taxi companies, which has helped to prop up COE premiums in the past, has eased in recent months. (Chart 3.36)

At the same time, Singapore's motor vehicle policy will be tightened further in August next year.[16] The current monthly supply of new COEs is already extremely low at around 0.4% of the car population, compared to the five-year historical average of 1.4%. Hence, notwithstanding the slight pickup in vehicle deregistrations in recent months, COE supply will probably remain tight, which will support premiums. (Chart 3.37) For the whole of 2012, car prices will contribute modestly to CPI inflation, after adding more than 1.5% points this year.

Chart 3.36
Proportion of New Car Registrations by Taxi Companies

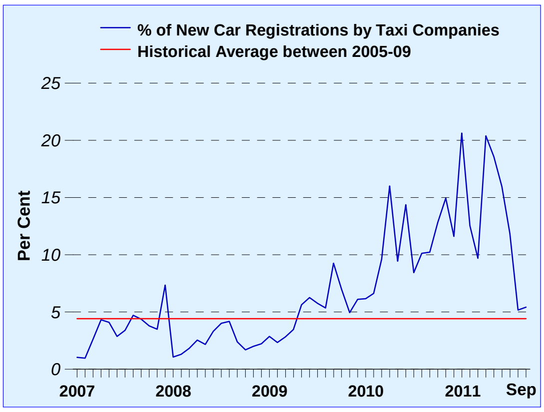
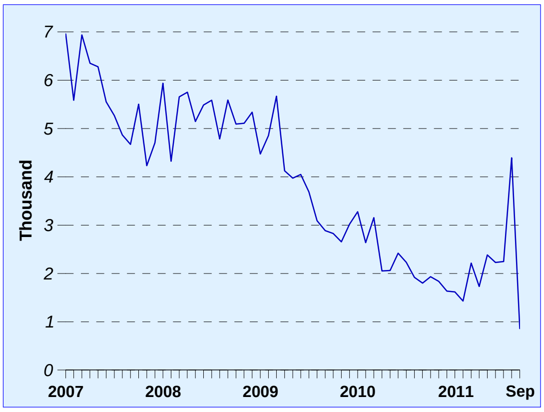


Chart 3.37
Number of COE Deregistrations



16 The permissible vehicle population growth rate will be cut from the current 1.5% per annum to 0.5% per annum in August 2012.

Headline and core inflation will moderate in 2012.

In sum, the Singapore economy has been confronted with external and domestic price pressures following the strong cyclical upturn in 2010 and early this year. However, the weaker economic environment going forward will alleviate these pressures. Hence, sequential increases in the CPI and the MAS Core Inflation will slow to below their historical averages from Q2 2012 and Q4 2011 respectively. (Chart 3.38)

Nevertheless, with the sharp upward shift in the CPI in recent months, y-o-y CPI inflation will remain elevated until mid-2012. It will average above 5% in H2 2011 and close to 4% in H1 2012, before easing to around 2% in H2. MAS Core Inflation will be broadly stable for the next two quarters before edging down to below 2% from Q2 2012.

For the whole of 2011, CPI inflation is expected to be around 5% while MAS Core Inflation will be around 2%. Costs of accommodation and private road transport, excluding petrol, will together contribute around two-thirds to CPI inflation, while commodity-related items will account for another one-fifth. (Chart 3.39)

In 2012, CPI inflation and MAS Core Inflation are forecast to be 2.5–3.5% and 1.5–2.0% respectively. Accommodation costs will account for around half of CPI inflation, while the prices of food and services will each account for about one-fifth.

Chart 3.38
Sequential CPI Inflation

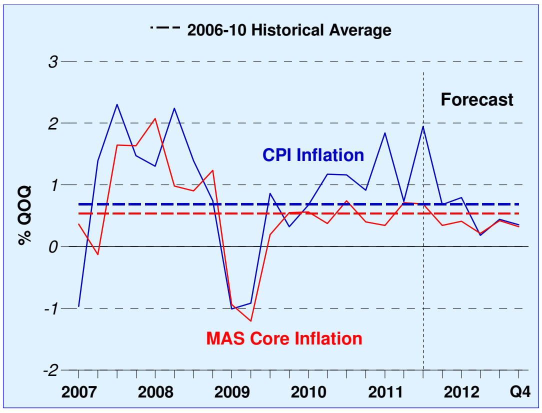
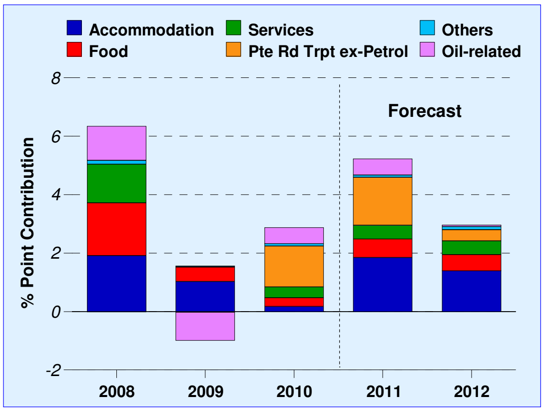


Chart 3.39
Contributions to CPI Inflation



Source: EPG, MAS estimates