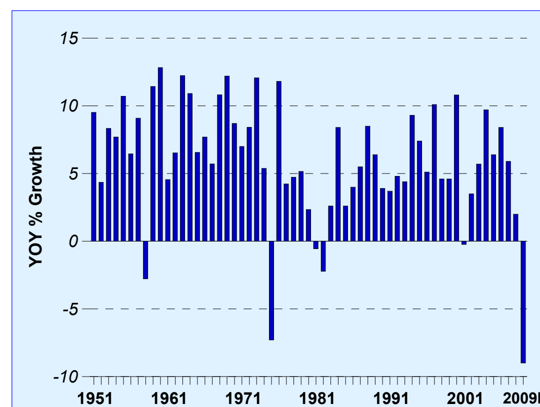
3.1 External Outlook

An Extended Period of Sub-trend Growth

The world economy is expected to face a downturn that is both deep and prolonged. In their most recent updates, the World Bank and the IMF slashed their forecasts for global growth this year. The World Bank now predicts that world GDP will fall by 1.7%, while the IMF is forecasting a contraction of 1.3%. World trade is also expected to plummet. According to the World Trade Organisation, global merchandise trade in volume terms will contract by 9% in 2009, the sharpest decline since the Second World War. (Chart 3.1)

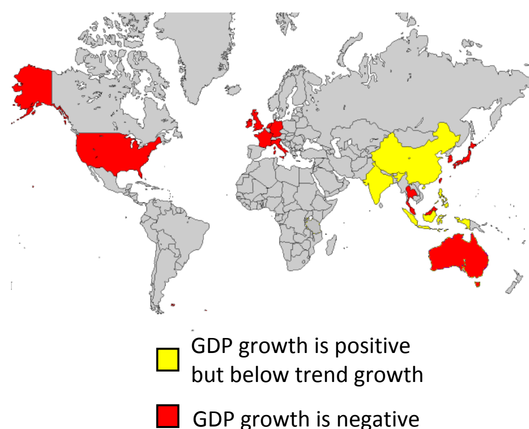
Chart 3.1
Global Merchandise Trade



Source: World Trade Organisation

Figure 3.1 presents the economic outlook for Singapore's major trading partners (in colour). These economies account for about 80% of Singapore's exports and some 70% of world GDP. Following the financial crisis and the rapid deterioration of global economic activity in recent months, the prospects for near-term growth are poor across both the developed and emerging markets. Consensus forecasts show full-year recessions for the industrial economies, as well as for the more externally-oriented Asian economies, such as the NIEs, Malaysia and Thailand. (Table 3.1) Consequently, countries accounting for 57% of Singapore's exports are projected to be in full-year recession in 2009, compared with 15% in 1985, 50% in 1998 and 5% in 2001.

Figure 3.1
Growth Prospects for Singapore's Major Trading Partners in 2009



Source: Consensus Economics Inc., OECD and EPD, MAS estimates

The present global downturn differs significantly from those in the past in terms of depth, breadth and duration. Federal Reserve Vice Chairman Donald Kohn noted that a defining characteristic of the present downturn has been the deepening adverse feedback loop between the financial sector and the real economy, with stresses in one amplifying problems in the other in a vicious cycle.[1]

In response to these challenges, many countries have adopted expansionary monetary and fiscal policies to shore up aggregate demand. Other measures, including purchases of troubled assets, have been undertaken to provide liquidity to the affected markets and restore

[1] Kohn, D (2009), "Policies to Bring Us Out of the Financial Crisis and Recession", speech delivered at the Forum on Great Decisions in the Economic Crisis, Ohio, 3 April.

credit flows to the real economy. Thus far, these measures have met with some success and have helped to relieve the stresses in the financial markets.

Recently, there have been encouraging signs of an increase in economic activity. For instance, some leading indicators, such as manufacturing Purchasing Managers Indices (PMI) in the major economies, have picked up. (Chart 3.2) As a result, there has been a discernible improvement in investor sentiment, with stock markets rallying in many parts of the world in March and the first half of April. However, expectations of a sustained recovery appear premature at this point. The decline in US retail sales and housing starts in March, for example, serves as a reminder that the present economic downturn is far from over. Moreover, the recent uptick in economic activity may have resulted from the liquidation of inventory that accompanied sharp production cuts in Q4 2008, rather than from a firm improvement in end demand. (Chart 3.3) Given the continuing layoffs and stresses in global financial markets, the recovery is likely to be modest and uneven.

Indeed, empirical studies suggest that economies typically take a long time to recover from financial crises. Reinhart and Rogoff (2008) found that GDP levels reach a trough within 1.9 years on average,[2] with the growth rate remaining below trend even three years after a crisis.[3] Their findings are supported by research from the IMF. In its April 2009 World Economic Outlook, the IMF found that recessions in advanced economies that are driven by financial crises, or which are highly synchronised, tend to be more protracted, and result in a greater loss of output.[4] (Table 3.2a) Under such conditions, the economy takes a longer time to recover to its previous peak, while growth remains weaker in the initial recovery phase. (Table 3.2b) The IMF warned that the current recession is likely to be unusually long and severe, while the recovery will be sluggish.

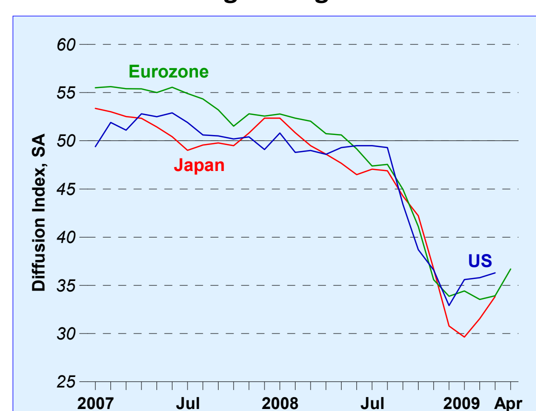
Table 3.1
Forecasts of GDP Growth in 2009

(%)

	Oct 2008	Apr 2009
Total*	**2.9**	**-1.6**
Industrial Countries*	0.3	-3.5
US	0.0	-2.7
Eurozone	0.5	-3.4
Japan	0.5	-6.3
NIE-3*	3.4	-4.2
Hong Kong	3.1	-3.5
Korea	3.8	-3.8
Taiwan	3.6	-5.5
ASEAN-4*	4.7	-0.5
Indonesia	5.3	3.0
Malaysia	4.5	-2.3
Thailand	4.2	-3.4
Philippines	4.5	2.1
China	8.8	7.0
India**	7.2	5.1

Source: Consensus Economics Inc.
* Weighted by shares in Singapore's non-oil domestic exports.
** Fiscal year starting 1 April.

Chart 3.2
Purchasing Managers Indices



Source: The Institute for Supply Management and Markit Economics

[2] Reinhart, C M, Rogoff, K S (December 2008), "The Aftermath of Financial Crises", paper presented at the American Economic Association meeting in January 2009.

[3] Reinhart, C M, Rogoff, K S (January 2008), "Is the 2007 U.S. Sub-Prime Financial Crisis So Different? An International Historical Comparison", *NBER Working Paper* W13761.

[4] IMF World Economic Outlook (April 2009), Chapter 3, "From Recession to Recovery: How Soon and How Strong?"

The deep recession in the industrial countries and the concomitant collapse in world trade and capital flows have had a significant impact on many emerging market economies. Countries that are more open to international trade and finance have found themselves either in a severe export-led downturn, such as in East Asia, or in serious financial difficulties as traditional funding sources have dried up.

Looking ahead, the confluence of adverse factors depressing global growth will likely persist into the next few quarters. Global demand is unlikely to rebound strongly, with the major economies mired in an extended period of sub-par growth. The stresses in the global financial system are expected to weigh on economic activity for some time. It is also not certain at this stage how the swine influenza outbreak will impact global economic prospects.

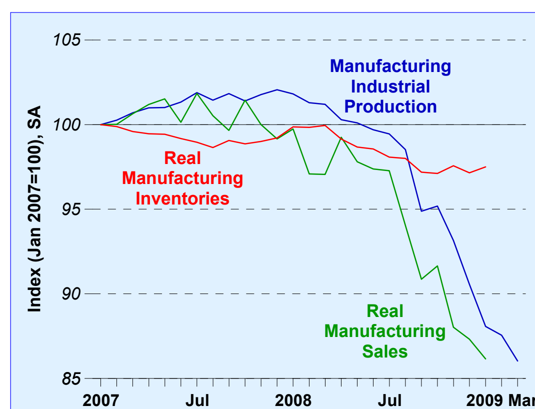
Advanced economies are in the worst downturn since the Second World War.

The US economy started the year on a weak note. Activity slipped across the board as the economy entered its fifth quarter of recession in Q1 2009. Manufacturing activity and capital goods orders have plunged by 15-21% since December 2007, when the economy peaked. (Chart 3.4) This was due to both declining foreign demand for US goods and weaker domestic retail sales.

Consumer spending is likely to remain subdued as households pay down debt amidst weak employment conditions, slow wage growth and reduced credit availability. Moreover, depressed equity markets and declining home prices are likely to lead to further erosion of household wealth and prompt households to save an even greater share of their income. Already, households' net worth has fallen by about 20% over six consecutive quarters since its peak in Q2 2007, a decline not seen since the Second World War. (Chart 3.5) Meanwhile, the average household savings rate has surged from around 0% to 4% in just one year, reflecting a deepening caution among consumers.

Prospects for growth in the Eurozone are fragile as well. Export-dependent economies, such as Germany, will continue to be impacted by weak global demand, and are susceptible to negative spillover effects from fresh

Chart 3.3
Indicators of US Manufacturing Activity



Source: CEIC and US Bureau of Economic Analysis

Table 3.2a
Characteristics of Global Recessions

Type of Recession	Duration*	% Loss in Real GDP
All	3.64	-2.71
(1) Financial Crises	5.67	-3.39
(2) Highly Synchronised	4.54	-3.45
(1) and (2)	7.33	-4.82

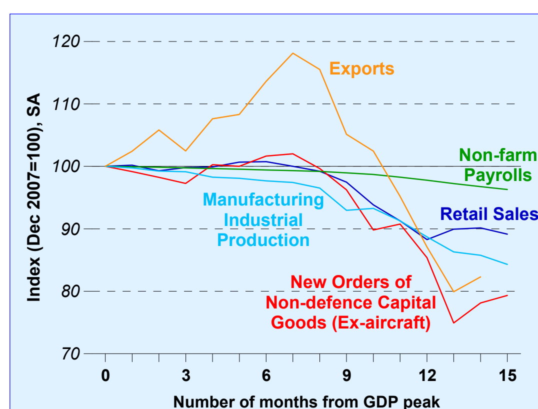
* Number of quarters from peak to trough.

Table 3.2b
Characteristics of Global Recoveries

Following Type of Recession	Duration*	% Gain in Real GDP**
All	3.22	4.05
(1) Financial Crises	5.64	2.21
(2) Highly Synchronised	4.19	3.66
(1) and (2)	6.75	2.82

* Number of quarters from trough to previous peak.
** Over four quarters from the trough.

Chart 3.4
Indicators of US Economic Activity Since December 2007*



Source: CEIC
* The US NBER declared the US economy to have peaked in December 2007. The economy is considered to have been in recession since then.

turmoil in global financial markets. Firms will continue to retrench workers in the face of declining orders, further clouding the outlook for household spending.

The near-term outlook for Japan's economy remains poor. Weak global demand will continue to depress the country's exports, while domestic demand should also remain sluggish. Results of the latest *Tankan* survey show that business confidence has fallen to a record low and that the proportion of firms facing tighter financing conditions, excess production capacity and surplus workforce has increased sharply. (Chart 3.6) Accordingly, firms are likely to restrain investment spending and employment going forward.

Given the sharp retraction in private sector activities and strains in the financial system, many OECD countries have rolled out substantial fiscal stimulus packages alongside aggressive monetary easing. Policy rates across the OECD are now at, or near, historically low levels, with some close to zero. (Chart 3.7) A number of central banks have also undertaken additional unconventional policy measures. For instance, the US Fed has taken the unprecedented step of buying long-term Treasuries and other private asset-backed securities in the open market in a bid to hold down long-term interest rates and relieve stresses in the financial markets.

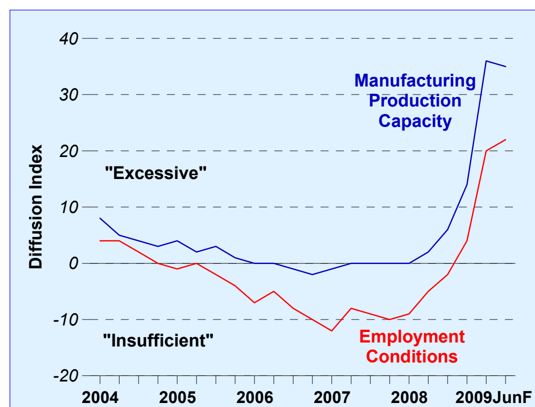
Sizeable fiscal stimulus packages have also been deployed, especially in the US and Japan. The US government announced a US$787 billion (6% of GDP) economic stimulus package in February this year, while the Japanese government committed JPY12 trillion (2% of GDP) to boost the economy and unveiled plans for additional spending amounting to 3% of GDP.

Such macroeconomic stimuli, along with the decline in commodity prices since the middle of last year, should provide some support to real disposable incomes and thus consumption spending in the near term. As suggested earlier, recent indicators have pointed to a tentative easing in the rate of global economic contraction. While encouraging, it is too soon to expect a decisive and sustained recovery at this point.

Chart 3.5
US Household Net Worth

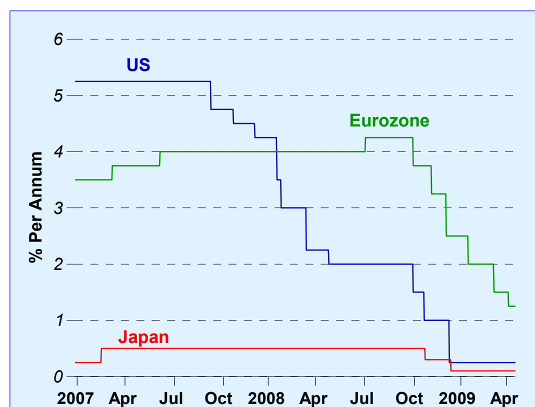
Source: US Federal Reserve

Chart 3.6
Japan *Tankan* Diffusion Indices



Source: Bank of Japan
Note: The diffusion index is the difference between the per cent of firms reporting "excessive" and the per cent of firms reporting "insufficient".

Chart 3.7
Policy Rates

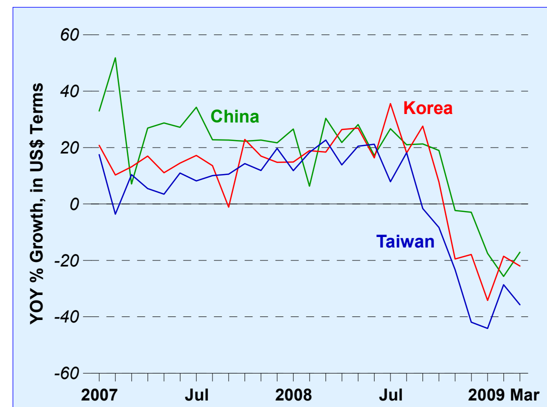


Source: Bloomberg and CEIC

Growth in Asia ex-Japan will remain depressed due to weak external demand.

In Asia ex-Japan, there have been some tentative signs that the rate of economic contraction has moderated. In the NIEs, exports contracted by a smaller margin in March compared to Jan-Feb 2009. Exports in Korea, for example, fell by 22% y-o-y in March against an average decline of 26% in Jan-Feb. China's exports also fell at a slightly slower rate in March. (Chart 3.8)

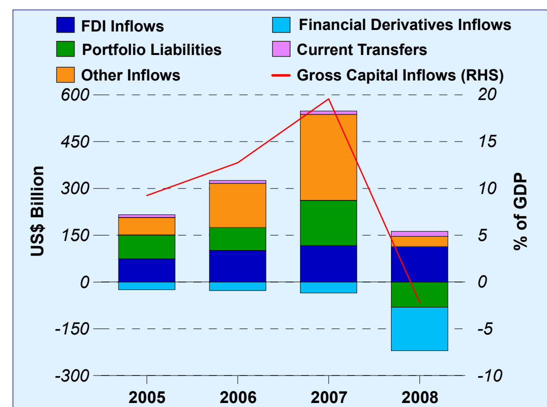
Chart 3.8
Exports of Selected Asian Economies



Source: CEIC

Given the importance of export-oriented production in Asia, a sustained and broad-based recovery is largely contingent upon an improvement in growth in the industrialised countries. In the near term, the prospects for the region are not encouraging: the reduction in aggregate demand due to the sharp fall in exports will not be fully offset by government measures to support the domestic economy. The slide in exports will also spill over onto other parts of the domestic economy. A significantly lower level of exports and industrial output, tighter credit conditions and receding foreign capital will continue to constrain investment spending and employment growth in the region. (Chart 3.9)

Chart 3.9
Capital Inflows to Asia ex-Japan*



Source: CEIC
* Excludes China and Malaysia.

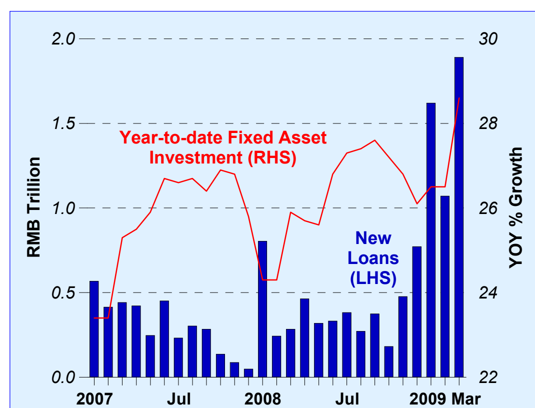
Nonetheless, financial institutions' limited exposure to troubled assets and households' higher level of savings will provide some cushion for the region. By and large, the region's banking and financial systems have strengthened significantly since the Asian Financial Crisis and they have weathered the current global financial crisis fairly well.

Although GDP growth in all regional economies will slow as global demand shrinks, the larger countries, such as China, India and Indonesia, should hold up better in 2009 compared with the more export-dependent economies. Domestic demand in these countries, buttressed by relatively large and stable agricultural sectors, will support growth during this period of reduced global trade.

In China, although GDP growth slowed from 6.8% y-o-y in Q4 2008 to 6.1% in Q1 2009, recent indicators show that the underlying growth momentum has improved slightly. The manufacturing PMI for March, for instance, rebounded to 52.4, signalling a modest recovery from five consecutive months of contraction in

industrial activity. Investment spending and credit growth have also picked up, indicating that official efforts to encourage greater corporate spending have met with some success. In particular, RMB4.6 trillion in new loans was extended in the first quarter of 2009, almost matching the amount recorded for the whole of 2008. (Chart 3.10)

Chart 3.10
China's Fixed Asset Investment and Loans

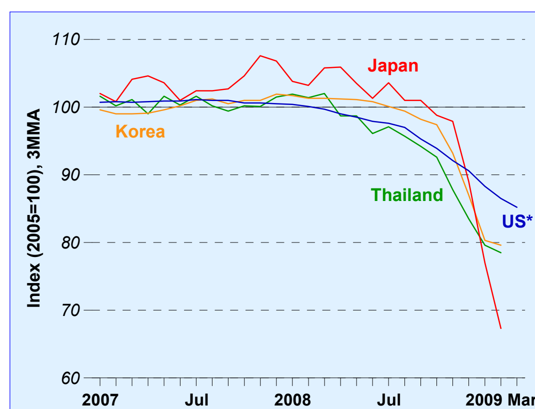


Source: CEIC

Global inflationary pressures will remain muted.

Against the backdrop of exceptionally weak global demand, price pressures are likely to remain muted in the near term. As growth in the major economies is projected to remain sub-par for an extended period, the output gap is expected to remain significantly negative. Manufacturing capacity utilisation has fallen sharply in a number of economies, implying further downward pressure on prices in the months ahead. (Chart 3.11)

Chart 3.11
Manufacturing Capacity Utilisation



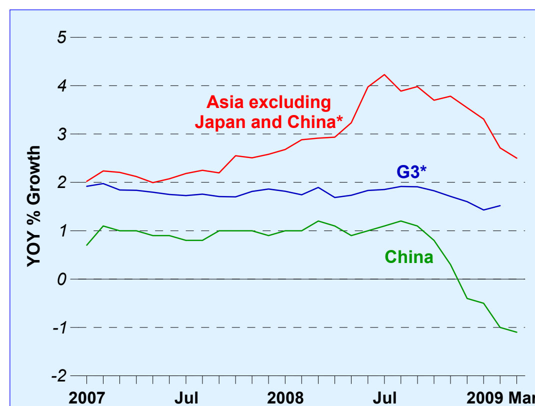
Source: CEIC
* Seasonally adjusted.

Indeed, following the sharp fall in energy prices, headline CPI inflation in the US turned negative in March (-0.4% y-o-y) for the first time in five decades. Producer prices have continued to decline in Q1 2009, albeit less sharply than in H2 2008, indicating little "pipeline" price pressure.

Moreover, while falls in food and fuel prices have been the key contributors to sharply lower headline inflation over the past few quarters in most economies, core inflation has been easing as well, albeit at a more gradual pace. (Chart 3.12)

Looking ahead, core inflation around the world should be subdued, due to the disinflationary effect of the negative output gap. CPI inflation is expected to fall from 3.3% in 2008 to -0.3% in 2009 in the G3, from 5.9% to 0.8% over the same period in Asia ex-Japan.

Chart 3.12
Core Inflation



Source: CEIC
* Weighted by 2007 nominal GDP.

3.2 Global IT Outlook

No Signs of Recovery Yet

The outlook for the Singapore economy hinges on the prospects for global IT.

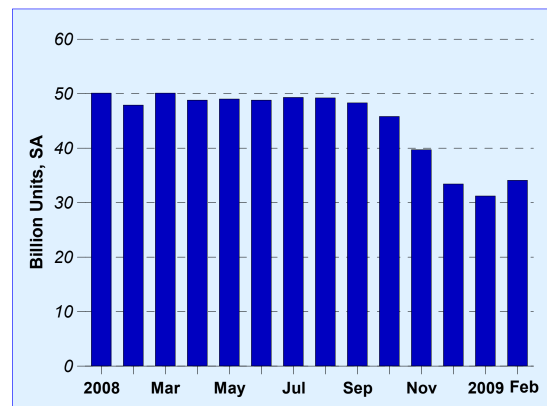
The IT industry is a key determinant of the outlook for the Singapore economy. The large domestic electronics sector specialises in the production of higher value added IT components that are plugged into the crisis-hit US and European markets, while Singapore's wholesale trade, transport and logistics industries are fuelled by the region's re-exports of manufactured IT goods. The following provides an assessment of the global IT outlook before turning to the prospects for the Singapore economy.

Beyond inventory restocking, underlying IT demand remains weak.

Against the deterioration in the external economic environment, global chip sales suffered its sharpest sequential decline on record in Q4 2008, as corporate IT spending and electronics retail sales sagged during the festive buying season. The unexpected speed and severity of the collapse in end demand resulted in a downshift in production and a sharp fall in inventories throughout the IT supply chain. This was reflected in a 35% drop in the number of semiconductors shipped from September 2008 to January this year. (Chart 3.13)

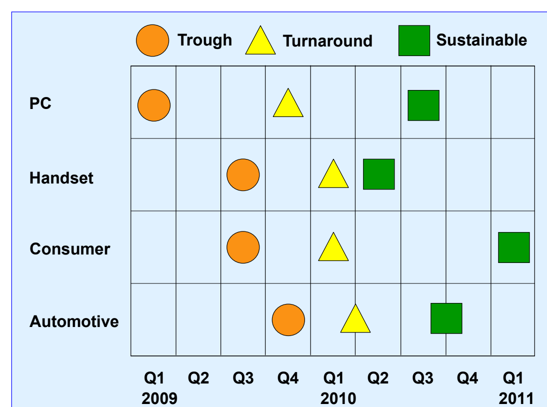
The chip market freefall appears to have stabilised in February, on the back of inventory restocking. Underlying demand for electronics, however, remains weak. According to Gartner, key electronics end markets have yet to trough, and while the first signs of recovery will emerge in H2 this year, a sustained upturn will only materialise in the latter part of 2010. (Figure 3.2) Moreover, further bankruptcies and consolidations could be on the horizon. Already, the world's number one flash memory chipmaker Spansion and number four DRAM-maker Qimonda have filed for bankruptcy protection, while the Taiwan DRAM industry is in the process of consolidating. The tightening of credit could push other companies towards insolvency, while limiting the scope for mergers and buyouts.

Chart 3.13
Global Semiconductor Shipments



Source: Semiconductor Industry Association

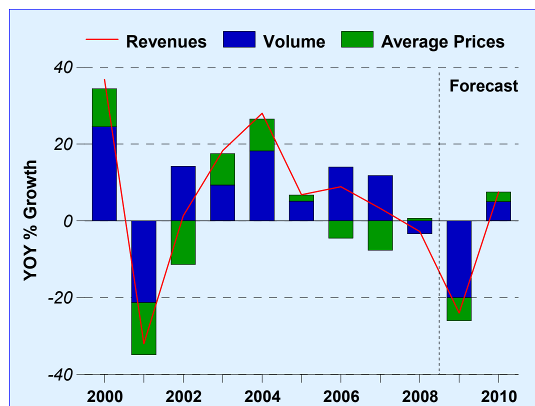
Figure 3.2
Recovery Profile for Key End IT Markets



Source: Gartner

Consequently, forecasts for semiconductor sales have been revised downwards in recent months. In February, Gartner slashed its 2009 forecasts for global chip sales to -24%, down sharply from its December forecast of -16%. (Chart 3.14) While growth is expected to bounce back to 7.5% in 2010, a full recovery to 2008 levels has been pushed out to 2013. More broadly, worldwide IT spending, which includes hardware, software and IT services, is expected to fall by about 4% this year.

Chart 3.14
Global Chip Sales

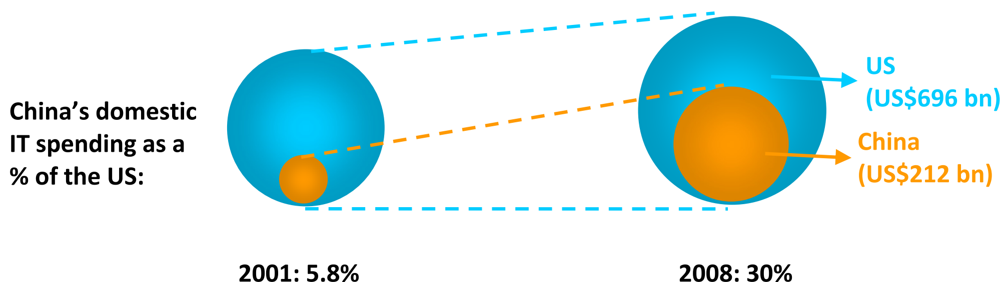


Source: Semiconductor Industry Association and Gartner

A recovery in global IT is dependent on a sustained upturn in US end demand.

Ultimately, a decisive turnaround in global IT is dependent on a sustained upturn in corporate and consumer end demand, particularly in the US. While emerging market demand for IT products, especially from China, has grown significantly over the past decade, the sheer size of US IT demand is, as yet, unmatched. As shown in Figure 3.3, domestic IT spending in China is still less than a third of the US. While China's farmer subsidy programme – which offers a 13% rebate to rural households for 10 electronics items, including refrigerators, washing machines, TVs, handsets and PCs – will provide some upside to IT spending, demand uptake has largely been concentrated in home appliances, which will have a more moderate impact on overall tech demand. According to Goldman Sachs, incremental demand arising from the farmer subsidy programme will amount to only 0.2% of the global semiconductor market in 2009.

Figure 3.3
US and China Domestic IT Spending



Source: CEIC and EPD, MAS estimates

3.3 Outlook for the Singapore Economy

Is the Worst Over?

The GDP forecast range for 2009 has been revised down to -9% to -6%.

The Singapore economy experienced a significant step-down in activity in Q4 2008 and Q1 this year. Consequently, the official forecast range for 2009 was revised down from -5% to -2%, to -9% to -6%. The present recession owes its severity to the sharp pullback in global demand, and the resultant retraction in trade flows.

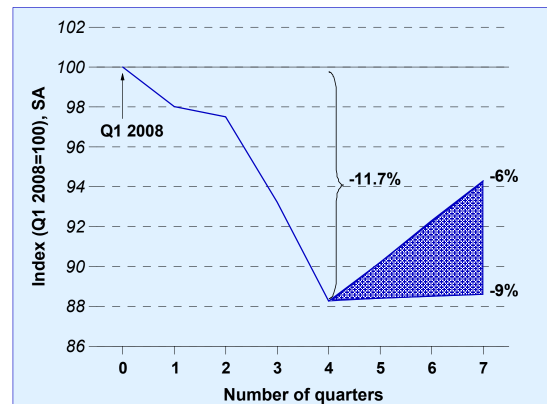
There are two important considerations underpinning the 2009 growth outlook: the depth of the downturn and the profile of recovery from the trough.

Depth of the Downturn

Much of the contraction has taken place but significant risks remain.

The sudden and steep plunge in domestic GDP over the past two quarters has resulted in a significantly depressed level of activity. Based on the *Advance Estimates* for Q1 2009, GDP contracted by 11.7% from its Q1 2008 peak. (Chart 3.15)

Chart 3.15
GDP Profile Since Q1 2008



Barring further global economic shocks on the scale of the Lehman Brothers' collapse, the most intense phase of the contraction in overall GDP has probably occurred in Q4 2008 and Q1 this year. However, the adverse external factors impacting the Singapore economy are likely to persist. The recent outbreak of swine influenza has also added a new dimension to the risks for GDP prospects in the months ahead.

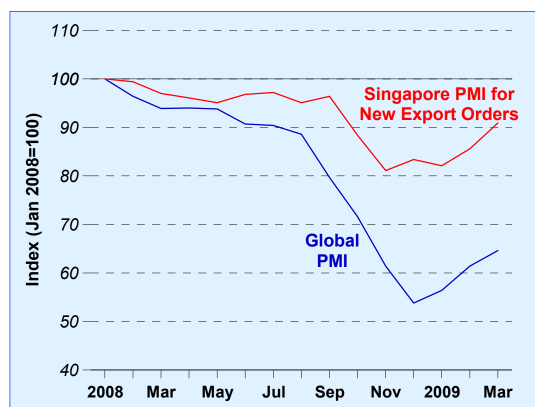
Trajectory following the Trough

However, the domestic economy could be in for an extended period of below-trend growth.

Notwithstanding the continuing uncertainties in the external environment in the months ahead, the subsequent recovery of the economy from the trough is

likely to be slow and gradual, in contrast with the rebounds which followed previous downturns. The quarterly sequential expansion implied by this range for the remaining three quarters of 2009 would be significantly less than the average of around 9.5% q-o-q SAAR recorded during previous recessions. The climb out from the trough may also be marked by several "false starts", as discussed below.

Chart 3.16
Global PMI and
Singapore PMI for New Export Orders



Source: JP Morgan and SIPMM

Restocking will provide some gains to domestic manufacturing output ...

In the domestic manufacturing sector, production should pick up slightly on the back of global restocking. The sharp collapse in global demand in Q4 resulted in a widespread suspension of production and an aggressive paring of inventories. In recent months, there has been some evidence of inventory restocking, as reflected in the uptick in the global PMI and the Singapore PMI for new export orders. (Chart 3.16)

... but industry dynamics remain weak for the electronics and chemicals clusters.

Nevertheless, this pickup in domestic factory output is fragile. Weak global industry demand and structural strains could further weigh down the domestic manufacturing sector, causing it to settle at a much lower level of production than in the pre-crisis period.

Chart 3.17
Semiconductor Average Prices

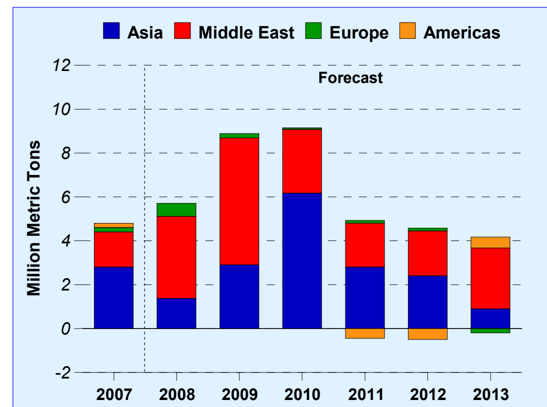
Source: Semiconductor Industry Association

The electronics segment is a case in point. Global semiconductor prices saw a brief increase in late 2008, which accelerated in January 2009. However, the price recovery, which was due to tight supply from very low current inventory levels, proved short-lived as underlying demand remained subdued. Depressed utilisation rates allowed output to be lifted rapidly, and the nascent price rebound was snuffed out in February, with prices sliding by 9.2% m-o-m SA. (Chart 3.17) This suggests that the slight improvement seen in the domestic electronics industry recently might be reversed in the months ahead. In addition, existing domestic production and new orders could be redirected to lower-cost factories overseas, which now have the spare capacity to take on additional orders.

Meanwhile, excess supply in the global petrochemicals industry will impact Singapore's chemicals cluster. Specifically, massive capacity expansions on top of depressed demand conditions are expected to create a

petrochemicals downturn lasting until 2013. Capacity additions for the production of ethylene, a building block for petrochemicals, are concentrated in the Middle East, leveraging on the region's abundant natural gas reserves, and China, a major end market. (Chart 3.18) Capacity start-ups are largely proceeding as planned due to ample financing and feedstock stockpiles, especially in the Middle East, with the bulk of new capacity additions poised to hit the global market in H2 this year to 2010.

Chart 3.18
Ethylene Capacity Additions

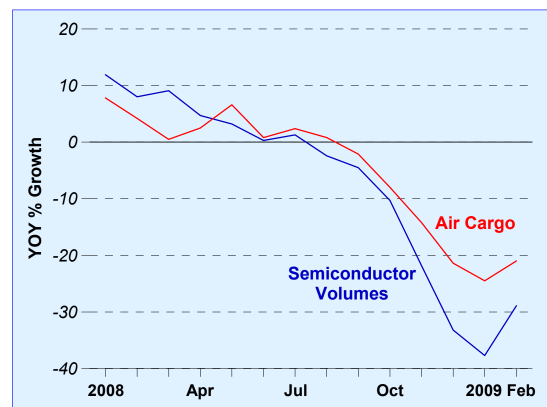


Source: CMAI

The air cargo segment remains grounded on a weak IT outlook.

Coinciding with the weakness in global manufacturing activity, the trade-related services will remain sluggish. In particular, the performance of air freight is closely tied to the global electronics industry. While air freight may have shown some tentative improvement in February in tandem with semiconductor output, the broader IT outlook still remains soft. (Chart 3.19)

Chart 3.19
Air Cargo and Semiconductor Volumes



Source: Semiconductor Industry Association for semiconductor volumes

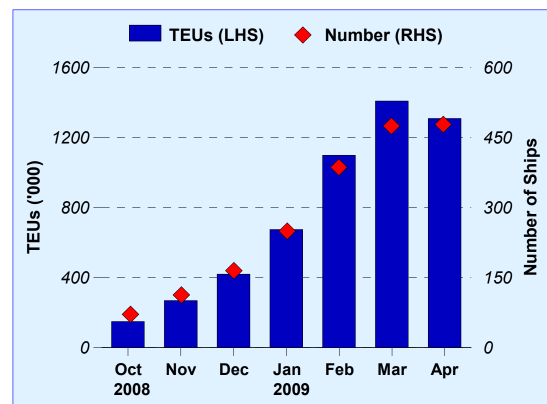
A supply overhang looms over the container shipping industry.

There has been some improvement in sea transport services. Freight rates have largely returned to levels that cover break-even costs, while the number of idle ships appears to have peaked. (Chart 3.20) Accordingly, port handling activity is forecast to rise incrementally in the quarters ahead.

However, a supply overhang looms over the container shipping industry, thus limiting the extent of the recovery beyond the immediate quarters. Over the last three years, there has been a spike in new ships ordered, which will lead to a supply glut if global trade volumes do not recover strongly.

On balance, global container growth in terms of total port handling is expected to dip into negative waters for the first time in 2009, reversing the 4.9% growth in 2008. In particular, the first half of this year is expected to see the sharpest contractions, according to industry forecasts. (Chart 3.21)

Chart 3.20
Container Ship Idle Fleet



Source: AXS-Alphaliner

Financial services will be weighed down by the sentiment-driven industries …

Prospects for the domestic financial sector remain weak in the near term, with sentiment still vulnerable to negative news and the downside risks that remain on the horizon.

Although the equity market rebounded in March, average turnover volumes for the stock market fell by 11% q-o-q in Q1 as a whole, reversing the 10% gains posted in Q4 2008. (Chart 3.22) Going forward, stresses from hard-hit corporate earnings, tattered international banks' balance sheets, and sluggish economic growth will depress the sentiment-driven industries such as the brokerage & treasury markets and wealth management services. As such, fragile "bear rallies", rather than sustained recoveries, are likely to feature in the domestic stock market and other financial services industries until clearer signs of a firm turnaround in the industrialised economies emerge.

Outflows in the fund management industries have also slowed, with fewer redemptions and margin calls in the initial months of 2009. While the declines in the Eurekahedge fund indices have stabilised, the fall in asset values and the corresponding drop in wealth will translate into a lower demand for fund management services. This is likely to spell subdued growth for the industry in the near term. (Chart 3.23)

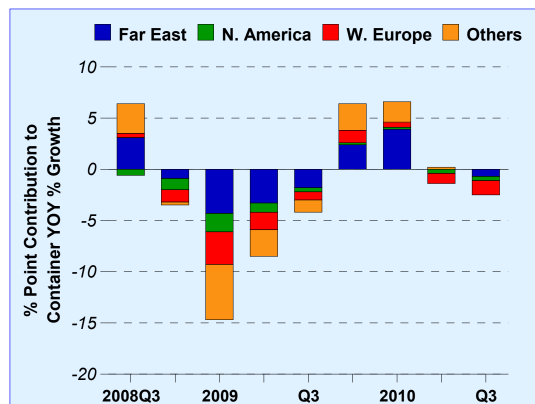
… as well as slower lending activity.

Although the deterioration in some segments has slowed, overall loan growth will act as a drag on the financial services sector, as it tends to lag economic activity by about a year.

Domestic non-bank credit declined for the fourth consecutive month in February, as business loans weakened in line with the broader economic slowdown. This was driven by sluggish lending to the trade-related sectors, such as commerce, manufacturing and TSC (transport, storage & communications). In comparison, consumer loans have managed positive gains thus far, supported by continued resilience in the housing segment. (Chart 3.24)

Within the property-related sector, housing loans growth has been relatively stable, supported, in part, by a pipeline of property loans previously taken up under

Chart 3.21
Contribution to Container Growth Forecast by Region



Source: Drewry Container Forecaster Q1 2009

Chart 3.22
Stock Market Total Turnover and Straits Times Index (STI)

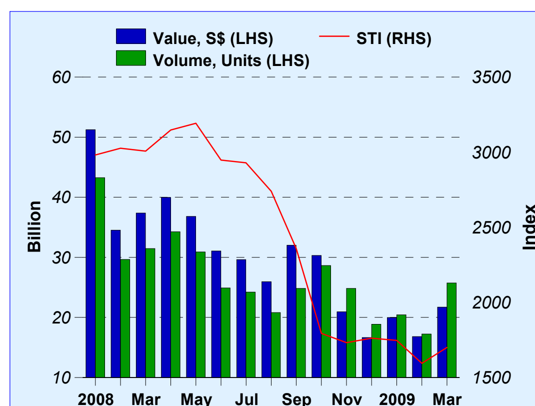
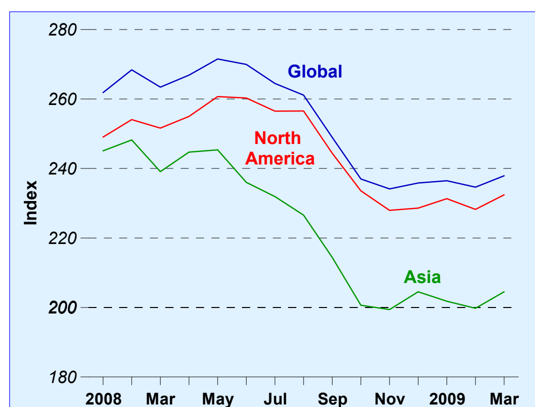


Chart 3.23
Hedge Funds Performance



Source: Eurekahedge

the deferred payment scheme. Increases in building and construction loans, however, have levelled off. (Chart 3.25) This is due to the postponement of some commercial projects by private developers amidst the sombre business environment. However, the impact of these delays will be partly offset by the countercyclical boost from public sector projects worth some $18-20 billion that will be initiated this year.

Thus far, the aggregate loan data suggests that the degree of credit slowdown in this current downturn is consistent with the retraction in economic activity and has not been more severe than in previous crises. (Chart 3.26) Notably, DBU lending in February 2009 posted an 8.5% increase from Q1 2008, when GDP had peaked. This is higher than the -1.3% and 5.8% recorded at the same stage of the two previous downturns in 1998 and 2001, respectively.

The rest of the economy could see further downward adjustments.

Of the remaining domestic-oriented sectors, historical trends suggest that these tend to lag the performance of the trade-related and financial services. The domestic-oriented sectors are closely tied to the domestic labour market, which has yet to see a significant downward adjustment at this stage. However, as more employers announce retrenchments, wage cuts and hiring freezes, these services industries could post further declines over the next few quarters.

The downturn has unfolded via the transmission channels identified in October 2008.

In the October 2008 *Review*, EPD highlighted three broad channels through which the global financial crisis would impinge on domestic economy activity. First, the *immediate* channel, where the sentiment-driven segments of the financial sector, such as wealth advisory and brokerage & treasury activities would be hit. Second, the *direct* channel, where weak consumer sentiment has a bearing on domestic-oriented activities, such as retail trade. Third, the *indirect* channel, which encompasses the impact on Singapore's export sectors through a widespread slowdown in the external economies. As reviewed in Chapter 1.2 of this *Review*, the adjustments have taken place through all three modes of transmission, with the impact most pronounced via the indirect channel.

Chart 3.24
DBU Business and Consumer Loans

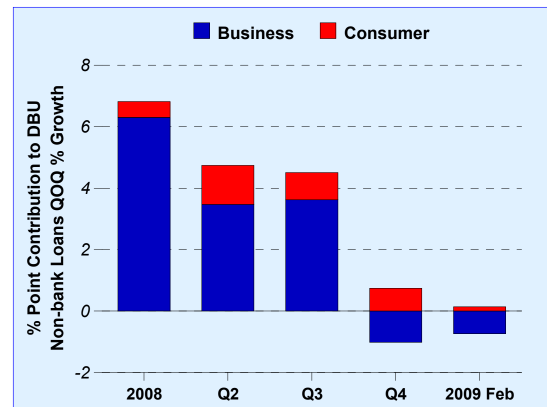


Chart 3.25
DBU Property-related Loans

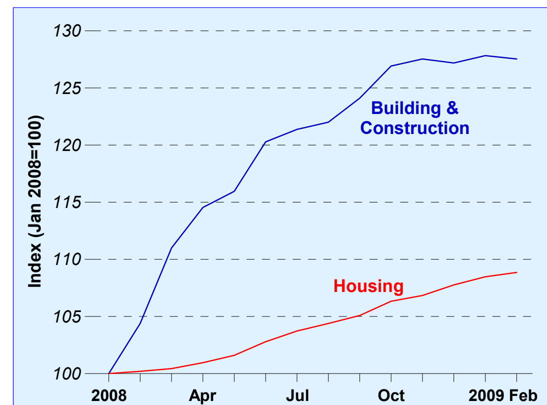
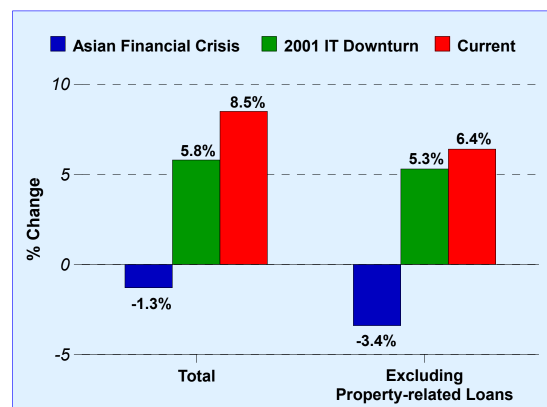


Chart 3.26
DBU Non-bank Loans
(4 Quarters from GDP Peak)



However, the adjustment through the export channel was sharper than expected.

The impact of the global downturn via the export channel has been worse than anticipated. Since the last monetary policy review in October, the global downturn has gathered significant momentum, culminating in an external environment that has been the most unfavourable in Singapore's recent history.

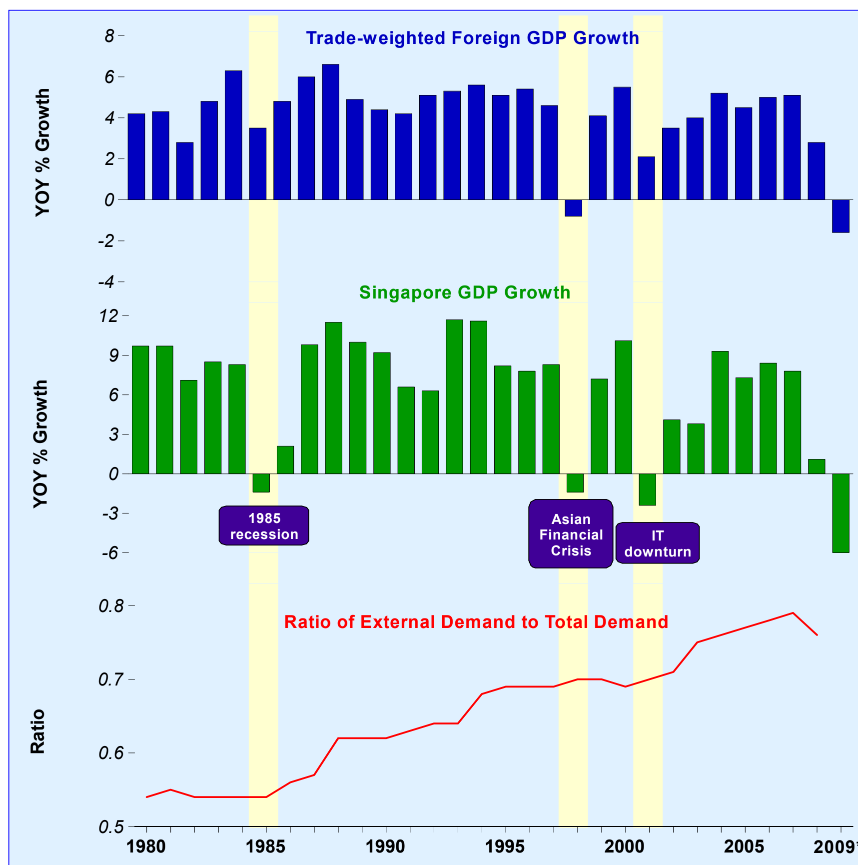
Moreover, the Singapore economy has become more externally-oriented in recent years. As shown in Chart 3.27, the share of external demand to total demand has increased markedly over the last decade, from 70% in 1998, to 76% in 2008. From the sectoral perspective, the share of the three main trade-related sectors, namely manufacturing, wholesale & retail and transport & storage, has increased from 46% to 50% over the same period.

The extreme openness of the Singapore economy will, however, enable it to pick up strongly when the global recovery finally gets underway. EPD tested this empirically using the panel regression methodology in Duval and Vogel (2008), which examines the economic resilience of OECD countries to shocks.[5] The results suggest that while Singapore is most susceptible to the initial impact of a common external shock among the Asian economies, it will also benefit the most from a recovery in external demand.

The swine influenza outbreak could impact the economy.

Depending on how the global outbreak of the swine influenza epidemic develops, there could be repercussions for the domestic economy, initially through the immediate and direct channels. These potential transmission effects bear close watching in the period ahead.

Chart 3.27
Singapore's External Dependence



* Foreign and Singapore GDP forecasts are based on April 2009 Consensus Forecasts.

5 Duval, R and Vogel, L (2008), "Economic Resilience to Shocks: The Role of Structural Policies", *OECD Journal: Economic Studies*, Vol 2008, OECD.

Singapore's medium-term fundamentals remain sound.

Taking a longer-term perspective, Singapore's economic fundamentals remain strong. The economy entered the current downturn at a robust cyclical starting point, having expanded by an average of about 8% over the period 2004-07. In addition, the downturn will be cushioned by Singapore's flexible factor markets, a diversified and healthy corporate sector, as well as the ongoing build-up of capacity in key segments.

Some of the manufacturing investments in the pipeline include REC's integrated solar manufacturing complex, which is slated to be the world's largest, and two major petrochemical complexes by Shell and ExxonMobil scheduled to come onstream over the next two years. Singapore has moved up the value chain into more technology-intensive downstream products, which are relatively sheltered from the intense competition of commoditised manufacturing in China and the Middle East. The pharmaceuticals industry has also been gearing up for the next wave of expansion on the biotechnology front, with four biologics facilities due to start up in 2010 and 2011, on the heels of recent plant openings by Abbot and Novartis. (Table 3.3)

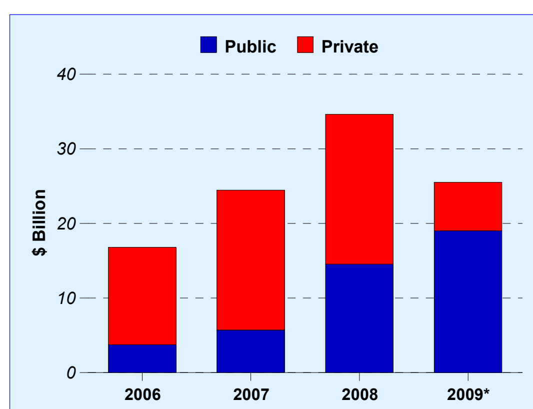
Table 3.3
Selected Manufacturing Investments in Singapore

Company	Start Up	Investment
Electronics (Solar)		
REC	H1 2010	€3 Bn
Chemicals (Petrochemicals)		
Neste Oil	H2 2010	€550 Mn
Shell	H1 2010	US$3 Bn
ExxonMobil	H1 2011	US$5 Bn
Pharmaceuticals (Biologics)		
Genentech	2010	US$140 Mn
GSK	2010	US$188 Mn
Lonza	2011	US$600 Mn

On the services front, the two upcoming integrated resorts, which are due to open in late 2009 and 2010, should stimulate tourist traffic and boost services industries, such as the hospitality and retail sectors.

Benefiting from these new projects, the construction industry is projected to expand steadily for the rest of 2009 and into 2010. Of this year's projection, the public sector is expected to generate the majority of new demand, in a departure from previous years when private sector projects drove the industry. (Chart 3.28) These projects, which include Gardens by the Bay and the MRT Downtown Line, will further enhance Singapore's infrastructure and complement private sector investments in transforming the central area into a vibrant business and lifestyle hub.

Chart 3.28
Contracts Awarded



* Average of BCA forecast ranges as at 6 Feb 2009

3.4 Labour Market

The employment outlook has weakened.

The labour market is likely to weaken further. According to the Manpower Outlook Survey conducted by Manpower Inc., half of the 636 employers surveyed predicted a decrease in headcount in Q2 2009, about a third anticipated no change, while just 7% expected to recruit. This gave rise to a significantly negative net employment outlook of -43%. (Chart 3.29) In comparison, most employers were still intending to freeze headcount only in the Q4 2008 survey.

Chart 3.29
Net Employment Outlook

Source: Manpower Inc.
Note: The per cent of employers expecting to see a decrease in total employment in the next quarter is subtracted from that anticipating an increase.

Job losses will be concentrated in the manufacturing and trade-related industries.

The employment prospects in 2009 will vary across the sectors depending on their exposure to the global downturn.

The construction sector is expected to continue to create jobs, albeit at a sharply reduced rate when compared with the past four years. Job hiring in this sector will be supported by the strong pipeline of projects, including the MRT Downtown Line and Marina Coastal Expressway.

At the same time, the two integrated resorts have started hiring and will provide more than 20,000 jobs over the next few years. Employment opportunities will also be available in the retail, food & beverage and hospitality industries, with the opening of new shopping malls and hotels. In addition, new investments in pharmaceuticals and clean energy will create demand for specialists, engineers and technicians.

However, employment prospects for most manufacturing and trade-related industries have dimmed significantly. Indeed, severe job losses could be expected given the deepening global recession and its impact on regional trade flows. Financial services could also see more job cuts as activity slows across all segments. These will, in turn, have negative spillover effects on other supporting services sectors, such as business services and information & communications.

On the whole, aside from construction, net employment should decline over the rest of the year. By Q4 2009, i.e. four quarters from the peak in Q4 2008, net employment, excluding construction, could fall by more than the 19,800 and 8,200 net job losses recorded during the Asian Financial Crisis in 1998 and global IT downturn in 2001, respectively.[6] However, the job losses this year ought to be seen in the context of the relatively steeper contractions in economic activity expected for most sectors compared to the previous recessions in 1998 and 2001.

Government initiatives will support overall employment.

In addition, the adjustment in the labour market this time around could be moderated by several government initiatives. First, the public sector will create 18,000 jobs in areas such as education, healthcare and security over the next two years.

Second, the Jobs Credit Scheme announced in the 2009 Budget will encourage businesses to preserve jobs for locals by giving employers a 12% cash grant on the first $2,500 of each local worker's monthly wage. Indeed, in a survey by the Singapore Chinese Chamber of Commerce and Industry, 78% of its 131 members found the Jobs Credit Scheme helpful.

Third, the Skills Programme for Upgrading and Resilience (SPUR) announced in December 2008 encourages firms to send their workers for training. Under this scheme, the government reimburses the companies up to 90% of the course fees for approved courses and up to 90% of a worker's salary, subject to a ceiling, while the worker is undergoing training. The response has been positive – as at end-February, more than 43,000 workers have been sent for training under SPUR.

Complementing the SPUR scheme is the Economic Development Board's Preparing for the Upturn (PREP-UP) initiative which co-shares companies' manpower, training and related costs, with special emphasis on enhancing the knowledge and skills of engineers and technical staff. PREP-UP also funds on-the-job training opportunities for fresh graduates. In all, some 2,000 jobs are expected to be created under this scheme, with 100 going to the pharmaceuticals industry this year.

[6] This is measured by the change in employment taken four quarters after the peak of employment.

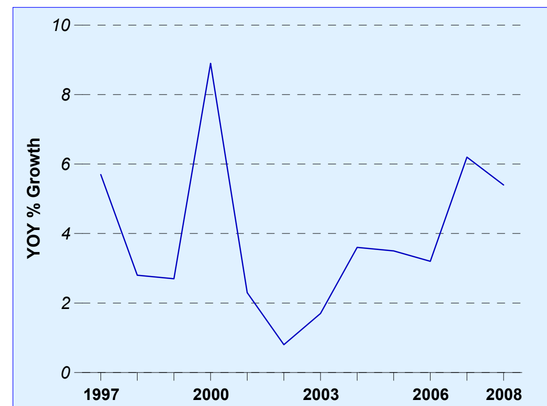
Wage growth will moderate significantly.

Meanwhile, the National Wages Council's guidelines strongly recommended that companies which are adversely affected by the downturn to implement a wage freeze or wage cut so as to save jobs and, at the same time, remain competitive.

Even before the guidelines were issued, surveys by Mercer and Singapore Human Resources Institute showed that employers were already planning to freeze the base wages of executives and give out lower bonuses this year. Companies could also trim payroll costs by reducing the number of hours worked.

Consequently, nominal wage growth will be relatively muted this year, compared with the 5.4% seen in 2008. (Chart 3.30)

Chart 3.30
Nominal Wage Growth



3.5 Inflation

Headline CPI inflation will continue to retreat.

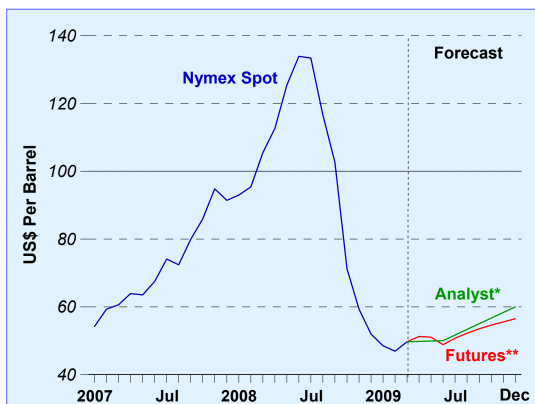
Lower global commodity prices will continue to dominate domestic CPI inflation in 2009, alongside an easing in domestic cost pressures as a result of the increased slack in the economy. Coupled with the high base from the sharp run-up in prices last year, the headline CPI inflation rate is expected to turn negative temporarily. Nonetheless, a broad-based and persistent fall in consumer prices is not likely.

… with oil-related items being the main drag.

Following OPEC's large supply cuts, global oil prices recovered from their trough of US$35 per barrel in December last year to an average of US$50 in the first two weeks of April. For the rest of the year, global oil prices are likely to trade in the range of US$50-60, well below the average of US$100 in 2008. (Chart 3.31) A significant rebound in prices is not anticipated given that world oil consumption is projected by the Energy Information Administration (EIA) to fall by a record 1.4 million barrels per day in 2009. In addition, the level of commercial inventories in the OECD remains higher than average, while there is also large surplus production capacity among OPEC members. (Chart 3.32)

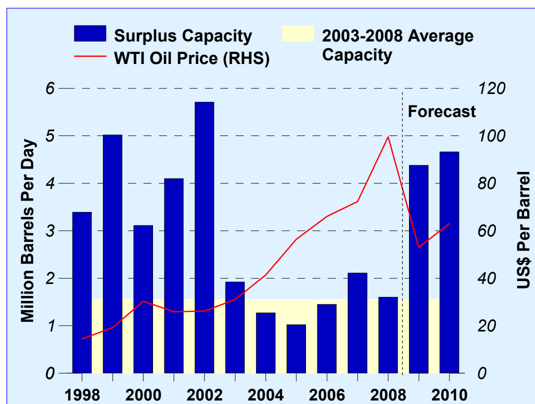
Correspondingly, domestic petrol pump prices are likely to rise only modestly throughout the rest of the year. Meanwhile, electricity tariffs will be adjusted down by 21% q-o-q in Q2 to reflect the earlier fall in global oil prices,[7] before being increased slightly in Q3 and Q4 in line with the mild uptick in global oil prices. On the whole, direct oil-related items will drag down sequential q-o-q CPI inflation for another quarter in Q2 2009. For the full year of 2009, they will shave around 1.4% points off headline CPI inflation.

Chart 3.31
WTI Crude Oil Price Forecasts



Source: Bloomberg
* Bloomberg Weighted Analyst Average
** Nymex WTI futures on 23 April 2009.

Chart 3.32
OPEC's Crude Oil Spare Capacity and WTI Oil Price



Source: EIA

[7] The current tariff formula tracks oil prices with a lag. For example, the electricity tariff for Q2 2009 depends on the three-month forward price of High-Sulphur Fuel Oil (HSFO 180-cst) in the first month of the previous quarter, i.e. January 2009. However, from Q3 2009 onwards, the new tariff formula will use the average of the forward prices of HSFO in all three months of the previous quarter, thereby reducing the time lag in reflecting global oil price developments.

Domestic food price inflation will moderate sharply but will remain positive.

Agricultural commodity prices have generally stabilised in recent months. However, some mild price pressures could emerge in the second half owing to cutbacks in output from reduced price incentives and access to credit, although they will be tempered by depressed economic conditions. (Chart 3.33) On the whole, while global food prices are forecast to correct from the highs in 2008, they would remain fairly elevated due to fundamental factors, such as the increasing use of food commodities for fuel, slowing yield growth, as well as socio-economic changes in China and India.

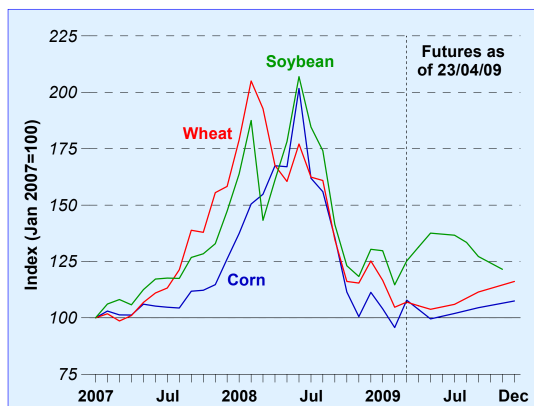
In tandem with these developments, domestic food CPI inflation is expected to moderate sharply from 2008. However, overall consumer food prices will probably not fall outright for two reasons. First, despite six consecutive months of decline, domestic food import prices remain 2.4% higher in February 2009 compared to January 2008. They should not correct much further given that global prices are already stabilising. Second, domestic consumer food prices have become increasingly sticky downwards over the years. (Chart 3.34) This is due to the more processed nature of most non-cooked food and the higher weight of cooked food in the CPI basket, both of which imply a greater proportion of local cost content and lower share of farm value in consumer food prices.

The fall in resource utilisation will lower domestic costs.

In addition to the disinflationary impact of commodity prices, increasing slack in resource utilisation, represented by a negative output gap, will also put downward pressure on domestic business costs, notably rentals and wages, which could be passed on to consumers. Indeed, CPI inflation and the output gap have a fairly strong positive correlation. (Chart 3.35)

Rentals are likely to decline further this year, as demand for commercial and industrial space shrinks and new supply comes on stream. New shopping malls such as Orchard Central, ION Orchard and Tampines 1 have offered rental cuts, rebates and even waivers for a few months to get tenants. Further, as part of the Resilience Package, tenants of buildings owned by the public sector (JTC, HDB, NEA and SLA) have been given a 15% rental rebate this year. Some private landlords

Chart 3.33
Agricultural Commodity Futures Prices



Source: Bloomberg

Chart 3.34
Consumer Food Prices in Previous Food Disinflationary Episodes

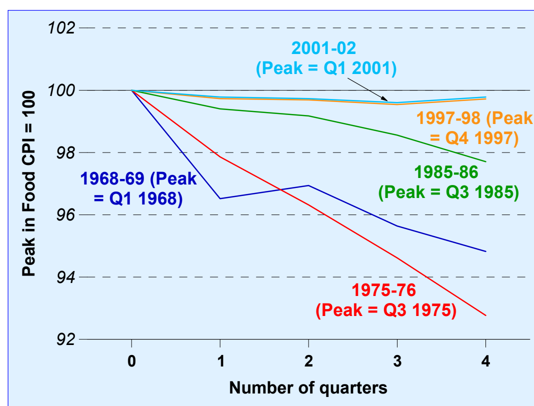
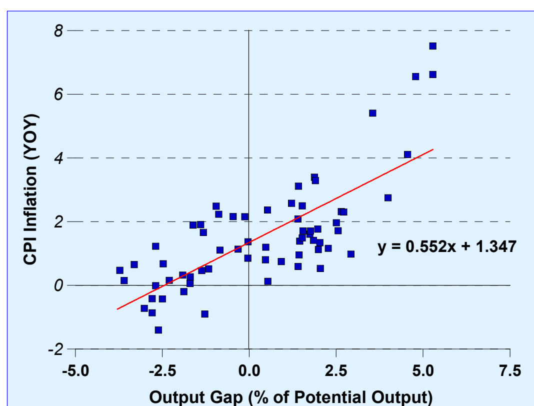


Chart 3.35
CPI Inflation and Output Gap
(Q1 1992 - Q4 2008)



such as CapitaLand, Mapletree and Lend Lease have also committed to passing on the 40% property tax rebate to their tenants, which effectively leads to a 4% reduction in rentals on average.

However, as leases are typically contracted for two to three years, some businesses may still be locked into high rentals if they had signed the contract prior to the recent fall in rental rates. There could also be firms facing a jump in rentals when they renew leases that were signed before the sharp rise in rentals in late 2007.

With substantial job losses in the domestic labour market, nominal wage growth will be muted. Firms will also derive manpower cost savings from the Jobs Credit Scheme. However, the ULC could still edge up slightly as productivity declines due to the sharper fall in GDP relative to employment.

Prices of some retail goods and housing services tend to be procyclical.

In view of the lower business costs and weak demand, prices of some goods and services are likely to fall. There is already anecdotal evidence that retailers are absorbing GST or offering out-of-season discounts to lure shoppers amidst deteriorating consumer sentiment and tourist demand.

In particular, demand for big-ticket items such as cars will remain weak and prices could drop further. In the April COE tenders, the bids received were about 15% lower than in the same period last year. Hence, even with the 25% cut in COE supply in the new Quota Year (April 2009 to March 2010), COE premiums remained 50-60% lower than a year ago.

Weak consumer sentiment has also affected the property market, with private housing rentals down by 12% y-o-y in Q1 this year. This weakness in the property market will be reflected in the accommodation cost index in the CPI, albeit with a slight lag.[8] (Chart 3.36) The additional Service & Conservancy Charges (S&CC) and rental rebates from the Resilience Package will also help to lower accommodation costs. (Table 3.4)

Chart 3.36
Private Property Rental Index and Accommodation CPI

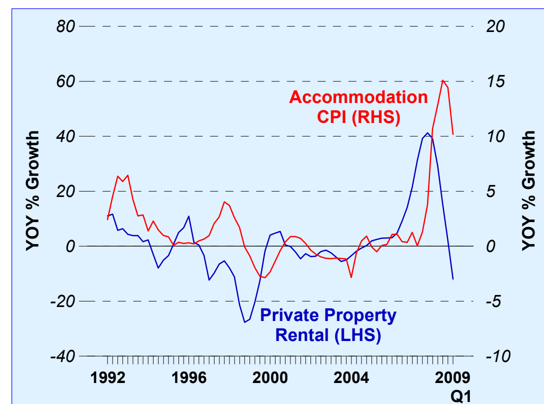


Table 3.4
S&CC Rebates (Number of Months)

HDB Flat Type	2008	2009 Scheduled	2009 Post-Budget*
1-room	4	3.5	4.5
2-room	3	2	3
3-room	2	2	3
4-room	2	1.5	2
5-room	1	1	1.5
Executive	0.5	0.5	1

* In addition to the S&CC rebates scheduled in March, June, September and December, another 0.5-1 month of rebates will be administered in April.

[8] Private housing rentals are captured directly in the CPI rental component as well as indirectly through imputed rentals in the owner-occupied index. The latter is based on the Annual Values assessed by IRAS for tax purposes.

CPI inflation will come in between -1% and 0% in 2009 ...

In sum, imported price pressures, a key source of inflation in 2008, should ease sharply this year. Domestic sources of inflation will also moderate as the output gap turns negative and resource utilisation weakens.

The CPI will probably fall sequentially for two quarters in H1 due to the correction in electricity tariffs, before picking up thereafter, but at a far more moderate pace than in 2008. (Chart 3.37) On a y-o-y basis, the headline inflation rate will continue to decline for the rest of the year, dipping temporarily into negative territory due to the high base in 2008. (Chart 3.38)

For the whole of 2009, CPI inflation is projected to be between -1% and 0%. Nevertheless, the CPI will still be some 8% higher than that in Q2 2007, just before the sharp run-up in prices. The MAS underlying inflation rate will be slightly higher in 2009, as it excludes petrol and cars, of which prices are likely to be lower this year.

... but less than 40% of the CPI basket will experience price declines.

There were three other periods in the last three decades when CPI inflation turned negative, namely in 1985-86, 1997-98 and 2001-02. Similar to the current episode, these declines were largely externally driven but accompanied by weakness in the domestic economy in the form of lower costs of accommodation, cars, recreation and clothing & footwear. (Table 3.5)

Chart 3.37
Headline and MAS Underlying Inflation Forecast (q-o-q)

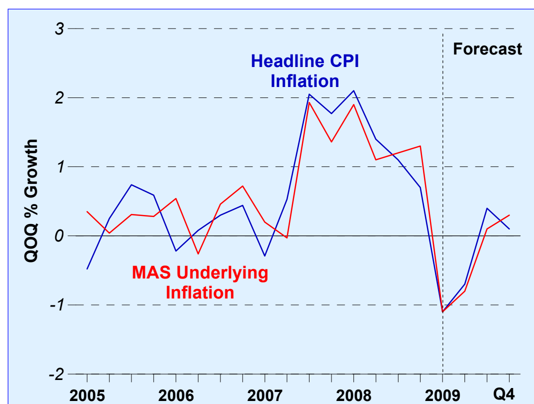


Chart 3.38
Headline and MAS Underlying Inflation Forecast (y-o-y)

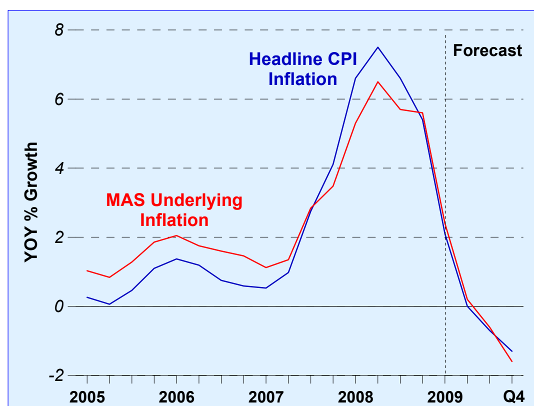


Table 3.5
Price Dynamics in Previous Disinflationary Episodes

Peak	Trough	Dur-ation	Peak to Trough Decline of Components in the CPI (%)								
			All items	Food	Cloth-ing & Foot-wear	Hous-ing ex-Oil*	Trpt & Comm ex-Oil*	Edu-cation	Health Care	Recre & Misc	Oil*
Q3 1985	Q3 1986	4Q	-2.1	-2.3	-2.6	-1.1	-0.1	8.2	-0.2	-0.5	-24.6
Q4 1997	Q4 1998	4Q	-1.4	-0.3	-1.8	-0.5	-7.4**	2.5	2.0	-1.1	-5.5
Q1 2001	Q1 2002	4Q	-0.9	-0.2	-1.4	-0.5	-0.8	2.0	2.4	1.2	-17.4

* “Oil-related items” refer to electricity tariffs, gas and LPG (also subsumed in “Housing”) and petrol (also subsumed in “Transport & Communication”)
** The decline in car prices in 1997-98 was especially significant due to vehicle tax-restructuring policies such as lower car excise duties and a reduction in additional registration fees.

However, there are a few key differences. First, the fall in the CPI this time round could be sharper and more short-lived compared to previous recessions. (Chart 3.39) The depth of the decline in H1 2009 reflects the unprecedented collapse in global oil prices and the increased sensitivity of electricity tariffs to global oil prices following the deregulation of the energy utility market. Subsequently, the CPI is expected to turn around in H2, in line with the modest recovery in oil prices.

Second, the current disinflation will be more contained than in previous episodes. (Chart 3.40) In 2009, less than two-fifths of the CPI basket should register price declines. Of that share, half will experience price declines of less than 1% for the year as a whole.

There is therefore little likelihood at this point in time of a persistent, broad-based and self-sustaining drop in consumer prices.

Chart 3.39
The CPI in Disinflationary Episodes

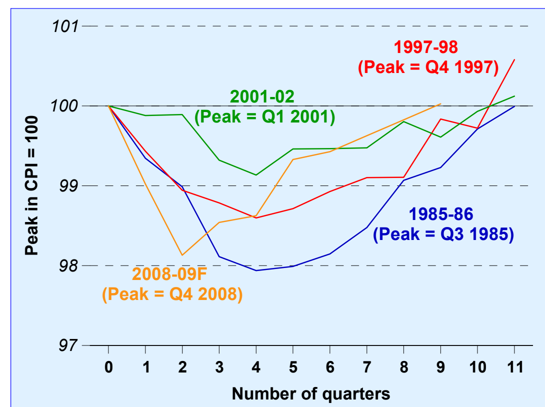
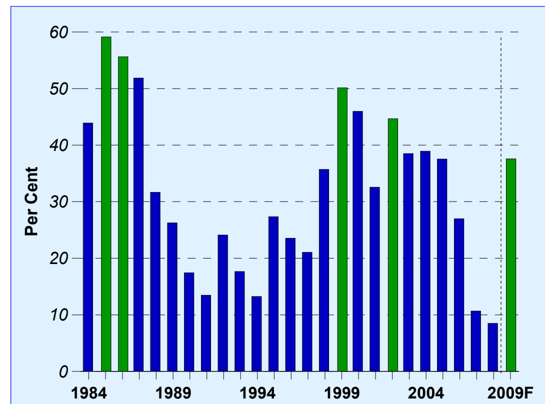


Chart 3.40
Share of CPI Basket
Experiencing Price Declines



* Green bars denote disinflationary episodes.

3.6 Assessing the Macroeconomic Policy Mix

Monetary Policy

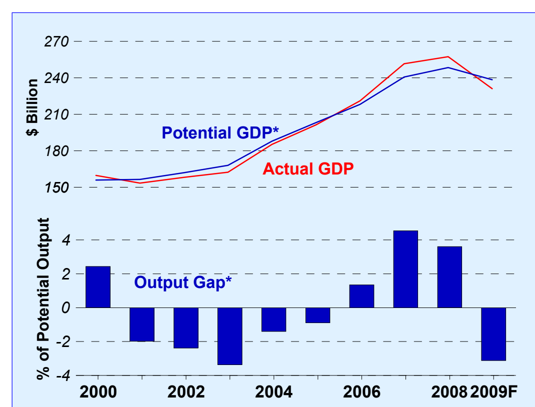
MAS eased its policy stance in April 2009, taking into account subsiding inflationary pressures.

Since the latter half of 2008, the S$NEER eased to the lower half of the policy band, in line with weakening growth in the Singapore economy and diminishing inflationary pressures. Amidst the collapse in global demand and turmoil in the international financial markets, domestic economic output recorded two consecutive quarters of double-digit contraction (on a q-o-q SAAR basis) in Q4 2008 and Q1 2009, while CPI inflation receded. Accordingly, MAS announced on 14 Apr 2009 that it would re-centre the exchange rate policy band to the prevailing level of the S$NEER, while maintaining the width and zero percent appreciation path.

Notwithstanding the sharp fall-off in global economic activity in the past six months, recent releases of some global economic indicators have pointed to tentative signs of stabilisation. Indeed, barring further external shocks, the most intense phase of the contraction in domestic economic activity has probably taken place. However, considerable downside risks to growth remain, given bleak labour market conditions and the long-drawn process of restoring banks' balance sheets and battered credit markets to health. The Singapore economy is likely to record below-trend growth for some time to come and the prospects for a more decisive recovery will be predicated on a resumption of growth in the external economies.

Against this backdrop and in view of the steep fall in output over the past two quarters, Singapore's GDP is projected to contract by 6-9% in 2009. This will bring the economy below its potential path, with the output gap widening to -3.1% in 2009, compared to a positive 3.6% in the preceding year. (Chart 3.41) This reversal underscores Singapore's vulnerability to a collapse in external demand, due to its strong dependence on trade across both the manufacturing and services sectors.

Chart 3.41
Real GDP and Output Gap



* EPD, MAS estimates

Meanwhile, CPI inflation has come down significantly from its peak in the middle of 2008, with price pressures dissipating on both the external and domestic fronts. It will continue to ease in the months ahead, due to lower commodity prices as well as a fall in rentals and more subdued wage increases, given increased slack in the domestic economy. For 2009, CPI inflation is forecast to come within the range of -1% to 0%.

Taking into account the dissipating inflationary pressures and weak growth prospects for the Singapore economy, the decision to re-centre the policy band to the prevailing level of the S$NEER in April 2009, following the elimination of the upward slope of the policy band in October 2008, is an appropriate monetary policy response to the shocks confronting the economy, while maintaining price stability over the medium term.

Fiscal Policy

The FY2009 Budget was brought forward to ensure timely help to households and businesses.

The FY2009 Budget was announced on 22 January this year, about one month earlier than usual to ensure that appropriate fiscal measures could be implemented in a timely manner.

The government has been responsive to the evolving challenges confronting the Singapore economy. Amidst the high inflationary environment last year, the government provided direct assistance to ease the burden of lower-income Singaporeans who had difficulties coping with the cost of living. Later in the year, there was additional spending on the enhanced Marriage and Parenthood measures, as well as higher payouts of Growth Dividends and utility rebates. Towards the end of 2008, following the onset of the global financial crisis and credit crunch, the government enhanced its business financing schemes to help local firms gain access to credit. The government also introduced the Skills Programme for Upgrading and Resilience (SPUR) to ramp up training and help companies and workers manage the economic downturn.

The $20.5 billion Resilience Package will cushion the economy from the downturn.

In the latest Budget, a $20.5 billion (8.2% of GDP) Resilience Package was unveiled to save jobs, enhance the cash flow and competitiveness of firms, support families, and strengthen the economy's long-term capabilities. (Table 3.6) The Resilience Package is estimated to result in a deficit in the basic balance[9] of 6.0% of GDP, significantly more expansionary than previous off-Budget packages.[10] The government also signalled that it was prepared to do more should the recession be more prolonged.

Table 3.6
Key Components of the Resilience Package

	Spending in 2009 ($ Billion)
Preserve Jobs	5.1
Stimulate bank lending	5.8
Enhance business cashflow and competitiveness	2.6
Support families	2.6
Build for the future	4.4
Total	**20.5**

[9] The basic balance is the budget balance before accounting for net investment income/returns contribution and transfers to endowment and trust funds.

[10] In previous downturns, the off-Budget packages resulted in a surplus in the basic balance of 0.7% of GDP in FY1998 and a deficit of 1.5% of GDP in FY2001.

Short-term measures were implemented to support jobs and incomes.

One of the key features of the package is the $4.5 billion Jobs Credit Scheme, which involves cash grants to employers to subsidise part of their local wage bill.[11] This is equivalent to a 9% point cut in the employers' CPF contribution rate and provides an incentive for companies to retain their existing Singaporean workers, or even to hire new ones. Box C provides further details on the Jobs Credit Scheme.

The government has also set aside an estimated $5.8 billion in capital for a Special Risk-Sharing Initiative (SRI), with a view to stimulate bank lending and ensure that a broader segment of companies have access to credit to sustain their operations. The SRI comprises a new Bridging Loan Programme and risk-sharing schemes for trade financing.

Both the Jobs Credit Scheme and SRI, totalling $4.9 billion,[12] will be funded from past reserves.[13] This was an unprecedented response to the present crisis, while keeping to the government's longstanding principle of fiscal prudence. In essence, the government, by tapping on past reserves, has provided itself with enhanced financing flexibility as a pragmatic step to deal with the ongoing crisis. Unlike in many countries, the Singapore government does not need to borrow to fund the budget, as it has built up a strong fiscal position over the years.

To alleviate the cost burden and ease the cash flow of businesses, a number of tax measures were put in place. Chief among them was the 40% property tax rebate for industrial and commercial properties this year. There were also other forms of rebates and tax measures, such as rental rebate for JTC and HDB industrial and commercial tenants, road tax rebate for commercial vehicles, buses and taxis, and accelerated capital allowance.

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[11] Under the Jobs Credit Scheme, employers will receive a 12% cash grant on the first $2,500 of each month's wages for each employee on their CPF payroll.

[12] Provisions for loan losses under the SRI is projected at $0.4 billion.

[13] Under the Singapore Constitution, fiscal surpluses are "locked up" at the end of each government's term of office as "past reserves", and cannot be spent by future governments without the approval of the President. The drawdown on past reserves announced in the FY2009 Budget essentially means that the government is tapping on the accumulated savings of previous governments to deal with the crisis.

In addition, the loss carry-back scheme for corporate taxes introduced in 2006 will be temporarily enhanced this year and next. Companies can claim losses against their preceding three years of taxable income, instead of just one year under the existing scheme. The limit on the amount of losses that can be carried back has also been increased from $100,000 to $200,000. This measure seeks to exploit the role of "automatic stabilisers" in the private sector, taking into account the fairly large cash positions that many companies built up during the strong growth years between 2004 and 2007.

Besides measures targeted at businesses and preserving jobs, the government has further provided direct assistance to households by doubling the previously announced payouts of GST Credits and Senior Citizens' Bonuses due this year, as well as providing personal income and property tax rebates in 2009.

There were also measures to address longer-term structural challenges.

Although the Budget was focused on addressing the immediate needs of businesses and households amidst the current downturn, it also contained measures to deal with longer-term structural challenges.

For example, the corporate income tax rate will be reduced from 18% to 17% with effect from YA2010 to boost competitiveness and attract investment to spur job creation. (Chart 3.42) The government is also pressing ahead with long-term investments in infrastructure, education, healthcare and R&D to position Singapore as a world class city. This includes $1 billion to be spent over the next five years on sustainable development initiatives. The funds will support programmes such as energy efficiency for industry and households, green transport, clean energy and the greening of our living spaces.

The fiscal policy stance will be expansionary in 2009 ...

Overall, the Resilience Package is calculated to result in budget deficits in both FY2008 and FY2009. The revised budget deficit of $2.2 billion (0.8% of GDP) for FY2008 was a more-than-threefold increase from that projected in February 2008. For FY2009, the government is estimated to run an even larger deficit of $8.7 billion (3.5% of GDP). (Chart 3.43 and Table 3.7) Importantly,

Chart 3.42
Corporate Tax Rate

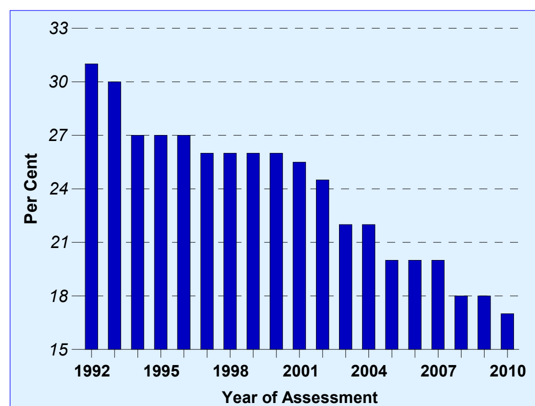
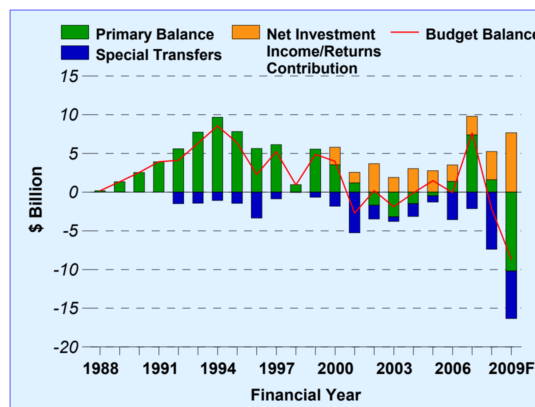


Chart 3.43
Components of the Budget



from FY2009, the government will be able to tap more of the returns from the investment of its reserves to fund the Budget, as shown by the increase in net investment income/returns contribution from $3.7 billion in FY2008 to $7.7 billion in FY2009. Constitutional amendments were made in October last year to broaden the definition of investment returns such that they include capital gains, rather than just interest and dividend income, and are based on expected real long-term returns (instead of nominal year-to-year actual returns).[14] This was introduced to ensure that the government has a strong and steady stream of income to meet increases in expenditure expected over the medium to long term.

Table 3.7
Summary of the Budget

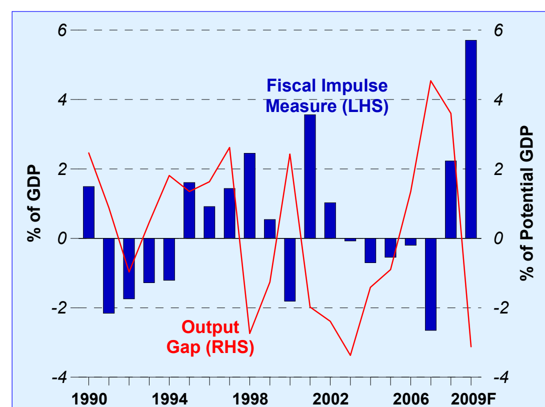
	FY2008 Revised		FY2009 Budgeted	
	$ Billion	% of GDP	$ Billion	% of GDP
Operating Revenue	40.5	16.0	33.4	13.4
Total Expenditure	38.9	15.3	43.6	17.5
Operating Expenditure	29.2	11.5	32.2	12.9
Development Expenditure	9.7	3.8	11.5	4.6
Primary Surplus/Deficit (-)	**1.6**	**0.6**	**-10.2**	**-4.1**
Add: Net Investment Income/Returns Contribution	3.7	1.4	7.7	3.1
Less: Special Transfers	7.4	2.9	6.2	2.5
Budget Surplus/Deficit (-)	**-2.2**	**-0.8**	**-8.7**	**-3.5**

Note: Figures may not tally due to rounding.

… as measured by the Fiscal Impulse.

In CY2009, the Fiscal Impulse (FI) measure will be strongly expansionary at 5.7% of GDP, much larger than during the two previous downturns in 1998 and 2001. (Chart 3.44) This is an appropriate fiscal stance and will provide countercyclical support for the economy amidst the sharp reversal in the estimated output gap this year.

Chart 3.44
Fiscal Impulse Measure and the Output Gap



Source: EPD, MAS estimates

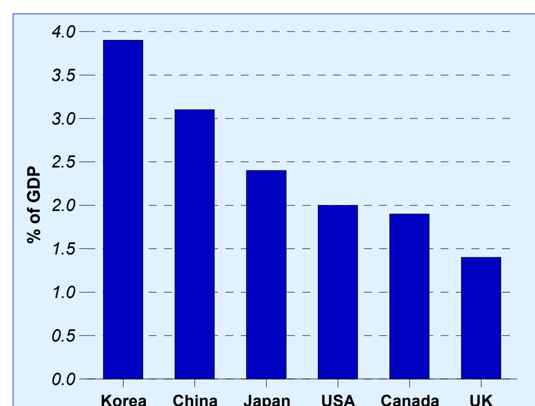
The FI measure is designed to determine the direction of the change in budgetary stance – whether it has stayed neutral, or has become more expansionary or contractionary compared to the previous year. It essentially provides a measure of the magnitude of the initial stimulus to aggregate demand arising from the net effects of fiscal policy, rather than the contribution of the government sector to GDP growth. The latter would require a full-scale macroeconomic model, such

[14] However, the new framework retains the 50% cap on spending from net investment returns.

as the Monetary Model of Singapore (MMS), to capture the more subtle multiplier effects of detailed expenditure and revenue items and provide a more complete assessment of the impact of fiscal policy on the economy.

Accordingly, fiscal measures amounting to $10.5 billion, or 4.2% of GDP, as shown in Table 3.8, were simulated in the MMS for CY2009. One-fifth of this consisted of revenue measures and the remaining were expenditure measures. The revenue measures were focused on tax rebates, while jobs credits and increased government spending were the key measures on the expenditure side. Note that the size of Singapore's fiscal stimulus package at 4.2% of GDP was proportionally larger than in many G20 countries, which averaged 2.0% of GDP, according to the IMF's estimates.[15] (Chart 3.45)

Chart 3.45
Size of Fiscal Package for Selected Countries, 2009



Source: IMF

Table 3.8
Major Budget Initiatives Simulated in the MMS

	Spending in 2009 ($ Billion)
Preserve jobs	4.9
of which, Jobs Credit Scheme	4.5
Enhance business cashflow and competitiveness	1.5
of which, property tax rebate for commercial and industrial property	0.8
rental rebate for JTC and HDB industrial and commercial tenants	0.3
Support families	1.3
of which, personal income tax rebates	0.5
doubling GST Credits and Senior Citizen Bonuses	0.5
Workfare Income Supplement special payment	0.1
Build for the future	2.8
of which, expanded and accelerated infrastructure spending	1.1
government spending on security, health, education, transport, etc	1.7
Total	**10.5 (4.2% of GDP)**

[15] "Update on Fiscal Stimulus and Financial Sector Measures", note by the Staff of the IMF, 26 Apr 2009.

Several budget changes were excluded from this analysis. First, the impact of policies to stimulate bank lending is ambiguous from the macroeconomic perspective as the take-up rate and the way firms would utilise their loans are difficult to ascertain *a priori*. Second, the effects of funds to promote innovation, such as the Media Fusion Fund and the Test-Bedding Fund, are difficult to quantify for 2009 as the degree of drawdown and how the funds would be spent are unknown. Third, while certain measures were crafted to address specific micro-vulnerabilities in the economy, they could not be simulated in the MMS as the model is designed to represent economic relationships at a more macro level. Examples include the deferral of property tax for vacant land and land under development for real estate developers, and the road tax rebate for commercial vehicles, buses and taxis. Fourth, measures announced in previous Budgets which were already in the pipeline, such as GST Credits and utility rebates, were excluded as their impact would already be incorporated in the baseline scenario.

The fiscal package will provide a modest boost to the economy without being inflationary.

Based on simulations using the MMS, the measures listed in Table 3.8 are estimated to add 1.5% to GDP growth and subtract 0.2% from headline CPI inflation in 2009. By effectively supporting aggregate demand and increasing aggregate supply, Budget FY2009 would thus provide a modest boost to the economy without being inflationary.

The measures designed to preserve jobs and enhance the cash flow of businesses will cushion the compression of firms' profit margins arising from the weakening of external demand by relieving the pressure on their marginal cost-to-price ratios, lessening their need to retrench workers, and helping them to stay viable. Budget initiatives designed to support families will lighten the shock to household income and consumption, while those to build capacity for the future through increased government development expenditures will also support aggregate demand in the short run.

Nonetheless, these Budget changes will have a proportionately smaller impact on Singapore's growth, compared to other economies.[16] This is because of the low marginal propensity to consume of Singaporean households, the high import leakage and heavy dependence on external demand. The fiscal package is thus designed to prevent a more severe deterioration in economic activity, by temporarily supplementing the cash flows facing businesses and households.

In sum, Singapore's Budget is appropriate for the times.

A recent IMF Staff Note[17] argued that the optimal fiscal response to the current crisis should possess the following characteristics: it should be timely, as there is an urgent need for action; be large, because the fall in demand is exceptional; be lasting as the downturn is likely to persist for some time; be diversified because there is uncertainty as to which measure will be most effective; be contingent to indicate that further action will be taken if necessary; be collective because of the severity and global nature of the downturn; and be sustainable to avoid a debt explosion and adverse effects on financial markets.

Singapore's recent Budget compares well against these criteria. MOF reported in November last year that the FY2008 Budget could be more than three times larger than the initial estimate of $800 million, reflecting in part the higher payouts of Growth Dividends and utility rebates, as well as lower revenue due to the weaker-than-expected economic growth. Immediate action was also announced in November 2008 to help businesses gain access to credit and provide training and skills upgrading programmes for workers. In addition,

[16] In a note prepared by the IMF staff for the Group of Twenty Deputies in February 2009, the IMF estimated the growth impact from the fiscal stimulus packages to average around 0.4-1.3% for the G20 countries, based on an average package size of 1.4% of GDP.

[17] Spilimbergo, A, Symansky, S, Blanchard, O, and Cottarelli, C (2008), "Fiscal Policy for the Crisis", *IMF Staff Position Note* SPN/08/01, 29 December.

the FY2009 Budget cycle was brought forward to ensure that the fiscal measures would be implemented immediately, even before the new fiscal year.

In EPD's assessment, the $20.5 billion Resilience Package amounting to 8.2% of GDP is an appropriate fiscal stimulus against the estimated output gap of around -3% of GDP in 2009. The speed and magnitude of the reversal in the output gap from 2008 is much more significant this time round, necessitating the sizeable package.

The fiscal package is also "lasting", "diversified", "contingent" and "sustainable". It is targeted at boosting the capacity of businesses and households to withstand the downturn. Some of the support for households, such as the transfers or rebates, is disbursed in several tranches, while some of the business measures, such as tax incentives, extend beyond the current year.

The Budget incorporates a diversified suite of targeted measures with multiple impact points – there are at least 25 specific initiatives for workers, general households and businesses.

The contingency and sustainability issues are addressed in the Budget Statement itself: "Depending on how deep and long the recession is, we are prepared to do more" and "The GST and Net Investment Returns have therefore given us a stable revenue base… We will not have to borrow to fund our response to the crisis. We will not have to burden either current or future generations with the need to repay our spending in this Package."

Box C
The Jobs Credit Scheme: A Graphical Illustration[1/]

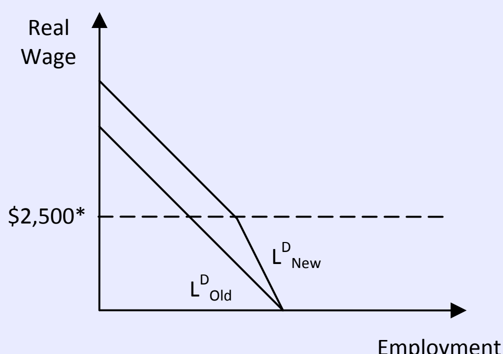
The Jobs Credit Scheme was introduced in the FY2009 Budget to encourage businesses to preserve jobs for Singaporeans during the present downturn. The scheme, which involves cash grants to employers to subsidise the employment of local workers, effectively reduces firms' costs of production without eroding employees' take-home pay and CPF savings.

The Jobs Credit Scheme lies outside the standard textbook examples of labour market analysis, such as the effects of a minimum wage or taxes on workers' incomes.[2/] With the implementation of the scheme, firms now face a lower effective real (inflation-adjusted) wage rate at each level of employment, while the real wage faced by suppliers of labour remains the same. Hence, firms may be expected to employ more workers at each wage level received by workers. As such, it seems appropriate to characterise the impact of the Jobs Credit Scheme as creating a new labour demand function. Graphically, given the structure of the Jobs Credit Scheme, the new labour demand schedule lies above the original schedule with a kink at the $2,500 mark.[3/] (Chart C1)

Chart C2 illustrates the possible impact of the scheme on the real wage rate W and employment L (the kink in the demand schedule is ignored for simplicity). The initial equilibrium wage and employment levels are at W_0 and L_0 respectively. The current recession represents a decline in external demand, which shifts the labour demand schedule leftward. Insofar as the introduction of a variable wage component in workers' overall remuneration package in recent years allows downward flexibility in take-home pay, some jobs could be saved simply by the market's downward adjustment of pay. However, empirical evidence, such as that gathered by Truman Bewley of Yale University, suggests that firms generally try to avoid lowering take-home pay during recessions as this would hurt workers' morale and, ultimately, firms' profitability.[4/]

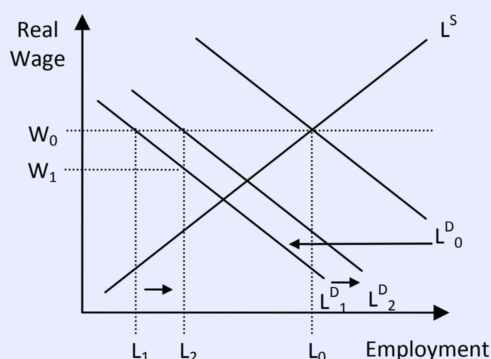
Assuming real wage rigidity in the short run, workers' take-home pay remains at W_0, while employment falls to L_1. The implementation of the scheme then should shift the labour demand schedule back to the right, but it is not likely to be sufficient to eliminate the full effects of the original leftward shift. The wage received by workers remains at W_0, while the cost of labour to firms, after accounting for the subsidy, falls to W_1. The equilibrium level of labour demanded by firms (i.e. employment) is now higher, at L_2.

Chart C1
New Labour Demand Schedule under the Jobs Credit Scheme



* For simplicity, we have assumed that prices are stable in this analysis.

Chart C2
Labour Market Dynamics under the Jobs Credit Scheme



In the presence of some degree of real wage rigidity in the labour market, there is likely to be involuntary unemployment over the short run during an economic downturn. The Jobs Credit Scheme, which is temporary in design and targeted at Singaporeans, helps to reduce the extent of involuntary unemployment by quickly lowering the effective real wage per (local) worker faced by firms. This could save jobs in the short term without significantly affecting the take-home pay received by workers, which would in turn soften the impact of the crisis on household income and private consumption.

1/ This box has benefited significantly from comments provided by Professor Hoon Hian Teck of the Singapore Management University.

2/ The 2006 Nobel Laureate Prof Edmund Phelps has analysed the case for an economy-wide jobs credit or subsidy to be given to firms to boost the pay and employment of workers as a permanent fixture of the labour market. See Phelps, E S (1997), *Rewarding Work: How to Restore Participation and Self-Support to Free Enterprise*, Harvard University Press.

3/ Under the Jobs Credit Scheme, from the viewpoint of firms, wages at and above $2,500 decline by a fixed amount of $300, while wages below $2,500 decline by 12%. Assuming a linear labour demand function, $LD = \alpha - \beta W$, and given the Jobs Credit Scheme, the new labour demand function becomes:

At and above $2,500: $LD = \alpha - \beta(W - \$300)$ or $W = (\alpha - LD)/\beta + \$300$

Below $2,500: $LD = \alpha - 0.88(\beta W)$ or $W = (\alpha - LD)/(0.88\beta)$

This implies a parallel shift for wages at and above $2,500 and a steepening in the slope of the labour demand curve for wages below $2,500.

4/ See, for example, Bewley, T F (1999), *Why Wages Don't Fall During a Recession*, Harvard University Press.