Goldman Sachs

Economics

Australia And Japan: Implications Of Japan's 11 March Quake

Economics | Australia

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Event:

- Given the human tragedy of Japan's 11 March quake, the implications for Australia are a much lower order concern. Nevertheless, the purpose of this article is to provide some context from an Australian perspective.

Key Points:

- Japan is Australia's second-largest export trading partner, usurped by China only in 2009, and its third-largest import trading partner.
- Despite the meteoric rise of China's significance as an export market for Australia, it is of interest that since the mid-90s Japan has been able to keep its share of Australia's exports at around 20%. However, the export relationship is heavily skewed in favour of coal, iron ore and LNG. With China dominating marginal iron ore demand and Australia's LNG supplies being inelastic, coal is the commodity that will be the most heavily impacted, from Australia's perspective, by events in Japan.
- Given firm details on the extent of the damage are not yet available, and are unlikely to be for some weeks, it is useful to look at the Kobe earthquake as a benchmark for understanding the potential economic impacts arising from the 11 March quake. Industrial production did fall immediately post the quake, only to rebound over the next three months before entering a renewed sub-trend period for the next six months. The genuine rebuilding process commenced in 4Q95. This broader pattern is also reflected by Japan's leading index, suggesting there will be a nine-month lag before reconstruction begins in earnest.
- Australia's coal export volumes fell significantly, from 5.3 million tonnes immediately prior to the Kobe quake to 3.8 million tonnes six months post the quake. Indeed, coal volumes broadly followed the path suggested by Japan's leading index, with a recovery in coal volumes arriving some nine months after the quake. In terms of prices, A$ coal prices started to rise modestly in the months following the quake, rising some 16% within four months of the quake as commodity markets pre-empted the rebuilding task. For iron ore, prices rose only modestly while Australia's exports remained within a 4.5-5 million tonnes range.

Investment View:

- From a markets perspective, a radiation cloud approaching Tokyo, the likely upward pressure on oil, gas and coal prices which may increase global concerns over energy prices and the inevitable fretting over Japan's public debt burden ahead of the likely fiscal initiatives will no doubt keep investors in a highly risk averse state in the near term.
- Nevertheless, it is important to keep the quake in perspective. Japan is virtually the epitome of spare capacity. Even in the case of severe economic damage to a handful of cities, the ability of other regions to lift output would seem relatively assured. Furthermore, we should be mindful that the terrifying destruction in Japan is just a very small percentage of the commodity requirements of a rapidly urbanising world. In short, the broad trajectory of global commodity prices will still be determined by events far removed from Japan's earthquake.
- Financial markets have rushed to price the probability of a 25bp cut by the RBA in response to the quakes as high as 52% by August. We remain of the view that interest rates will stay on hold until late 2011; however, any significant further deterioration in our real financial conditions index could give the RBA a basis for considering a cut. We thus continue to believe the A$ will remain under downward pressure.

Introduction

Japan's 11 March earthquake and the evolving events surrounding the Fukushima nuclear facility are clearly having a tragic impact via a large scale loss of life, very significant damage to physical infrastructure and psychological impacts upon Japanese households and businesses alike. Consideration of financial market impacts and implications for Australia are of much lower order priority; nevertheless, the purpose of this article is to provide some context from an Australian perspective.

Review of Australia's Trade Relationship With Japan

Japan is Australia's second-largest export trading partner, usurped by China only in 2009, and remains Australia's third-largest import trading partner.

Chart 1.

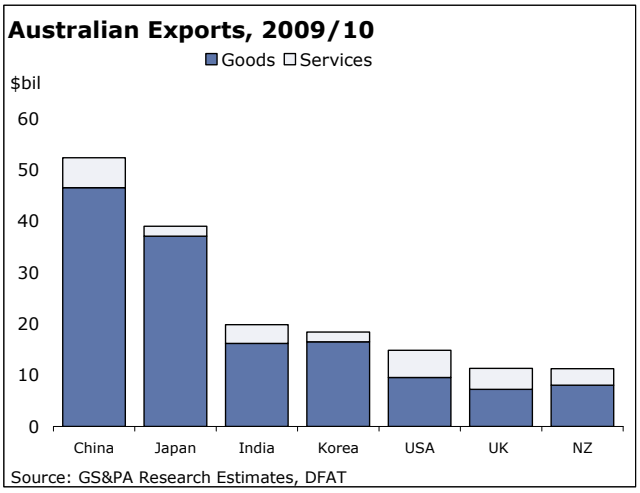
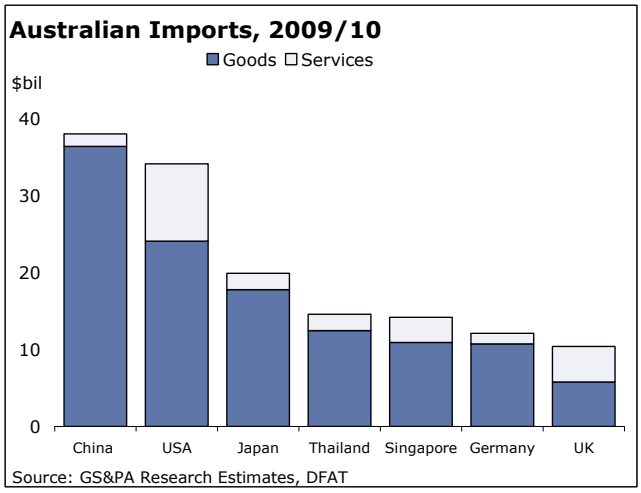


Chart 2.



Despite the meteoric rise of China's significance as an export market for Australia, it is of interest that since the mid-90s Japan has been able to keep its share of Australia's exports at around 20%. In contrast, Australia's import dependence on Japan has been in steady decline since the early 1990s, effectively halving from 20% in 1993 to just 10% currently.

Chart 3.

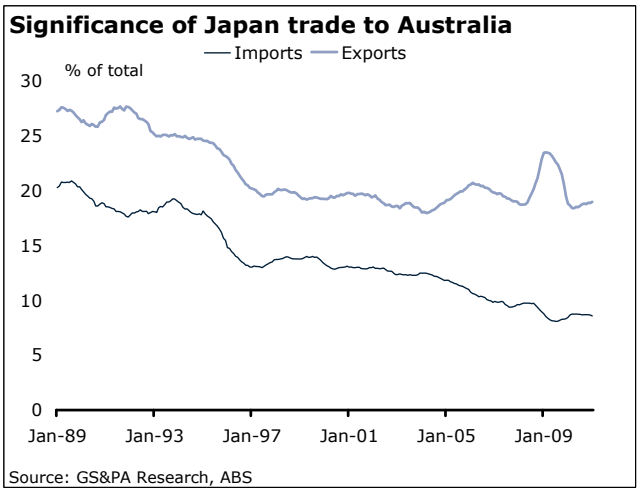
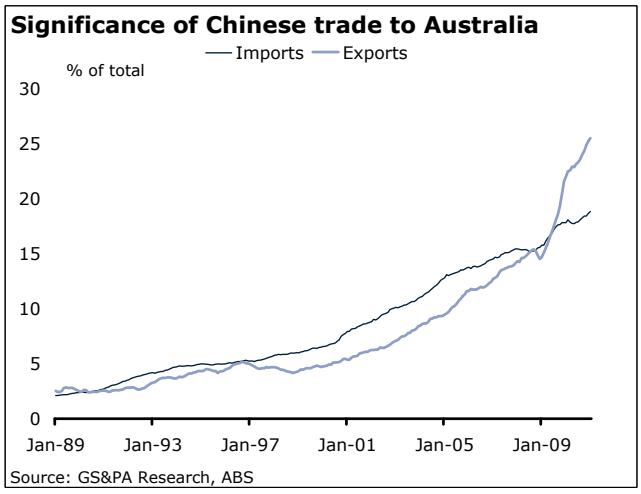


Chart 4.



The importance of Japan as a trading partner to Australia is clear; however, the export relationship is heavily skewed in favour of coal, iron ore and LNG. Beef and aluminium exports represent distant fourth and fifth positions in the export share to Japan (see Chart 5). Indeed, as Chart 6 illustrates, it is coal that will be the most heavily impacted commodity from Australia's perspective by events in Japan.

Chart 5.

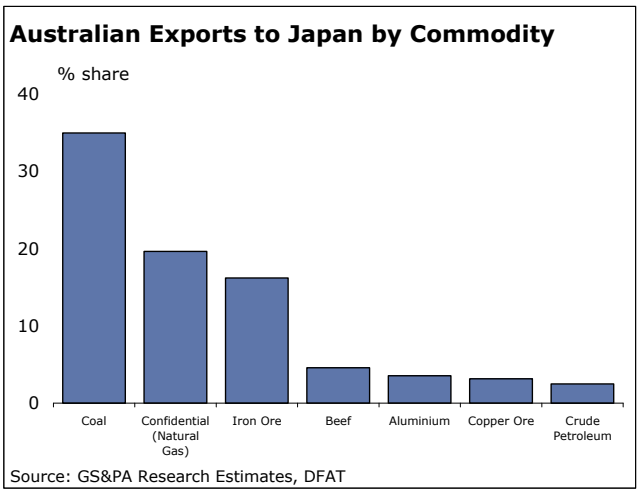
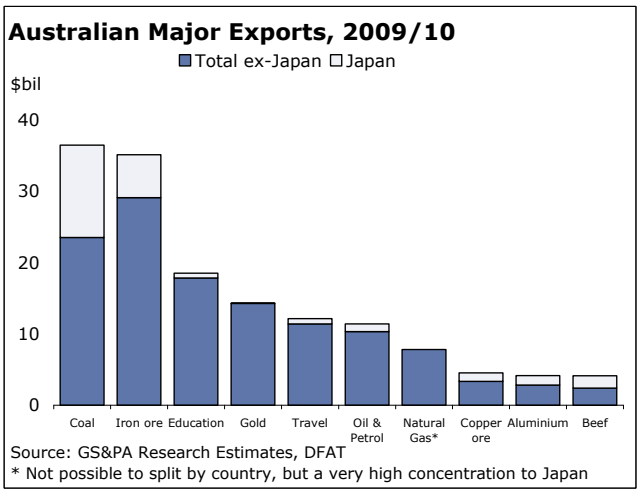


Chart 6.



In terms of imports, it is clear that Japanese imports into Australia are primarily passenger motor vehicles (Chart 7), which contribute almost half of Australia's imports of such vehicles. In categories such as parts of motor vehicles, computers, advanced industrial machinery and steel products, Japan represents a significant share of imports. Of course, in the case of, say, flat rolled steel, the total amount imported into Australia is relatively small; however, of what is imported, Japan has a 15% share.

Chart 7.

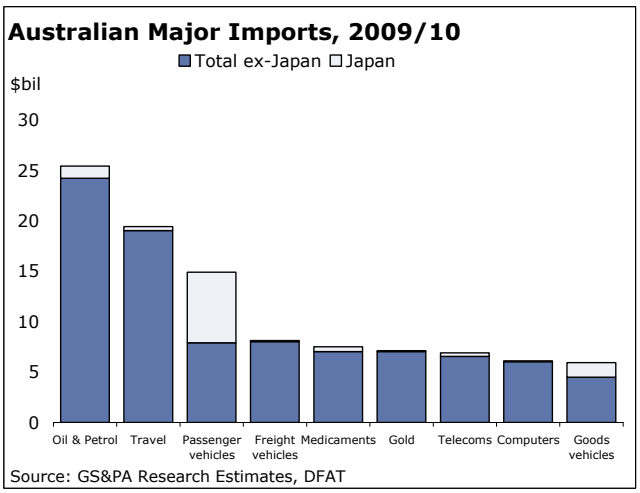
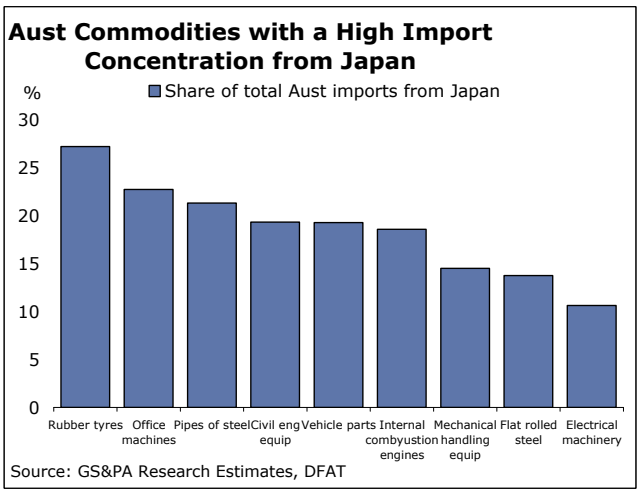


Chart 8.



What Happened Post the 1995 Kobe Quake?

Given firm details as to the extent of the damage are not yet available, and will likely not be available for some weeks, it is useful to look at the Kobe earthquake as a benchmark for understanding the economic and financial impacts arising from the 11 March quake.

The Great Hanshin earthquake, or Kobe earthquake, occurred on Tuesday 17 January 1995 in the southern part of Hyōgo Prefecture. It measured 6.8 on the moment magnitude scale (USGS). The focus of the earthquake was located 16km beneath its epicenter on the northern end of Awaji Island, 20 km away from the city of Kobe.

Approximately 6,434 people lost their lives (final estimate as of 22 December 2005), about 4,600 of whom were from Kobe. Among major cities, Kobe, with its population of 1.5 million, was the closest to the epicenter and hit by the strongest tremors. This was Japan's worst earthquake since the Great Kantō earthquake in 1923 which claimed 140,000 lives. It caused approximately ten trillion yen in damage, 2.5% of Japan's GDP at the time; however, the actual impact on economic activity was significantly smaller.

As Chart 9 shows, industrial production did fall immediately post the quake, only to rebound over the next three months before entering a renewed sub-trend period for the next six months before the genuine rebuilding process commenced in 4Q95. Indeed, in sifting through the Japanese economic data it is relatively hard to find dramatic declines in the higher frequency economic data following the quake nationwide. For instance, retail sales and housing starts did both contract modestly immediately after the quake but the impact was neither large nor sustained. The general pattern of the economic shock is probably best described by Japan's leading economic index, and it is likely that a similar pattern will be followed this time.

An initial relatively sharp decline in the economic data can be expected for the month of March. This is likely to give way to an initial rebound by May as electricity, water, telecommunications and utilities are progressively restored and the clean up task commences in earnest. However, some of the physical capacity of the economy has been destroyed and the lags before funds are made available from insurance and public initiatives will likely see economic activity ebb until late 2011 whereupon the more commodity-intensive rebuilding process can be expected to commence in earnest.

Chart 9.

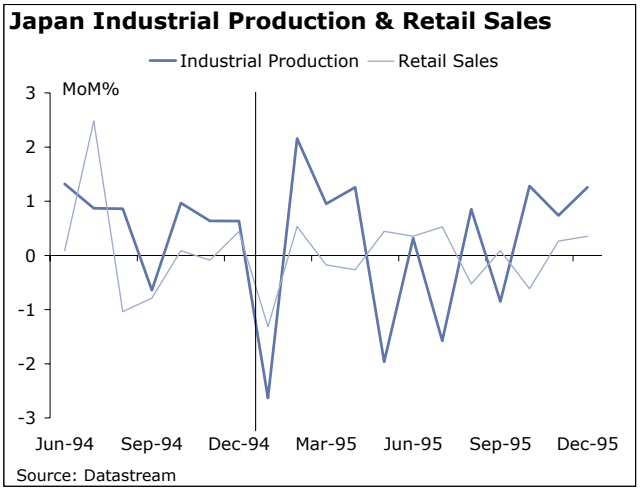
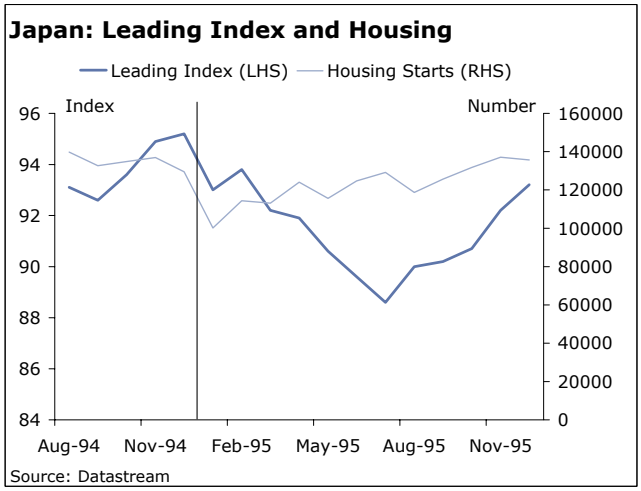


Chart 10.



Looking at what happened to coal and iron ore volumes and prices is also instructive as a benchmark for what may happen in the future.

Australia's coal export volumes fell significantly from 5.3 million tonnes immediately prior to the quake to 3.8 million tonnes six months post the quake. Indeed, coal volumes broadly followed the path suggested by Japan's leading economic index, with a recovery in coal volumes arriving some nine months after the quake.

In terms of prices, A$ coal prices started to rise modestly in the months following the quake, rising some 16% within four months of the quake as commodity markets pre-empted the rebuilding task.

Chart 11.

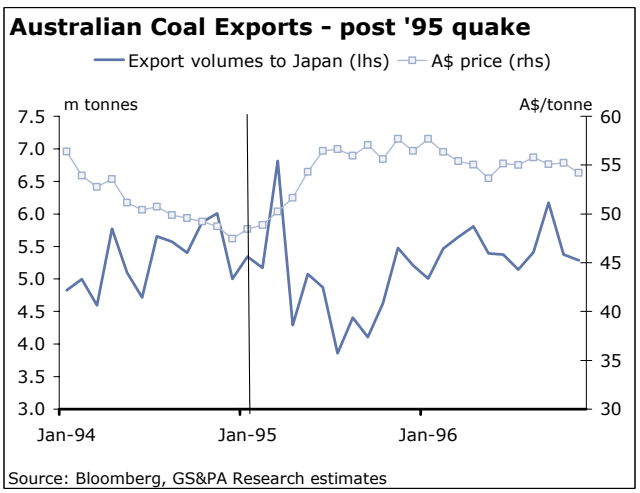
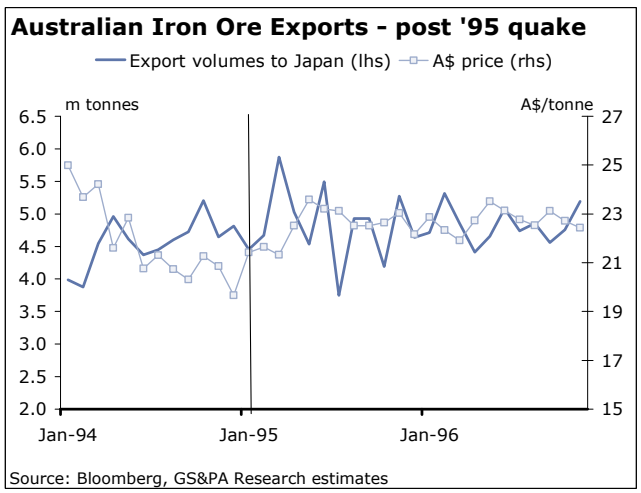


Chart 12.



The path of iron ore was less decisive; hence, the implication from the current quake is less clear. Following the Kobe earthquake, the price of iron ore did rise modestly but Australia's exports of iron ore to Japan remained constant at 4.5-5 million tonnes.

What's Different This Time?

Without doubt, the greatest and most obvious difference is the complication of the explosions at the nuclear facilities at Fukushima and the reports of a radioactive cloud moving towards Tokyo. Japan's citizens are rightly concerned and details are still sketchy, yet the risk of some asymmetric market responses cannot be ruled out.

i. Risk aversion may itself go nuclear as markets assess the prospect of much larger production stoppages as Japan's people seek to avoid radiation exposure by remaining indoors and via the likely negative impact upon consumer and business spending plans.

ii. Oil, gas and coal prices may escalate as enthusiasm for uranium as a viable source of future energy needs evaporates. Green energy technologies may also be given a further catalyst. Nevertheless, the prospect of more expensive energy prices at a time when high food and energy prices are already causing unrest in North Africa and the Middle East presents an additional mechanism through which the impact of the quake could be transmitted globally.

iii. Japan's government debt levels are already the highest in the developed world and there will be much market consternation over coming weeks regarding how Japan will be able to pay for the reconstruction effort without triggering concerns over debt sustainability and rating agency downgrades. Moody's currently rates Japan Aa2 but in late February cut its rating outlook from 'stable' to 'negative'. In January, Standard and Poor's cut Japan's credit rating from AA to AA-. Our Japanese economics team notes that following the Kobe quake, the government released an emergency budget that totalled 5.2 trillion yen, largely financed by the issuance of special government bonds. With our Japanese team assuming that the cost of this quake will be 1.6 times that of Kobe, or 16 billion yen, a repeat of the Kobe debt issuance strategy is highly likely, in our view.

Chart 13.

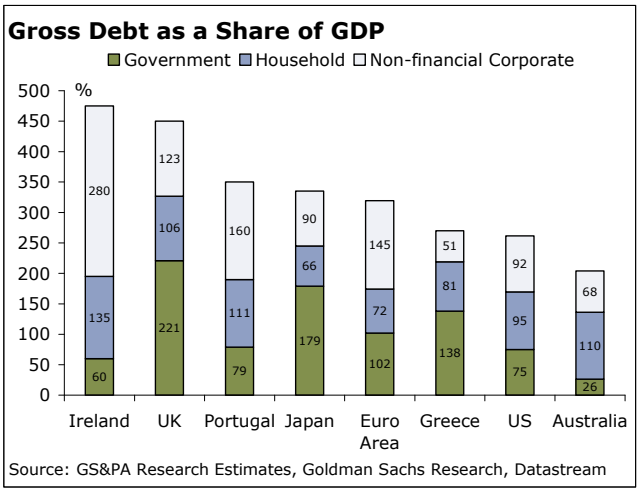
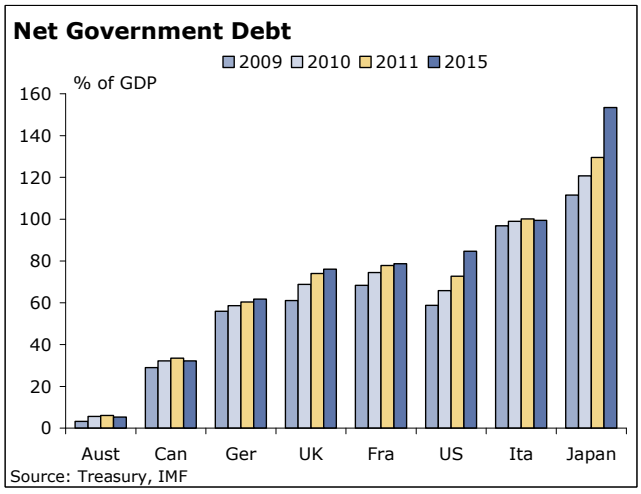


Chart 14.



Whilst all of these issues are valid concerns, at this stage we caution against becoming too pessimistic. From Australia's perspective, the economic disruptions are likely to be temporary, rising coal prices would be a net benefit to Australia and the issuance of attractively priced disaster or infrastructure bonds might even take some of the upward pressure off the A$ by diverting retail funds internally and away from the uridashi market.

Moreover, it is important to keep the quake in perspective. Japan is virtually the epitome of spare capacity. Even in the case of severe economic damage to a handful of cities, the ability of other regions to lift output would seem relatively assured. Furthermore, in the context of the urbanisation trends in China, India and many other emerging nations, we should be mindful that terrifying destruction in Japan is just a very small percentage of the commodity requirements of a rapidly urbanising world. At the time of the Kobe earthquake, Japan represented 8.8% of the global economy – today it represents 5.9% and only a small part of Japan's economy has been damaged. In short, the broad trajectory of global commodity prices will still be determined by events far removed from 11 March earthquake.

Financial markets have rushed to price in the probability of a 25bp cut by the RBA in response to the quakes as high as 52% by August. On the basis of the analysis above this would seem optimistic. We remain of the view that interest rates will stay on hold until late 2011; however, we will be watching the evolution of real financial conditions very closely in coming months. Should equity markets remain weak and the A$ relatively resilient then our FCI would move clearly into the restrictive zone, providing a platform for the RBA to at least consider the possibility of a cut. At this stage we still expect some 'fine-tuning' rate hikes late in 2011 and early 2012; however, in the interim the A$ is likely to endure some further downward pressure.

Table 1.

Implied Australian cash rate expectations - Interbank cash rate futures

Meeting	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12
Today	4.67	4.66	4.66	4.64	4.62	4.63	4.62	4.64	4.66	4.67	4.72	4.75	4.79	4.84	4.88
Implied movement	-8	-9	-9	-11	-13	-12	-13	-11	-9	-8	-3	0	4	9	13
Probability (%)															
- of a 25bp rate cut (4.50%)	34	36	36	46	52	49	50	44	34	34	13				
- of a 25bp rate rise (5.00%)												1	18	37	53
GS&PA forecast	4.75	4.75	4.75	4.75	4.75	4.75	4.75	5.00	5.00	5.00	5.25	5.25	5.25	5.25	5.25

Source: SFE, GS&PA Research Current Cash Rate: 4.75%

30-day interbank cash rate futures are settled on the basis of the average daily Interbank Overnight Cash Rate for the calendar month. GS&PA calculate the implied cash rate that is expected to prevail after each RBA Board meeting (first Tuesday of each month) from this contract strip by adjusting the contract price for the number of days in each calendar month that occur before and after each meeting.

Chart 15.

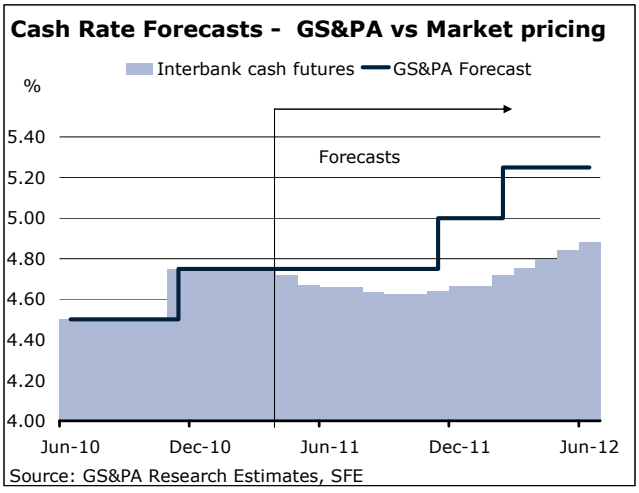
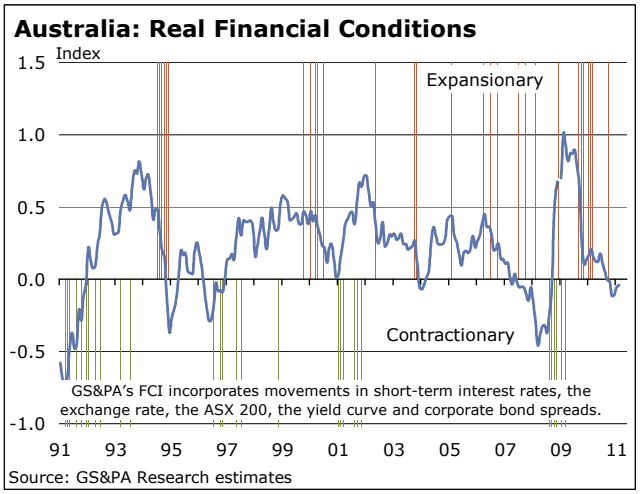


Chart 16.



Japan's Comparative Advantage

Following the natural disaster, we believe it is useful to step back and take stock of what Japan is good at producing and what it is not so good at producing as a basis for thinking about how the shock could be transmitted globally. In the tables that follow we have completed a relatively data-intensive exercise to provide both a snapshot of Japan's comparative advantages and disadvantages and how they are changing through time.

The analysis is conducted on the basis of Michaely Trade Indices. The key points are:

i. Motor vehicles and their parts contribute over 16% of Japan's trade balance.

ii. Japan is still a significant builder and exporter of ships, which contribute around 4% to Japan's trade balance.

iii. Electronic circuits and cathodes contribute a further 3.5% to Japan's trade balance.

iv. The steel and plastics industries remain central areas in which Japan has long had a competitive advantage and retains an absolute advantage.

v. Japan remains highly exposed to commodity prices in general and oil in particular. Indeed, Japan had a larger competitive disadvantage in oil and gas than the US, with Michaely indices combining to be in excess of -20. Coal, iron ore and copper all feature in the top six items in which Japan has a comparative disadvantage.

vi. Japan also retains a comparative disadvantage in fish and meat.

vii. Interestingly, Japan has retained a competitive advantage in computer components yet it has a significant competitive disadvantage in computers. That is, Japan is utilising China's low cost labour pool in the assembly of computer goods.

Table 2.

Japan: Still strong in heavy industrial manufacturing, but highly dependent on raw material inputs.

Michaely Indexes Showing Japan's Major Areas of Comparative Advantage and Disadvantage

Japan's Top 15 Comparative Advantage Groupings		Japan's Top 15 Comparative Disadvantage Groupings	
Motor vehicles for the transport of persons	9.9	Petroleum oils, oils from bitumin. materials, crude	-14.5
Ships, boats & floating structures	3.8	Natural gas, whether or not liquefied	-5.5
Parts & accessories of vehicles	3.6	Coal, whether or not pulverized, not agglomerated	-4.0
Cathode valves & tubes	2.9	Automatic data processing machines, n.e.s.	-1.6
Other machinery for particular industries, n.e.s.	2.2	Iron ore and concentrates	-1.6
Electrical machinery & apparatus, n.e.s.	2.0	Articles of apparel, of textile fabrics, n.e.s.	-1.5
Internal combustion piston engines, parts, n.e.s.	1.9	Copper ores and concentrates; copper mattes, cemen	-1.5
Apparatus for electrical circuits; board, panels	1.6	Medicaments (incl. veterinary medicaments)	-1.3
Plastics in non-primary forms	1.3	Liquefied propane and butane	-1.1
Flat-rolled prod., iron, non-alloy steel, not coated	1.3	Fish, fresh (live or dead), chilled or frozen	-1.1
Plates, sheets, films, foil & strip, of plastics	1.3	Women's clothing, of textile fabrics	-1.0
Parts, accessories for machines of computers	1.3	Other meat and edible meat offal	-1.0
Motor vehic. for transport of goods, special purpo.	1.1	Footwear	-0.8
Plastics in primary forms	1.1	Travel goods, handbags & similar containers	-0.8
Flat-rolled products of alloy steel	1.0	Men's clothing of textile fabrics, not knitted	-0.7

Source: GS&PA Research calculations based on UN trade data.

While Japan has maintained an absolute comparative advantage in a range of industries, it has strengthened its comparative advantage in refined raw materials whilst its advantage in the manufacture and assembly of motor vehicles has declined. Specifically:

i. The items where Japan has strengthened its comparative advantage over the past seven years are ships and refined plastic products, flat steel products, gold and copper.

ii. The areas where Japan has been losing its comparative advantage are mainly in goods in which China has demonstrated a rising comparative advantage. Telephones, computers, televisions, motor cycles and automotive parts are items in which Japan's advantage is slipping. However, the greatest damage is being done via a decline in motor vehicles – where the US, Europe and China are demonstrating rising comparative advantage.

iii. In a rising commodity price environment it is not surprising that oils, coal, natural gas, iron ore and copper ores are the top five areas in which Japan screens as suffering the largest falls in comparative advantage.

Table 3.

Japan is losing its advantage in areas that China is starting to dominate.

Michaely Indexes Showing Japan's Changing Revealed Comparative Advantage, From 2003

Japan's Top 10 Areas of Strengthening Advantage		Japan's Top 10 Areas of Improving Disadvantage	
Ships, boats & floating structures	1.7	Petroleum oils or bituminous minerals > 70 % oil	1.3
Plastics in non-primary forms	0.8	Automatic data processing machines, n.e.s.	0.7
Plates, sheets, films, foil & strip, of plastics	0.8	Aluminium	0.5
Gold, non-monetary	0.5	Crustaceans, mollusks and aquatic invertebrates	0.4
Flat-rolled prod., iron, non-alloy steel, not coated	0.5	Fish, fresh (live or dead), chilled or frozen	0.4
Hydrocarbons, n.e.s., & halogenated, nitr. derivative	0.5	Other meat and edible meat offal	0.4
Copper	0.5	Wood simply worked, and railway sleepers of wood	0.4
Miscellaneous chemical products, n.e.s.	0.4	Aircraft & associated equipment; spacecraft, etc.	0.4
Ferrous waste, scrape; remelting ingots, iron, steel	0.3	Wood in the rough or roughly squared	0.3
Rotating electric plant & parts thereof, n.e.s.	0.3	Engines & motors, non-electric; parts, n.e.s.	0.3
Japan's Top 10 Areas of Declining Advantage		**Japan's Top 10 Areas of Declining Disadvantage**	
Motor vehicles for the transport of persons	-2.8	Petroleum oils, oils from bitumin. materials, crude	-2.5
Telecommunication equipment, n.e.s.; & parts, n.e.s.	-1.6	Coal, whether or not pulverized, not agglomerated	-2.3
Television receivers, whether or not combined	-0.8	Natural gas, whether or not liquefied	-1.7
Sound recorders or reproducers	-0.7	Copper ores and concentrates; copper mattes, cemen	-0.9
Photographic apparatus & equipment, n.e.s.	-0.6	Iron ore and concentrates	-0.7
Motorcycles & cycles	-0.5	Medicaments (incl. veterinary medicaments)	-0.7
Machine-tools working by removing material	-0.4	Medicinal and pharmaceutical products, excluding 542	-0.2
Textile & leather machinery, & parts thereof, n.e.s.	-0.4	Structures & parts, n.e.s., of iron, steel, aluminium	-0.2
Motor vehic. for transport of goods, special purpo.	-0.3	Household type equipment, electrical or not, n.e.s.	-0.2
Internal combustion piston engines, parts, n.e.s.	-0.3	Women's clothing, of textile, knitted or crocheted	-0.2

Notes: Difference between index values from 2003
Source: GS&PA Research calculations based on UN trade data.

Table 4.

Key Forecasts

							2010		2011				2012			
Australia	2007	2008	2009	2010F	2011F	2012F	3Q	4Q(f)	1Q(f)	2Q(f)	3Q(f)	4Q(f)	1Q(f)	2Q(f)	3Q(f)	4Q(f)
Activity and Prices																
Real GDP growth (% yoy)	4.6	2.6	1.3	2.7	2.9	3.7	2.7	2.7	2.0	2.3	3.5	3.7	4.6	3.8	3.2	3.1
Real GDP growth (% qoq)							0.1	0.7	-0.1	1.5	1.3	0.9	0.8	0.7	0.8	0.8
Real non-farm GDP growth (% yoy)	4.9	2.2	1.2	2.5	2.6	3.7	2.2	2.1	1.3	1.8	3.5	3.7	4.6	3.7	3.2	3.1
Private consumption (% yoy)	5.4	1.9	1.0	2.7	3.4	3.9	3.3	2.8	3.2	3.2	3.4	3.7	4.0	3.8	3.8	4.1
Private dwelling investment (% yoy)	3.0	2.1	-4.2	4.8	-0.9	6.4	4.6	2.2	2.6	-2.8	-2.3	-0.9	2.1	5.5	8.5	9.6
Private business investment (% yoy)	14.3	9.9	-5.3	-0.9	13.5	14.8	3.0	-1.2	5.5	12.3	16.1	19.8	21.5	18.2	12.4	8.0
Private spending (% yoy)	7.2	3.1	-0.7	2.0	5.0	6.5	3.1	1.6	3.4	4.3	5.4	6.7	7.6	7.1	6.1	5.4
Government spending (% yoy)	3.4	6.3	1.6	9.1	0.7	2.2	0.0	0.8	-0.3	0.2	0.2	0.3	0.7	0.7	0.8	0.8
Domestic demand (% yoy)	6.4	3.8	-0.1	3.6	3.9	5.5	4.4	2.7	2.8	3.4	4.3	5.2	6.1	5.9	5.3	4.8
CPI inflation (avg., % yoy)	2.3	4.4	1.8	2.8	3.4	2.8	2.8	2.7	3.3	3.5	3.6	3.3	2.8	2.6	2.7	3.1
Unemployment Rate, %	4.4	4.3	5.6	5.2	5.2	4.8	5.2	5.2	5.0	4.8	4.7	4.7	4.9	5.1	5.3	5.5
External Sector																
Current acct. balance (A$bn)	-70.2	-55.2	-52.9	-34.5	-21.6	-66.4	-6.5	-7.3	-6.4	-2.8	-3.8	-8.6	-12.9	-15.6	-17.5	-20.4
Current acct. balance (% of GDP)	-6.2	-4.5	-4.2	-2.6	-1.5	-4.3	-1.9	-2.1	-1.8	-0.8	-1.0	-2.3	-3.4	-4.1	-4.6	-5.2
Trade balance (A$bn)	-21.4	-8.6	-3.9	16.7	46.2	4.2	6.0	6.8	9.3	14.5	13.5	8.8	4.6	2.1	0.2	-2.6
Terms of Trade (% yoy)	5.7	13.0	-10.0	16.2	14.0	-9.4	25.2	22.2	23.9	15.3	12.4	5.8	-5.5	-10.7	-11.6	-9.8
Export volumes (% yoy, A$)	2.5	4.7	2.8	5.3	4.1	7.4	4.2	5.1	2.1	2.5	6.9	4.8	10.3	6.1	6.1	7.2
Import volumes (% yoy, A$)	12.2	11.5	-9.0	13.2	8.5	11.4	13.7	8.4	6.9	7.2	10.4	9.3	12.0	11.5	10.9	11.5
Monetary and Fiscal Sector																
Cash rate (% eop)	6.75	4.25	3.75	4.75	5.00	5.25	4.50	4.75	4.75	4.75	4.75	5.00	5.25	5.25	5.25	5.25
3-month interest rate (eop, in %)	7.29	4.37	4.14	4.90	5.22	5.40	4.81	4.90	4.90	4.90	5.06	5.22	5.40	5.40	5.40	5.40
Exchange rate (per A$, eop)	0.87	0.67	0.90	1.00	1.02	0.87	0.94	1.00	1.00	1.02	1.02	1.02	0.98	0.95	0.91	0.87

Source: ABS, RBA, GS&PA Research estimates

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Recommendation	Overall	Corporate relationship* in last 12 months
Sell	8%	6%
Hold	53%	50%
Buy	39%	44%

* No direct linkage with overall distribution as the latter relates to the full GS&PA/GS&PNZ coverage (>250 companies). The above table combines the corporate relationships and recommendations of both GS&PA and GS&PNZ.