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Assessing the impact of Europe on Malaysia



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Economics Team

Nor Zahidi Alias

Chief Economist

+603 2082 2277

zahidi@marc.com.my

Nurhisham Hussein

Economist

+603 2082 2231

nurhisham@marc.com.my

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the last page of this report*

In a nutshell

- ▶ In dealing with the initial onset of the crisis in 2008, European governments were swift to react, including using public money to help support domestic banking systems. But by backstopping Europe's financial system from collapse, European governments not only had to deal with funding a banking rescue, but also rising fiscal deficits as economic growth and tax revenue fell.
- ▶ Europe is close to entering another technical recession as output fell 0.3% in 4Q2011, and although higher frequency indicators are bottoming out, downside risks to Europe from low consumer confidence and investment, and the threat of sovereign defaults leading to another banking crisis, would have repercussions on global trade and aggregate demand.
- ▶ There are three specific channels we think will be important in assessing the risk factors to Malaysia from a European meltdown; through the real economy, through the financial sector, and through trade finance.
- ▶ Malaysia's growth and trade are highly sensitive to global demand: every 1% change in global growth results in a 0.87% change in Malaysia's growth rate. Malaysia's trade is even more exposed to global growth – a 1% increase in global demand causes a 1.87% increase in exports, while a 1% increase in the exchange rate results in a reduction of 0.53% in Malaysia's exports. Imports on the other hand are driven more by export demand than they are by Malaysian growth.
- ▶ At present, European trade comprises just 10.5% of Malaysia's trade, though this somewhat understates the exposure as indirect trade (through intermediate exports within the global supply chain) adds approximately another 3%-4%. There is also the indirect impact of Europe on Malaysia's other trade partners, all of whom have exposures of their own to European trade and finance.
- ▶ Malaysian trade with Europe suffered greatly from the Great Recession, with total trade volumes dropping 18.9% in 2009 (-32.7% yoy in 2Q2009 alone) – of Malaysia's other major trade partners, only trade with the United States (US) suffered a sharper drop. It would be fair to say that up to 2011, export and import volumes with Europe (as with the US) have not recovered to pre-crisis levels, unlike Malaysia's trade with other countries.
- ▶ Quite unlike the impact of global growth on Malaysia, European growth does not appear to have an impact on Malaysian growth. For exports on the other hand, a 1% change in European growth results in a 3.5% change in Malaysian exports to Europe. Imports from Europe to Malaysia respond to increases in Malaysian growth, rising 0.68% for every 1% increase in Malaysian growth. However, an increase in the exchange rate results in a drop in Malaysian imports from Europe, which is an unexpected result, but perhaps reflective of some European imports being inputs into Malaysian exports (which is associated with a 0.29% increase in European imports).
- ▶ It's strikingly clear that Malaysia's exports to Europe fall into two different classes – two thirds of Malaysia's exports are not affected by changes in Europe's economic environment, while most of the remaining third are overly sensitive. The implication is that Malaysia's export exposure to Europe is far less than the nominal value would indicate, and global demand conditions override changes in Europe itself at least insofar as most of Malaysian trade is concerned.
- ▶ We have to conclude, on the basis of the evidence presented here, that Europe's impact on Malaysian growth through the trade channel is small and minor. A deeper than expected recession in Europe would not seriously jeopardize Malaysian growth, contrary to the expectations of many. That suggests that recent bearish sentiment on the Malaysian economy due to events in Europe is largely a reflection of financial risks, and not real economy risks.

Introduction

The impact and consequences of the Great Recession of 2008-2009 continues to reverberate within the global economy, with its latest manifestation the sovereign debt crisis in Europe. Even as the financial turmoil beginning with the collapse of Lehman Brothers in September 2008 was centered on Wall Street, the repercussions were global in nature. European banks were as much exposed to structured products and derivatives based on US assets as American banks were; nor were Europe's financial institutions less eager to use dangerous amounts of leverage in seeking yield in an environment of low interest rates. Pre-crisis, a number of European banks had leverage ratios with respect to capital approaching 60-to-1, on par with some of the more aggressive American investment banks like Bear Stearns and Lehman Brothers¹. The resulting credit crunch arising from the breakdown in trust within the global financial system was not just an American phenomenon, but also had its roots in over-leveraged and over-extended European banking giants.

Growing downside risks

In dealing with the initial onset of the crisis in 2008, governments were swift to react, including using public money to help support domestic banking systems. But by backstopping Europe's financial system from collapse, European governments not only had to deal with funding a banking rescue, but also rising fiscal deficits as economic growth and tax revenue fell (see Table 1).

This has pushed countries such as Greece and Portugal on the verge of defaulting on their debt obligations, despite having debt metrics that appeared credit-worthy before the crisis. Thus, a near collapse in the European financial system has over time morphed into a sovereign debt crisis, which threatens to push the global economy into another recession. The situation is even more critical, as sovereign defaults in Europe would precipitate another financial system crisis on a scale similar to 2008-2009 – or would it?

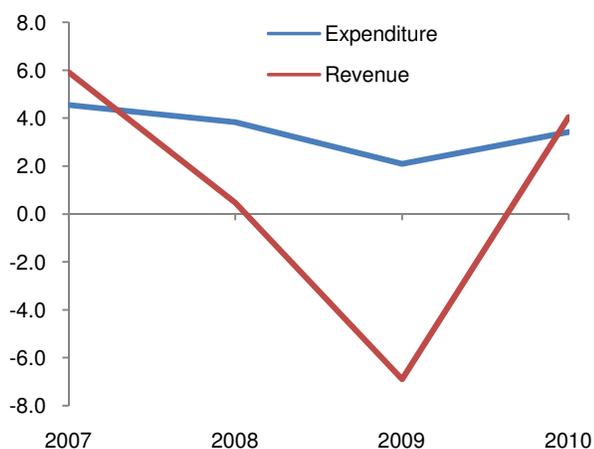
The biggest difference between 2008-2009 and 2011-2012 is that sovereign debt crises tend to move at a snail's pace compared to financial system collapses. Even if contagion spreads beyond the so-called PIIGS (Portugal, Ireland, Italy, Greece and Spain) to the larger core countries such as France and Germany, the likely slow pace of deleveraging and restructuring means there may be adequate time to adjust bank capital needs, and provide private sector companies and individuals time to assess and manage their liquidity requirements.

Anecdotal evidence suggests that European companies and foreign companies operating in Europe have already laid in plans for the worst case scenario – a complete collapse of the Euro as a monetary union. Time will also allow European governments to change the institutional arrangements linking the Union, and address the fundamental weaknesses of the Eurozone. Whether the Eurozone will continue in its current structure is unlikely, but what shape and form that change will take is subject to considerable uncertainty.

Be that as it may, there may be a short term impact on an already weak global growth momentum. The years following the Great Recession have seen private sector and households globally trying to repair balance sheets and countries work towards global rebalancing of consumption and investment. Monetary and fiscal stimulus packages, particularly China's, have helped foster a two-speed global economy, with emerging markets supporting global growth while developed economies grappled with financial fallout and structural problems.

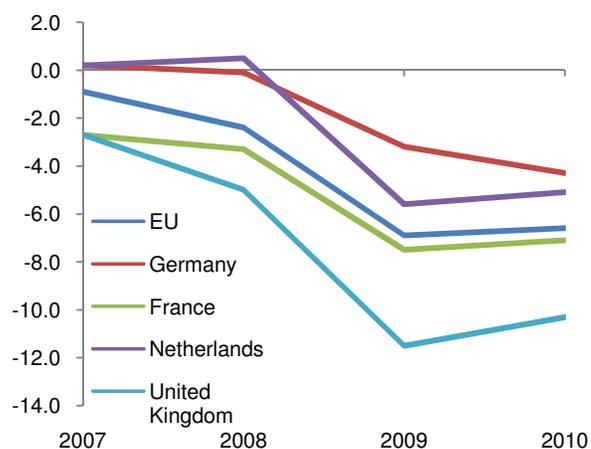
¹ Due to differences in accounting treatment between European and American regulators, the equivalent US ratio is 30-to-1

Chart 1: European Union, government revenue and expenditure 2007-2010 (% growth)



Source: Eurostat

Chart 2: Fiscal Balance for the European Union and selected European countries 2007-2010 (% of GDP)



Source: Eurostat

Table 1: European Union, selected countries, government revenue and expenditure 2008:2010 (% growth)

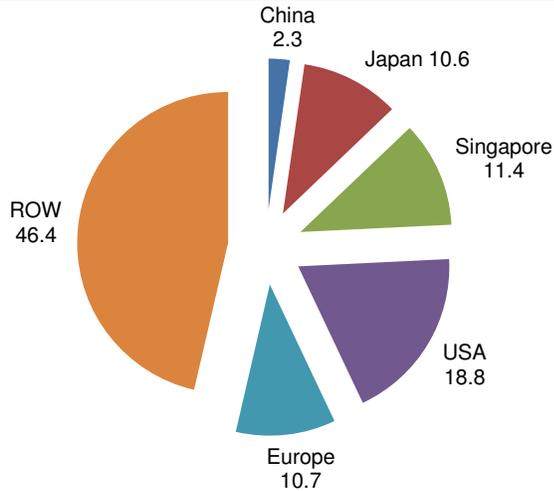
	2008		2009		2010	
	Expenditure	Revenue	Expenditure	Revenue	Expenditure	Revenue
European Union (27 countries)	3.8%	0.5%	2.1%	-6.9%	3.4%	4.0%
Euro area (17 countries)	4.9%	1.7%	4.9%	-3.8%	2.1%	2.4%
Germany	3.1%	2.4%	4.8%	-2.0%	3.8%	1.3%
Ireland	10.7%	-8.5%	2.0%	-12.6%	32.7%	-0.7%
Greece	11.1%	4.2%	5.8%	-7.1%	-8.4%	1.9%
Spain	9.2%	-7.2%	7.5%	-8.6%	-1.1%	3.7%
France	3.8%	2.6%	4.1%	-3.8%	2.1%	3.1%
Italy	3.4%	1.1%	2.9%	-2.4%	-0.7%	0.8%
Netherlands	6.2%	6.9%	7.1%	-5.4%	2.3%	3.5%
Portugal	2.6%	1.5%	9.1%	-5.3%	5.5%	7.2%
United Kingdom	-4.5%	-8.7%	-6.7%	-18.7%	6.6%	9.2%

Source: Eurostat

Tri-channel effects...

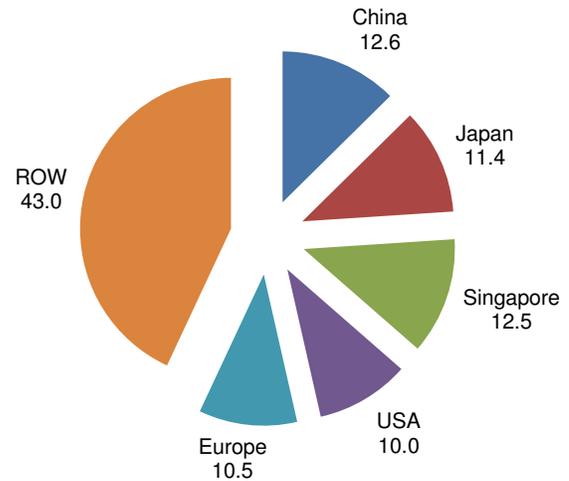
Europe is close to entering another technical recession as output fell 0.3% in 4Q2011, and although higher frequency indicators are bottoming out, downside risks to Europe from low consumer confidence and investment, and the threat of sovereign defaults leading to another banking crisis, would have repercussions on global trade and aggregate demand. What then would be the impact on Malaysia with its high external trade exposure and linkages to all the major advanced economies?

Chart 3: Direction of Malaysian total trade 2000 (% of total trade)



Source: DOS

Chart 4: Direction of Malaysian total trade 2011 (% of total trade)



Sources: DOS

At present, European trade comprises just 10.5% of Malaysia's trade (Chart 4), though this somewhat understates the exposure as indirect trade (through intermediate exports within the global supply chain) adds approximately another 3%-4%. There is also the indirect impact of Europe on Malaysia's other trade partners, all of whom have exposures of their own to European trade and finance.

There are three specific channels we think will be important in assessing the risk factors to Malaysia from a European meltdown:

- ▶ The real economy – trade to and from Europe, and trade with other European trade partners such as Japan and China. A severe downturn in Europe would not only directly impact Malaysia's trade with Europe, but also potentially reduce demand for Malaysian exports from other partners that are highly exposed to Europe such as China and Japan;
- ▶ The financial sector – portfolio flows are many times bigger than trade flows, and in the past two years, have been highly volatile depending on developments in the global economy. A deepening Europe crisis could trigger flight to safety, particularly to US dollar (USD) and Japanese Yen (JPY) assets, raising yields on Malaysian debt and putting downward pressure on the exchange rate;
- ▶ The intersection between finance and trade – specifically trade credit and correspondent banking. Some of the contagion in 2008-2009 occurred through this channel, as Malaysian exports and imports were hit not only by a reduction in demand, but also an almost complete drying up of trade credit.

Which of these channels would be most critical would depend on the specifics of a deepening Euro crisis. In this research note, we attempt to put some numbers on the real trade channel, to assess the vulnerability of the Malaysian economy to a protracted downturn in Europe.

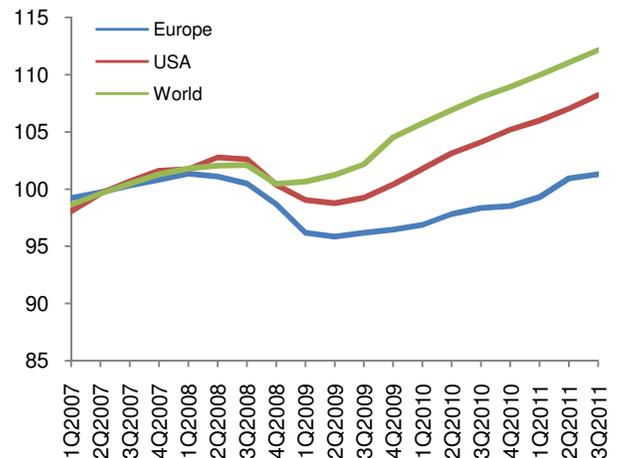
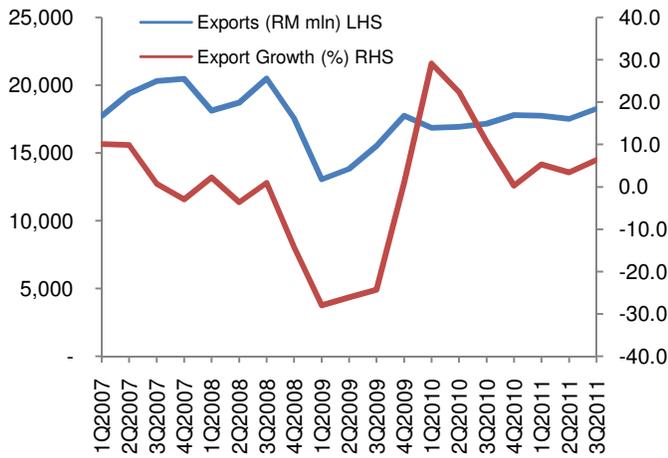
Breaking it down: Trade with Europe

Malaysia's trade with Europe has averaged around a steady 11% over the past decade, with the largest trade partners being Germany, the Netherlands, France, Italy and the UK, in that order (chart 8). The high trade share of the Netherlands is somewhat suspect, as Rotterdam (and to a lesser extent Amsterdam) are points of shipping entry into Europe as well as large processing centres in their own right, where exports are processed for final export elsewhere.

Malaysia runs a trade surplus with the European Union (EU) as a whole, though this hides considerable differences between countries. For example, Malaysia's German trade has been in overall deficit, while that of the Netherlands has been strongly in surplus. Of the other countries, Malaysia has a general deficit with Italy, Ireland, Austria and Sweden, and runs a trade surplus with the remainder. Trade with France has wavered between a small surplus and the occasional large deficit, due to imports of aircraft (Airbus is based in southern France).

Chart 5: Malaysian exports to the EU (RM mln and % yoy growth)

Chart 6: GDP volume indexes (2007=100)

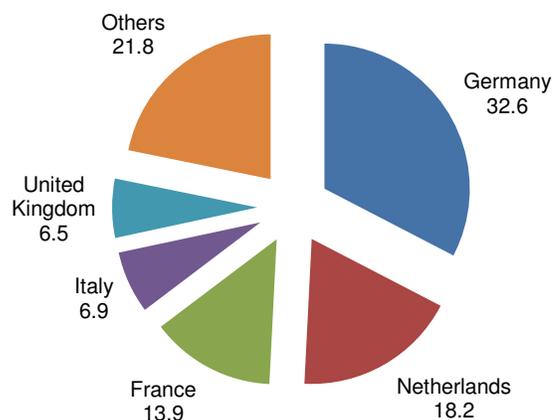
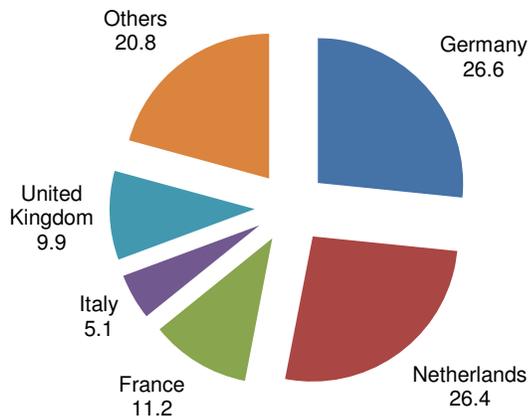


Source: DOS

Source: IMF IFS

Chart 7: Direction of Exports 2011 (% exports to the EU)

Chart 8: Direction of Total Trade 2011 (% total trade with the EU)



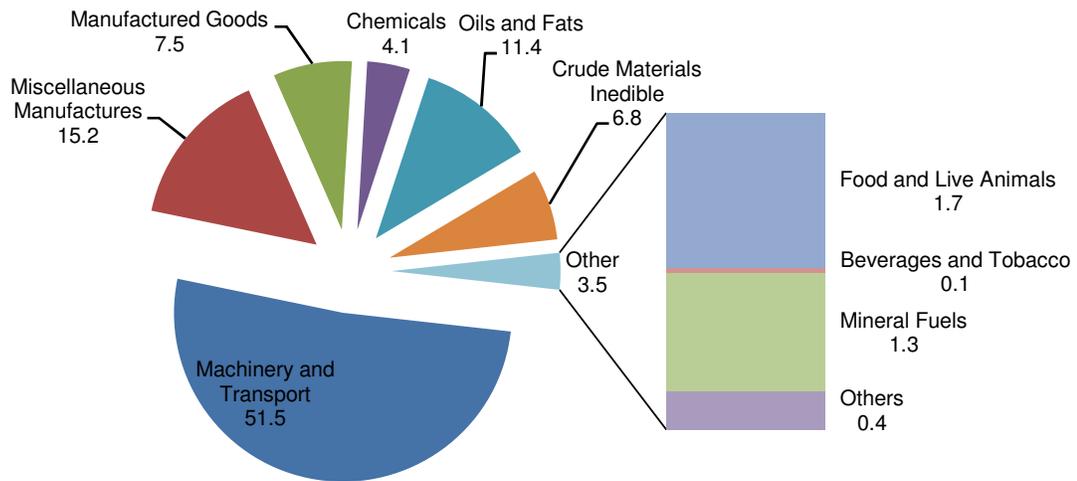
Source: DOS

Source: DOS

Malaysian trade with Europe suffered greatly from the Great Recession (Chart 5), with total trade volumes dropping 18.9% in 2009 (-32.7% yoy in 2Q2009 alone) – of Malaysia’s other major trade partners, only trade with the US suffered a sharper drop. It would be fair to say that up to 2011, export and import volumes with Europe (as with the US) have not recovered to pre-crisis levels, unlike Malaysia’s trade with other countries. Part of the reason is that, unlike with the US (where structural changes in the direction of trade have played a role) but like Japan, European GDP is also still below pre-crisis levels (Chart 6).

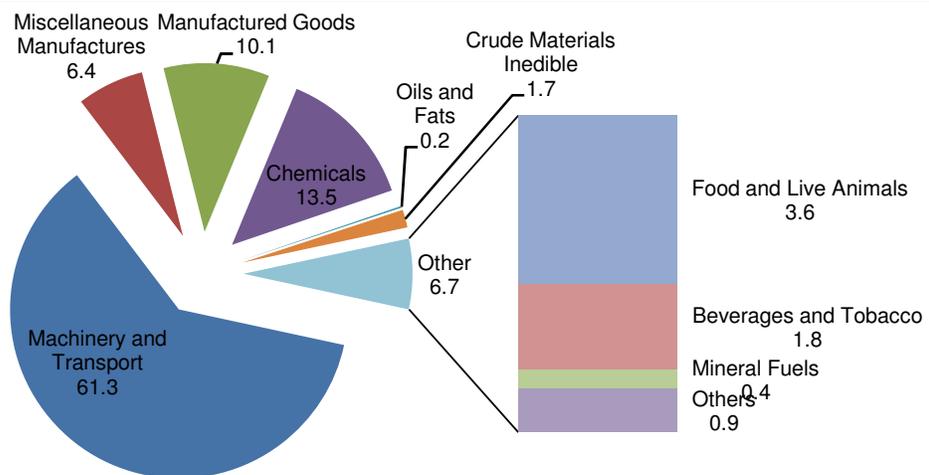
In terms of export composition, the bulk of trade is in one SITC category – Machinery and Transport Equipment (M&TE). Over the past five years, M&TE consistently comprised more than 60% of Malaysia’s imports from Europe and 50% of Malaysia’s exports.

Chart 9: Export composition 2011 YTD (% of exports to the EU)



Source: CEIC

Chart 10: Import composition 2011 YTD (% of imports from the EU)



Source: CEIC

Assessing vulnerability

To estimate the effect of global growth on Malaysian growth and trade, we use a couple of econometric techniques (see the Appendix).

Taking the aggregate numbers, Malaysia's overall growth and trade elasticities² with the world are outlined in Table 2. The column headers are the factors affecting Malaysian growth and trade, while the row headers are the factors being affected. Each number represents the percentage change in growth, exports and imports from a 1% change in the explanatory variables (the column headers).

Table 2: Elasticity estimates of Malaysian growth and trade to global growth and exchange rates

1% increase in... results in % increase in...	Global Growth	Malaysian Growth (t-1)	Nominal Effective Exchange Rate (NEER)	Malaysian Exports
Malaysian Growth	0.87%*	0.31%*	-0.12%*	n/a
Malaysian Exports	1.87%*	n/a	-0.53%*	n/a
Malaysian Imports	n/a	0.18%	0.22%*	0.89%*

Source: MARC Economic Research

Coefficients denoted with a * are statistically significant at the 95% confidence level.

From the results, Malaysia's growth and trade are highly sensitive to global demand: every 1% change in global growth results in a 0.87% change in Malaysia's growth rate. This result differs from that stated in the International Monetary Fund's (IMF) recent country report on Malaysia, largely due to the inclusion of lagged Malaysian growth and the nominal trade weighted exchange rate as additional explanatory variables. A 1% increase in the nominal exchange rate (here represented by the nominal trade weighted exchange rate, which aggregates movements across the currencies of Malaysia's major trade partners; an increase in this exchange rate is equivalent to an appreciation) results in a reduction in Malaysian GDP growth of about 0.12%.

Malaysia's trade is even more exposed to global growth – a 1% increase in global demand causes a 1.87% increase in exports, while a 1% increase in the exchange rate results in a reduction of 0.53% in Malaysia's exports. Imports on the other hand are driven more by export demand than they are by Malaysian growth, with a 1% increase in exports resulting in a 0.89% increase in imports, while a 1% increase in the exchange rate boosts imports by 0.22%. Malaysian demand on the other hand turns out to be not statistically significant.

To isolate the impact of Europe on Malaysia, we employ a similar modeling approach, with the following results:

Table 3: Elasticity estimates of Malaysian growth and trade to European growth and the EURMYR exchange rate

1% increase in... results in % increase in...	European Growth	Malaysian Growth (t-1)	Nominal Exchange Rate (EURMYR)	Malaysian Exports
Malaysian Growth	0.05%	0.96%*	-0.02%	n/a
Malaysian Exports	3.5%*	n/a	-0.11%	n/a
Malaysian Imports	n/a	0.68%*	-0.50%*	0.29%**

Source: MARC Economic Research

Coefficients denoted with a * are statistically significant at the 95% confidence level.

Coefficients denoted with a ** are statistically significant at the 90% confidence level.

² In economic terms, elasticity is a measure of how one variable responds to changes in another variable

There's a startling contrast here. Quite unlike the impact of global growth on Malaysia, European growth does not appear to have an impact on Malaysian growth. The estimated coefficient implies a 1% increase in European growth results in a 0.05% increase in Malaysian growth, but the sample estimate is not statistically significant (which means that we cannot infer that the underlying true relationship is not zero).

For exports on the other hand, a 1% change in European growth results in a 3.5% change in Malaysian exports to Europe but the Euro exchange rate with the Malaysian Ringgit is not statistically significant. Imports from Europe to Malaysia respond to increases in Malaysian growth, rising 0.68% for every 1% increase in Malaysian growth. However, an appreciation of the Ringgit results in a drop in Malaysian imports from Europe, which is an unexpected result, but perhaps reflective of some European imports being inputs into Malaysian exports (which is associated with a 0.29% increase in European imports). In cases like these, a drop in imports with an increase in the exchange rate is understandable, as export demand would be expected to drop with an increase in the exchange rate, something which will be confirmed below.

To resolve these various questions, we look at the individual elasticity estimates for Malaysian trade with Europe based on the Standard International Trade Classification (SITC). The estimates are tabulated in the Appendix II (Table 4), and the summary results for exports are presented below:

- ▶ The largest export category (51.5%), M&TE, is not driven by growth in Europe nor is it sensitive to movements in the exchange rate. Since the category represents investment items, not consumption, the likelihood is that these exports may be driven by European exports to other regions.
- ▶ The same applies to the second largest category of exports (15.2%), Miscellaneous Manufactured Articles – neither growth nor the exchange rate are an influence. Like the above, this suggests that these form intermediate inputs for European exports elsewhere.
- ▶ The third largest category, Animal and Vegetable Oils and Fats (11.4%), is however extremely sensitive to European demand, moving 7% in value for every 1% change in European growth. The exchange rate however is not a factor.
- ▶ Manufactured goods, representing 7.5% of Malaysian exports to Europe, is also sensitive to European growth, with export values changing 7.6% with every 1% movement in European growth.
- ▶ Inedible Crude Materials (6.8%) shows the same characteristics, moving 7.1% for every 1% change in European demand.

From the foregoing, it's strikingly clear that Malaysia's exports to Europe fall into two different classes – two thirds of Malaysia's exports are not affected by changes in Europe's economic environment, while most of the remaining third are overly sensitive. A downturn in Europe would therefore have an uneven effect on Malaysia's exports, with the heaviest impact on finished goods, consumption goods, and intermediate inputs that go to serve European domestic demand (such as oil and fats), while largely unaffected intermediate goods and finished goods for investment and for inputs into European exports.

The implication is that Malaysia's export exposure to Europe is far less than the nominal value would indicate, and global demand conditions override changes in Europe itself at least insofar as most of Malaysian trade is concerned. This also explains the seeming dichotomy between the high estimated sensitivity of Malaysian exports but the non-impact on Malaysian growth.

Turning to import elasticities, the following is the summary of the results (details are tabulated in Table 5 of the Appendix):

- ▶ In the largest category, M&TE (61.3% of total European imports in 2011), neither Malaysian growth nor the exchange rate explain movements in imports, but every 1% movement in Malaysian exports results in a 0.8% movement in M&TE imports. A big chunk of M&TE imports are aircraft, which actually serve to boost trade in services (travel).

- ▶ Chemicals form the second biggest chunk of imports (13.5%) and this category is highly sensitive to Malaysian growth, moving 1.6% for every 1% change in Malaysian growth. Here, the coefficients for neither the exchange rate nor Malaysian exports are statistically significant, implying these imports not only serve domestic demand but that there are few supply alternatives.
- ▶ The third largest category, Manufactured Goods with a 10.1% share of European imports, generally moves with movements in exports, rising 0.7% for every 1% increase in exports. The exchange rate is not statistically significant as an explanatory variable, again implying few other supply alternatives to Europe.
- ▶ The last significant category, Miscellaneous Manufactures (6.4%), is again tied to export growth, but is partially sensitive to the exchange rate.
- ▶ It should also be noted that the remainder are either industrial inputs (Crude Materials) which are sensitive to exports, or consumption goods (Food; Beverages & Tobacco) which vary with Malaysian demand, and two categories which do not vary much according to internal or external demand (Fuels, Others).

Just as with exports, Malaysia's imports from Europe fall into two rough classes – inputs for Malaysian exports and thus more dependent on global demand conditions than on local economic conditions, and consumption goods which depend largely on local demand. It's notable that those import categories which are Malaysian export-dependent tend to have a negative relationship with the exchange rate, contrary to intuition and economic theory, and largely confirming the negative sign of the estimate found for overall European imports previously. The rationale is that as demand for these items are export oriented, increases in the exchange rate would result in less demand for Malaysian exports and thus less demand for European inputs.

We have to conclude, on the basis of the evidence presented here, that Europe's impact on Malaysian growth through the trade channel is small and minor. Two-thirds of Malaysia's exports to Europe and three-fourths of Malaysian imports from Europe are tied to global demand conditions and not to domestic demand in either Europe or Malaysia. This is a very clear example of the increasing globalisation of manufacturing and processing supply chains, and serves to underscore the growing integration of the global economy. It also somewhat refutes the notion of developing economies as suppliers of goods, and advanced economies as consumers of goods. Be that as it may, a deeper than expected recession in Europe should not seriously jeopardize Malaysian growth, contrary to the expectations of many. That suggests that recent bearishness on the Malaysian economy due to events in Europe is largely a reflection of financial risks, and not real economy risks.

Appendix I

A note on methodology

- Trade data is from BNM's Monthly Statistical Bulletin and from CEIC. Country GDP data is from IMF IFS, except for China, which came from CEIC, and Europe, which was sourced from Eurostat. World GDP was obtained from CEIC, and Rest Of the World (ROW) GDP data was estimated by MARC. All GDP data was converted into volume indexes with base year 2000. In addition, Malaysian and China data (both GDP and all Malaysian trade data) were seasonally adjusted using the US Census Bureau's X-12 ARIMA program for consistency with the other data. Exchange rate data for the nominal effective exchange rate (NEER) is based on MARC estimates, while the EURMYR exchange rate is sourced from the Pacific Exchange Rate Service.
- Global growth elasticities were obtained by regressing Malaysian GDP against global GDP, with lagged Malaysian GDP and the NEER as additional explanatory variables.
- In line with common practice, the global elasticities for exports were calculated based on a panel regression against US, Europe, China, Japan, Singapore and ROW GDP; covering the same sample period (balanced panel) with one period lagged exports as an additional explanatory variable and currency crosses against the Ringgit as added exogenous variable. Global Import elasticities were calculated based on the same model, but with the addition of lagged exports as the additional explanatory variable, instead of lagged imports.
- Malaysian growth elasticity with Europe follows the same approach as that of global growth, while individual SITC elasticities follow the same basic model as that of global trade, except using a single equation approach rather than a panel regression.

Appendix II

Table 4: Elasticity estimates of Malaysian exports to European growth and the EURMYR exchange rate, by SITC

1% increase in...	European Growth	Nominal Exchange Rate
results in % increase in...		
Food and Live Animals	7.0%	-1.7%**
Beverages and Tobacco	6.4%**	2.0%
Crude Materials Inedible	7.1%*	1.1%
Mineral Fuels	12.4%*	-0.6%
Oils and Fats	7.0%*	0.7%
Chemicals	9.9%*	0.8%
Manufactured Goods	7.6%*	0.4%
Machinery and Transport	0.6%	-0.3%
Miscellaneous Manufactures	2.0%	-0.3%
Others	3.3%	-1.2%

Source: MARC Economic Research

Coefficients denoted with a * are statistically significant at the 95% confidence level.

Coefficients denoted with a ** are statistically significant at the 90% confidence level.

Table 5: Elasticity estimates of Malaysian imports to European growth and the EURMYR exchange rate, by SITC

1% increase in...	Malaysian Growth	Nominal Exchange Rate	Malaysian Exports
results in % increase in...			
Food and Live Animals	1.7%*	1.0%*	-0.2%
Beverages and Tobacco	5.5%*	-0.9%	-0.6%
Crude Materials Inedible	-1.8%	-2.5%*	3.1%*
Mineral Fuels	1.6%	1.1%	-2.3%
Oils and Fats	1.5%**	1.5%*	1.0%
Chemicals	1.6%*	-0.2%	0.1%
Manufactured Goods	-0.7%	-0.1%	0.7%**
Machinery and Transport	-0.3%	-0.3%	0.8%*
Miscellaneous Manufactures	-0.6%	-0.8%**	1.7%*
Others	4.1%	0.5%	-1.0%

Source: MARC Economic Research

Coefficients denoted with a * are statistically significant at the 95% confidence level.

Coefficients denoted with a ** are statistically significant at the 90% confidence level.

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5th Floor, Bangunan Malaysian Re, No. 17, Lorong Dungun, Damansara Heights, 50490 KUALA LUMPUR
Tel.: +603 2082 2200 Fax: +603 2094 9397 E-mail: marc@marc.com.my
Homepage: www.marc.com.my