The Re-emergence of Protectionism

Modelling the potential consequences for the Australian economy

KPMG Economics & Tax Centre

April 2018
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Executive Summary

Openness and trade liberalisation are now regarded as key components of a nation’s economic growth and well-being.

Australia’s history shows that from the middle of the 20th century our trade policy in effect closed the domestic economy to global competition, which ultimately had the effect of increasing unemployment and creating a structural current account deficit.

Australia started actively participating in the process of trade liberalisation from the early 1970’s, and arguably it has been this process that started the transformation of Australia’s economy to today’s modern industrial structure.

Trade liberalisation can be seen as a cooperation strategy, whereas trade protectionism can be considered a defection strategy. Since the middle of the 20th century the world has been broadly playing a mutual cooperation strategy in the game of international trade. Unsurprisingly, living standards have been rising throughout that period as trade barriers declined and economies opened up.

The latest, high-profile trade protectionism action has been the signing of a memorandum by the President of the United States on 22 March 2018 to consider the imposition of tariffs on the importation of Chinese goods and restrict investment in domestic companies in industries or technologies ‘deemed important’ to the United States.

China’s Commerce Ministry immediately responded to this proposal by announcing that should the potential escalation in trade restrictions by the US materialise, China would impose a 15 percent tariff on 120 US products, including fresh fruit, dried fruit, nuts, wine, ginseng, and steel pipes worth just under $US1 billion in annual trade. Further, China would impose a 25 percent tariff on eight products, including pork and recycled aluminium, which would impact about $US2 billion in trade, and it would also remove existing tariff concessions on US steel and aluminium.

This latest action is in addition to the recent imposition by the US of a 25 percent ad valorem tariff on steel and a 10 percent ad valorem tariff on aluminum imported into the US from all countries, except Australia, Europe, South Korea, Canada, Mexico, Argentina and Brazil (who will instead have import quotas applied to exports of steel and aluminium into the US), from 23 March 2018.

Using KPMG Economics’ Computable General Equilibrium (CGE) model of global production and trade we have estimated the impact on the world economy of different hypothetical retaliatory scenarios associated with countries choosing to escalate their response to the introduction of import tariffs on steel and aluminium by the US.
Executive Summary

— Our analysis is based on four hypothetical retaliatory trade scenarios:

Scenario 1a. A 5-percentage point increase in tariffs by all countries on all manufactured goods;

Scenario 1b. A 5-percentage point increase in tariffs by all countries on all goods, primary and manufactured;

Scenario 2a. A 10-percentage point increase in tariffs by all countries on all manufactured goods; and

Scenario 2b. A 10-percentage point increase in tariffs by all countries on all goods, primary and manufactured.

— If the rest of the world responds to the introduction of import tariffs on steel and aluminium by the US by implementing retaliatory tariffs of 5 percent on all manufactured goods (Scenario 1a), growth in the global economy would slow by about 1.3 percentage points.

— This least-worst scenario would still result in economies like the EU, UK, and Canada entering a recession, and would see growth in the Australian economy decline by more than 0.8 percentage points, the equivalent of AU$15 billion and about 130,000 FTE jobs.

— In the event the retaliatory response from the rest of the world is much stronger, such that it involved a 10-percentage point increase in tariffs on goods (Scenarios 2), impacts would be roughly twice as bad.

— When the 10-percentage point tariff increase is applied to all primary and manufactured goods (Scenario 2b), the global economy would enter a severe recession, similar to the Great Recession of 2009. The decline of 3.3 percentage points in growth would result in a negative growth rate of world real GDP per capita of 0.8 percent.

— This more aggressive hypothetical retaliatory trade scenario would reduce Australia’s GDP by nearly AU$35 billion and more than 285,000 FTE jobs.

— KPMG’s CGE modelling of various retaliatory scenarios confirms the lessons learnt from the playing of theoretical games of cooperation and conflict, like Prisoners Dilemma; everyone suffers if you adopt a strategy of trying to make the other player worse off.

— KPMG’s analysis shows it is important for the Australian and world economy that this current tension in global trade arrangements does not escalate into a scenario that results in the hard-fought gains from liberalisation being diminished, or worse still, lost.
Introduction

Openness and trade liberalisation are now regarded as key components of a nation's economic growth and well-being.¹ These characteristics are considered to have been central to the growth of many industrial countries since the end of the Second World War following the establishment of the General Agreement on Tariffs and Trade (GATT) in 1948 (and then the World Trade Organisation (WTO) in 1995).

However, Australia’s history shows that from the middle of the 20th century our trade policy in effect closed the domestic economy to global competition. Our policy settings were inward looking, with output occurring in an environment of restricted markets, arbitrated wages and import tariffs.²

Australia’s manufacturing sector grew as a direct consequence of ‘visible hand’ policies which allocated factors of production away from mining and agriculture towards protected industries. While the rationale for this pro-domestic manufacturing policy could be considered well-meaning, in that the government was seeking to reduce our economic reliance on the exporting of agricultural products, and Australia’s reliance for the defence of our country on machinery and equipment made by our geographically remote allies, it ultimately had the effect of increasing unemployment and creating a structural current account deficit.³

The result of decades of inward-focused trade policy meant Australia’s commercial engagement with the rest of the world (as measured by the value of exports plus imports as a proportion of GDP) was low.
Introduction

Australia became a signatory to GATT in 1967, and started actively participating in the process of trade liberalisation, initially through a blanket reduction in tariffs of 25% in 1973. Arguably, it was this process that started the transformation of Australia’s economy to today’s modern industrial structure. Protected domestic industries became subject to global competitive pressures which forced them to reform in order to survive, which ultimately meant some sectors fell away while other sectors thrived.

Today it seems we are witnessing the reemergence of protectionist trade policies, with the threat of more to come. The purpose of this paper is to discuss the potential impacts on the global economy of an increase in protectionist policies and why the world is better off with free and open markets for trade.

![Figure 2: Exports and Imports as % of GDP, Australia](source: ABS, KPMG Economics)
What is protectionism?

Protectionism occurs when a government of one country introduces a form of restriction, such as a tariff, quota, or regulation, on the importing of goods and services from other countries. This action may benefit producers and labour in the protected sectors of the domestic economy, but it imposes a cost to the consumers within that domestic economy, ultimately resulting in a negative impact on economic growth and welfare. The WTO monitors the adoption of measures by countries aimed at enhancing (trade-facilitating measures) or reducing (trade-restrictive measures) trade liberalisation.

Figure 3 presents the number of trade facilitating and restricting measures adopted each year since the end of the Global Financial Crisis.

While there has been a focus, particularly in recent weeks, on the adoption of new tariffs in some countries, the WTO notes that in the most recent 12 months, the trade coverage of import facilitating measures, estimated at around US$385 billion or 2.4% of the value of world merchandise imports, is more than two times larger than that of import restricting measures.

This analysis shows, despite the recent focus on trade-restrictive measures, world economies have continued to pursue policies of trade liberalisation as they are recognised as ultimately being welfare enhancing.
Rational behaviour in the event of protectionism

Equivalent retaliation, or ‘tit-for-tat’, is recognised as a rational response by impacted countries faced with an escalation in protectionist trade policies. However, Flood and Dresher’s game theoretic model of cooperation and conflict\(^\text{10}\) (the Prisoners Dilemma is a commonly known example of this\(^\text{11}\)) provides a basis on which countries can consider alternative responses to any escalation in protectionism by their trading partners.

The model shows the dominant strategy in any ‘game’ is where one player betrays the other in order to increase their own welfare. This action, known as a ‘defection’, always results in a better outcome for the individual than cooperation, regardless of the choice made by the other player. However, the ‘dilemma’ element of the ‘game’ is that mutual cooperation creates a better collective outcome for both players than does mutual defection, but because of self-interest this is not the rational choice.

In the context of a ‘game’, trade liberalisation can be seen as a cooperation strategy, whereas trade protectionism can be considered a defection strategy. As discussed above, since the middle of the 20th century the world has been broadly playing and, as Figure 3 shows, is still playing a mutual cooperation strategy in the game of international trade. Unsurprisingly living standards (as measured by real GDP per capita, and shown in Figure 4 below) have been rising throughout that period as trade barriers declined and economies opened up, and the continuation of this strategy remains an important principle in responding to the ‘persistent global challenges of poverty, inequality and under-development’.\(^\text{12}\)

![Figure 4](source: Maddison Project Database, version 2018; KPMG Economics)
Today’s current challenge

The latest, high-profile trade protectionism action has been the signing of a memorandum by the President of the United States on 22 March 2018 to consider the imposition of tariffs on the importation of Chinese goods and restrict investment in domestic companies in industries or technologies ‘deemed important’ to the United States.¹³

Importantly, this memorandum does not implement tariffs, but rather directs the Office of the United States Trade Representative (the Trade Representative) to consider whether any action should be adopted, including the increasing of tariffs on goods from China. The memorandum also directs the Trade Representative to draw up a list of products (initially thought to be in the region of around 1,300 individual items)¹⁴ to which any new import tariff will be applied, and present it in 15 days. Further, the memorandum also instigates a dispute settlement process with China under the WTO, providing both parties time (in this case, 60 days) to seek a negotiated settlement.

China’s Commerce Ministry immediately responded to this proposal by announcing that should the potential escalation in trade restrictions by the US materialise, China would impose a 15 percent tariff on 120 US products, including fresh fruit, dried fruit, nuts, wine, ginseng, and steel pipes worth just under $US1 billion in annual trade. Further, China would impose a 25 percent tariff on eight products, including pork and recycled aluminium, which would impact about $US2 billion in trade, and it would also remove existing tariff concessions on US steel and aluminium.¹⁵

This latest action is in addition to the recent imposition by the US of a 25 percent ad valorem tariff on steel mill articles (steel) and a 10 percent ad valorem tariff on aluminum articles imported into the US from all countries, except Australia, Europe, South Korea, Canada, Mexico, Argentina and Brazil (who will instead have import quotas applied to exports of steel and aluminium into the US), from 12:01 a.m. eastern daylight time on 23 March 2018. The imposition of these tariffs has been justified on the grounds that steel and aluminium were being imported into the US in volumes that threatened to impair the national security of the country.¹⁶

The introduction of these tariffs has been viewed as ‘unjust’ by countries that will be directly impacted by these measures; with media reports highlighting ‘tit-for-tat’ retaliatory proposals, including those already proposed by the Chinese government and additional ones being considered by the European Union, being the imposition of tariffs on US goods entering the EU including cranberries, orange juice, peanut butter, Kentucky bourbon, Harley-Davidson motorcycles and Levi’s jeans.¹⁷
Today’s current challenge

Despite Chinese Foreign Minister Wang Yi initially acknowledging ‘choosing a trade war is a mistaken prescription...the outcome will only be harmful’,18 should one commence it would seem the World Trade Organisation (WTO) will be powerless to act. This is not because of a lack of desire to do so, but rather as a consequence of current administrative protocols.

That is, the WTO is the upholder of the established global trade rules and arbiter of trade disputes, and it deals with disputes through the process of forming panels to hear complaints of violations to the trade rules, adjudicating and handing down enforceable decisions. On appeal, panel decisions are considered by the WTO’s Appellate Body. However, the US Administration has vetoed the appointment of new members of the Appellate Body as the terms of serving members expire.

Consequently, the Appellate Body has been reduced from seven serving members to just four, and if the US veto on replacement members continues, the Appellate Body will simply be no longer functional and therefore unable to respond if a dispute is brought forward in relation to the US tariffs on aluminium and steel.

Separately, the US President’s 2018 trade policy agenda, states: “The United States has for years expressed serious and growing concerns that the WTO dispute settlement system is diminishing U.S. rights to combat unfair trade, effectively rewriting WTO rules.” 19

So it would seem the US Administration is signalling that it is unlikely to accept WTO rulings in trade disputes with which it disagrees regardless, even if accepts new members to the WTO Appellate Body.

Also, as mentioned above, President Trump has asserted the tariff increases on steel and aluminium are justified on national security grounds. However, the trade rules of the General Agreement on Tariffs and Trade (GATT), which are now enshrined in the WTO Agreements, provide reassurances to member countries that in the event of new armed conflict they are able to impose tariffs to protect industries vital to the domestic production of military equipment, such as steel production.20 While the WTO has reaffirmed this post-war national security exception, member countries have rarely invoked it, and never in the context of a formal dispute. Moreover, the exemption is effectively self-assessing and self-policing, such that any complaints by affected countries would be very unlikely to succeed.
What could a ‘trade war’ do to the global economy?

Using our Computable General Equilibrium (CGE) model of production and trade we have estimated the impact on the global economy of different retaliatory scenarios associated with countries choosing to escalate their response to the introduction of import tariffs on steel and aluminium by the US. This is the same analytical framework utilised by the US Department of Commerce to calculate the level of tariff needed to restore the US steel industry to 80 per cent capacity utilisation rate.21

CGE models link all markets within an economy into a single equations system and therefore capture feedback and flow-through effects induced by policy changes. Specifically, since they connect all industries in an economy, they include value-chain related linkages across each industry. In addition, global CGE models capture international trade flows between countries, allowing flow-on effects of economic shocks in one country to spread to other countries of the world.

KPMG’s global CGE model divides the world into 141 countries and regions, and combines inter-industry linkages within regions among 57 sectors, together with bilateral trade flows between countries and regions. While KPMG’s model incorporates the latest GTAP22 database with a 2014 benchmark year, all results are presented for the year 2017.

Our analysis is based on four hypothetical retaliatory trade scenarios:

- **Scenario 1a.** A 5-percentage point increase in tariffs by all countries on all manufactured goods;
- **Scenario 1b.** A 5-percentage point increase in tariffs by all countries on all goods, primary and manufactured;
- **Scenario 2a.** A 10-percentage point increase in tariffs by all countries on all manufactured goods; and
- **Scenario 2b.** A 10-percentage point increase in tariffs by all countries on all goods, primary and manufactured.

Table 1 presents the impacts on the GDP of various countries and regions. That is, we show the IMF estimate of real GDP growth for 2017 by various countries, and then we show what real GDP growth would have been during 2017 if one the retaliatory trade scenarios had occurred during that period.
What could a ‘trade war’ do to the global economy?

If the rest of the world responds to the introduction of import tariffs on steel and aluminium by the US by implementing retaliatory tariffs of 5% on all manufactured goods (Scenario 1a), growth in the global economy would slow by about 1.3 percentage points. This least-worst scenario would still result in economies like the EU, UK, and Canada entering a recession.

This scenario would see growth in the Australian economy decline by more than 0.8 percentage points, the equivalent of AU$15 billion and about 130,000 FTE jobs. However, the global economy would escape a recession due to much faster real GDP growth rates of large, emerging economies, such as China and India.

Table 1

<table>
<thead>
<tr>
<th>Country</th>
<th>IMF 2017 Real GDP Growth Rate - Estimate</th>
<th>IMF 2017 Real GDP Growth Rate - under Scenario 1a</th>
<th>IMF 2017 Real GDP Growth Rate - under Scenario 1b</th>
<th>IMF 2017 Real GDP Growth Rate - under Scenario 2a</th>
<th>IMF 2017 Real GDP Growth Rate - under Scenario 2b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>2.2%</td>
<td>1.4%</td>
<td>1.2%</td>
<td>0.6%</td>
<td>0.3%</td>
</tr>
<tr>
<td>China</td>
<td>6.8%</td>
<td>6.2%</td>
<td>5.7%</td>
<td>5.7%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Japan</td>
<td>1.5%</td>
<td>0.7%</td>
<td>0.2%</td>
<td>0.0%</td>
<td>-1.2%</td>
</tr>
<tr>
<td>Canada</td>
<td>3.0%</td>
<td>-0.4%</td>
<td>-0.6%</td>
<td>-3.8%</td>
<td>-4.2%</td>
</tr>
<tr>
<td>US</td>
<td>2.2%</td>
<td>1.8%</td>
<td>1.6%</td>
<td>1.6%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Mexico</td>
<td>2.1%</td>
<td>0.7%</td>
<td>0.7%</td>
<td>-0.7%</td>
<td>-0.7%</td>
</tr>
<tr>
<td>EU27</td>
<td>2.3%</td>
<td>-0.7%</td>
<td>-1.1%</td>
<td>-3.6%</td>
<td>-4.4%</td>
</tr>
<tr>
<td>UK</td>
<td>1.7%</td>
<td>-0.4%</td>
<td>-0.7%</td>
<td>-2.5%</td>
<td>-3.0%</td>
</tr>
<tr>
<td>World</td>
<td>3.7%</td>
<td>2.4%</td>
<td>2.0%</td>
<td>1.0%</td>
<td>0.4% **</td>
</tr>
</tbody>
</table>

** - denotes the world would have experienced a recession as per the IMF definition

Source: KPMG Economics
What could a ‘trade war’ do to the global economy?

In the scenario of a 5-percentage point tariff increase by all countries on all primary and manufactured goods (Scenario 1b), Australia’s GDP growth rate would be reduced by 1 percent, equal to AU$18 billion or about 150,000 FTE jobs.

In the event the retaliatory response from the rest of the world is much stronger, such that it involved a 10-percentage point increase in tariffs on goods (Scenarios 2), impacts would be roughly twice as bad. That is, a 10 percent tariff increase by all countries on manufactured goods only (Scenario 2a) would reduce global economy growth by 2.7 percent, tipping the world economy into recession.

When the tariff increase is applied to all primary and manufactured goods (Scenario 2b), the global economy would enter a severe recession, similar to the Great Recession of 2009, with a decline of 3.3 percentage points in growth, resulting in a negative growth rate of world real GDP per capita of 0.8 percent.

This more aggressive hypothetical retaliatory trade scenario would reduce Australia’s GDP by nearly AU$35 billion and more than 285,000 FTE jobs.

Compared to the Great Recession of 2009, the world economy would probably need a longer recovery period given the higher level of protectionism that exists under this scenario compared to the relatively more open economy of 2009.

Our analysis also shows that while the US economy would be damaged under all retaliatory scenarios, with GDP growth falling by between 0.4 and 1.1 percentage points, it would be the least affected of the major economies.
Conclusion

The world is at the start of a new trade ‘game’. The introduction of import tariffs by the US on steel and aluminium is akin to the playing of a new ‘defection’ strategy, despite the fact that the world has been operating to its net benefit on a strategy of ‘mutual cooperation’.

In the face of single countries adopting measures of increased trade protectionism, the rest of the world needs to contemplate what type of retaliatory strategy it should adopt. KPMG’s CGE modelling of various hypothetical retaliatory scenarios confirms what we already know from the playing of theoretical games of cooperation and conflict, like Prisoners Dilemma; everyone suffers if you adopt a strategy of trying to make the other player worse off.

Our analysis also confirms, just like in the Prisoners Dilemma where one player adopts a first mover ‘defection’ strategy, such as the US has done with its steel and aluminium import tariffs, and now potentially with its proposal to impose import tariffs on Chinese products and restrict Chinese FDI into some domestic companies, the negative impact it feels from any trade escalation is small relative to the other player(s). This outcome is also reinforced by the relatively large size of the US economy and the fact it has the lowest initial tariff level.

<table>
<thead>
<tr>
<th>Country / Region</th>
<th>Scenario 1a</th>
<th>Scenario 1b</th>
<th>Scenario 2a</th>
<th>Scenario 2b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>-2.0%</td>
<td>-1.7%</td>
<td>-2.8%</td>
<td>-1.6%</td>
</tr>
<tr>
<td>China</td>
<td>-1.5%</td>
<td>-1.8%</td>
<td>-1.8%</td>
<td>-1.9%</td>
</tr>
<tr>
<td>Japan</td>
<td>-2.0%</td>
<td>-2.3%</td>
<td>-2.5%</td>
<td>-2.3%</td>
</tr>
<tr>
<td>Canada</td>
<td>-8.5%</td>
<td>-6.0%</td>
<td>-11.3%</td>
<td>-6.0%</td>
</tr>
<tr>
<td>USA</td>
<td>-1.0%</td>
<td>-1.0%</td>
<td>-1.0%</td>
<td>-1.0%</td>
</tr>
<tr>
<td>Mexico</td>
<td>-3.5%</td>
<td>-2.3%</td>
<td>-4.7%</td>
<td>-2.3%</td>
</tr>
<tr>
<td>EU27</td>
<td>-7.5%</td>
<td>-5.7%</td>
<td>-9.8%</td>
<td>-5.6%</td>
</tr>
<tr>
<td>UK</td>
<td>-5.3%</td>
<td>-4.0%</td>
<td>-7.0%</td>
<td>-3.9%</td>
</tr>
<tr>
<td>World</td>
<td>-3.3%</td>
<td>-2.8%</td>
<td>-4.3%</td>
<td>-2.8%</td>
</tr>
</tbody>
</table>

This is confirmed in Table 2 which shows the US achieves lowest elasticity of GDP growth to trade protectionism, while the negative impact associated with any retaliatory trade scenario would be highest on Canada and Europe. This means in the least-worst scenario modelled, for every 1% fall in the rate of growth in US GDP as a consequence of increased tariffs globally, GDP growth in Canada and the EU falls by 8.5% and 7.5% respectively, while for Australia our GDP growth would decline 2.0%.

Clearly, our analysis shows it is important for the Australian and world economy that this current tension in global trade arrangements does not escalate into a scenario that results in the hard-fought gains from liberalisation being diminished, or worse still, lost.
Technical appendix

Our analysis is based on the application of KPMG Global, a dynamic multi-country computable general equilibrium (CGE) model of the world economy. KPMG Global is parameterised on the latest GTAP database which synthesise major economic flows across 57 sectors and 141 countries and regions in 2014. In addition to country inter-industry relationships and national income, the database includes complete bilateral trade information, transport and protection linkages in terms of both tariffs and non-tariff barriers.

In the short-run, capital stocks in regional industries are exogenously determined as the transition period is too short to allow any capital creation to come on line. Nevertheless, the allocation of regional investment expenditure across industries is related to the profitability of each industry. Global investment adjusts to accommodate global savings and is distributed across regions so that changes in expected regional rates of return equalise across regions.

For the analysis conducted here, the 57 industries in the database are aggregated into primary sectors, manufacturing and services. In terms of 141 countries, they are aggregated into ten countries or regions that are the main partners of the US. The simulations defined in Scenarios 1a and 2a apply the increase in tariffs by all countries on all manufactured goods, whereas the simulations defined in Scenarios 1b and 2b apply the increase in tariffs by all countries on all goods, primary and manufactured.

Although the latest GTAP database depicts the world economy in 2014, all our results are reported for the year 2017. In particular, estimation of job losses is obtained using labour force statistics for Australia and worldwide adjusted for unemployment.

Apart from capturing the economy-wide impacts in our analysis, we focus on the impacts of a trade war on the workforce. As such we examine the immediate impacts on workers, which means that the period of adjustment is not long enough for them to accommodate any change in real wages and thus allows for changes in either positive or negative employment within each industry.


6. Includes the elimination or reduction of import or export tariffs, the simplification of customs procedures, the temporary or permanent elimination of import or export taxes and the elimination of quantitative restrictions on imports or exports.

7. Includes the introduction of new import or export tariffs, increases in existing import or export tariffs, the introduction of import bans or quantitative restrictions, the establishment of more complex customs regulations or procedures and local content requirements.


10. Conceived and tested at Rand Corporation in 1949/50

11. Albert Tucker titled the game developed by Flood and Dresher as the ‘Prisoners Dilemma’ in a lecture at Stamford University in 1950

12. WTO 2017 Annual Report


End notes


22. The Global Trade Analysis Project (GTAP) is a global network of researchers and policy makers conducting quantitative analysis of international policy issues and is coordinated by the Center for Global Trade Analysis in Purdue University’s Department of Agricultural Economics. KPMG Economics in Australia is a member of the GTAP Advisory Board.

23. Following the IMF, a global recession occurs when there is a decline in annual per capita real World GDP, backed up by a decline or worsening for one or more of the seven other global macroeconomic indicators (i.e. industrial production, trade, capital flows, oil consumption, unemployment rate, per capita investment, and per capita consumption). See IMF, World Economic Outlook - April 2009: Crisis and Recovery, Box 1.1, 24 April 2009; http://www.imf.org/en/Publications/WEO/Issues/2016/12/31/Crisis-and-Recovery.


Acknowledgements

KPMG Economics & Tax Centre would like to acknowledge Dr Laurent Cretegny and Dr Craig Emerson for their contribution to this paper.