Investigating Macroeconomics

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Tactic

Investigating Macroeconomics
7th edition

Chapter Contents

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Global Interdependence

Chapter concepts

- *the linkages between economies, including trade, investment, tourism and immigration*
- *the patterns and trends in global trade*
- *the concept and determinants of international competitiveness*
- *the concept and extent of globalisation*
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Introduction

The pandemic of 2020-21 was a very timely reminder of how we all live in an increasingly globalised world. Rapid advances in communications and transport have increased access to all corners of the globe. It is now cheaper and quicker to fly to every major city in the world. Computers and the Internet have enabled people to instantly access the world wide web for information, for downloading documents, for streaming music and movies and for purchasing goods and services. But an interconnected world can also mean that an epidemic such as COVID-19 can quickly spread from one country to another.

Australian firms and households are constantly involved in economic transactions with other economies. Some examples include Australian firms exporting iron ore, coal and education services. Consumers purchase cars from Japan, computers from China, iPhones from the United States and coffee from Brazil. Australia has also been a major recipient of foreign investment. The world has effectively become a global market with the spread and growth of multinational corporations. But globalisation is more than just trade. People can now travel from one continent to another in a matter of hours. Communication across international borders is now instant whether by phone, video, text or the Internet.

Globalisation is the process by which the world has become more integrated economically and socially. It is characterised by the growth in trade and international investment, and by the rapid movement of information and people around the globe. It implies the opening up of international borders to the free movement of goods, services, workers, tourists and financial capital. As a result of globalisation the world has become more interconnected and more interdependent. Globalisation is important because it has been the most important factor in raising global living standards.

The Coronavirus Pandemic

The rapid spread of the Coronavirus between and within countries had devastating social and economic effects on every single nation - both rich and poor. The world was plunged into its deepest economic contraction since the Great Depression of the 1930s.

To control the spread of the virus most countries imposed strict lockdowns causing many businesses to close and many people to lose their jobs. International and domestic borders were closed to prevent travellers from transmitting the virus. Countries such as Australia and New Zealand that were quick to impose restrictions on the movement of people as well as strict social distancing regulations had much greater success in containing the spread of the disease than countries such as the United States and Europe.

There have been previous pandemics before the era of globalisation such as the Spanish flu in 1918. That virus was estimated to infect about 500 million people or one-third of the world's population. It is also important to remember that the benefit of a globalised community is that it enables a coordinated effort to develop and disseminate a vaccine more quickly than in a non-globalised world.

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For economists, globalisation means the triumph of free trade and competitive markets over protection and restricted markets. It has arguably been the most important factor in raising the living standards of the world's population. Globalisation is also playing an important role in economic development. The World Trade Organisation (WTO) believes that the rise of the developing world is the most significant economic event of our time – eclipsing even the rise of the newly industrialising countries after the Second World War. Why has the developing world achieved economic lift-off? It is evident that the most important reason is its integration into the world economy. Globalisation has enabled the developing world new access to markets, technology and investment.

The WTO has identified four trends that have affected the relationship between trade and development since the start of the millennium. The four trends are:

- the economic growth of many developing countries;
- the growing integration of global production through supply chains;
- the higher prices for agricultural goods and natural resources; and
- the increasing interdependence of the world economy, which causes shocks to reverberate more quickly and globally (e.g. the global financial crisis and the COVID-19 pandemic).

The process of globalisation or 'internationalisation' is not a new one - it has been occurring for centuries. Between 1980 and 2010, the pace of globalisation was at its most rapid, fuelled by advances in transport and communication. In the past decade, however, it has slowed significantly. Globalisation is not without controversy – it has important economic and social effects which fosters much debate. It has become fashionable to blame globalisation for many of the world's problems. Critics hold it responsible for everything from poverty and inequality to environmental pollution and even for the recent pandemic. In this chapter we examine some of the important economic issues associated with globalisation.

Linkages between economies

When people think of global markets they tend to just think about international trade in goods and services – exports and imports. But economies are linked by more than just trade – there are movements in financial capital (foreign investment) and movements in people such as tourists, workers and immigrants. Figure 1.1 shows some of Australia's important links with the global economy. Exports contribute around 26 per cent of Australia's GDP and around 24 per cent of Australian workers are directly involved in trade–related activities. Australia is a major exporter of resources to the world, including iron ore, coal, natural gas, gold and bauxite. At the same time, Australia imports large quantities of capital goods, machinery, motor vehicles and consumer goods. Just think how dependent you are on other countries for many goods we take for granted - the clothes you wear, your mobile phone, the coffee you drink, your TV set, your laptop and the family car. All of these are imported goods, some of which may have used Australian resources in their manufacture.

2022	Imports/Income/People/ Investment Flowing to Australia	Exports/Income/People/ Investment Flowing from Australia
Total Goods	$387 billion	$534 billion
Total Services	$72 billion	$61 billion
Income	$88 billion	$174 billion
Tourist Travellers (2022)	1.8 million	3.4 million
Foreign Investment	$125 billion	$174 billion
Overseas arrivals/departures (2021)	146,000	235,000

Figure 1.1 Australia's links with the global economy

Australia is also a multicultural nation. Immigration has been an important source of skilled labour and has helped to boost Australia's population growth. Around 30 per cent of Australia's population were born overseas. Traditionally, more people immigrate to, than emigrate from Australia each year. From 2006 to 2020, net overseas migration contributed more each year to Australia's population growth than natural increase. Population growth is important for continued economic growth. In 2021, net migration to Australia was negative due to the effects of the pandemic. This is the first time this has happened since the end of World War in 1945. International tourism has grown in importance due to improvements in transport and communications and ranks fourth (after fuels, chemicals and automotive products) in global exports. Tourism now accounts for 30 per cent of the world's exports of commercial services. It is interesting to note that tourism is the main source of foreign exchange for one-third of developing countries.

The Australian economy has throughout its history relied on foreign investment to supplement its domestic savings to help fund its economic development. The mining and resources sector would not have been developed without foreign investment. Normally inflows of foreign investment into the Australian economy exceed outflows, however in 2022 the opposite scenario occurred. Australian investment into foreign economies was $174 billion, while foreign investment into the Australian economy equalled $125 billion.

Australia is an outward-looking country that is strongly engaged with the rest of the world. Australia has a number of globally significant industries:

- agricultural products – top 12 exporter in the world
- international tourism – 11th largest in the world
- fuels and mining – 4th largest exporter in the world
- travel services - 4th largest exporter in the world
- financial services - 9th largest exporter in the world
- investment fund assets - 3rd largest in the world

Australia also plays an active role in a wide variety of global and regional groups. Some of these include:

- The United Nations (UN)
- The World Trade Organisation (WTO)
- Group of 20 major economies (G20)
- Association of South East Asian Nations (ASEAN)
- Asia Pacific Economic Cooperation (APEC)

Patterns and trends in global trade

One of the key features of the modern era has been the rapid growth of world trade. This was especially evident in the period before the Global Financial Crisis (GFC) of 2009. China, for example, joined the World Trade Organisation in 2002 and in the space of a decade overtook the United states to become the world's leading exporter. One reliable measure of globalisation is trade intensity – this measures total trade (exports + imports) as a per cent of global GDP. Figure 1.2 shows the relationship between trade intensity and GDP per capita, which is an approximate measure of world living standards.

The graph shows that a rising share of world trade in GDP has been accompanied by rising per capita GDP. In other words there is a strong positive correlation between trade intensity and living standards. Figure 1.2 shows the rapid increase in globalisation up to the global financial crisis (GFC) of 2009. World trade (exports plus imports) as a percentage of GDP has increased from around 37 per cent in 1991 to 61 per cent in 2008 (its highest level). GDP per capita experienced an even faster rate of increase - more than doubling over this period, from around \$US4,400 in 1991 to \$US9,500 in 2008. Since the GFC the pace of globalisation has decelerated with a marked slowdown in global trade intensity. From 2012, trade intensity has fallen from 60 per cent to 57 per cent in 2021. Notice the negative impact of the 2020 pandemic on both trade intensity and GDP per capita. Economists believe that increased trade intensity is an important catalyst for both higher economic growth and higher real incomes. In

Trade is an engine of growth that creates jobs, reduces poverty and increases economic opportunity. Over one billion people have moved out of poverty because of economic growth underpinned by open trade since 1990.

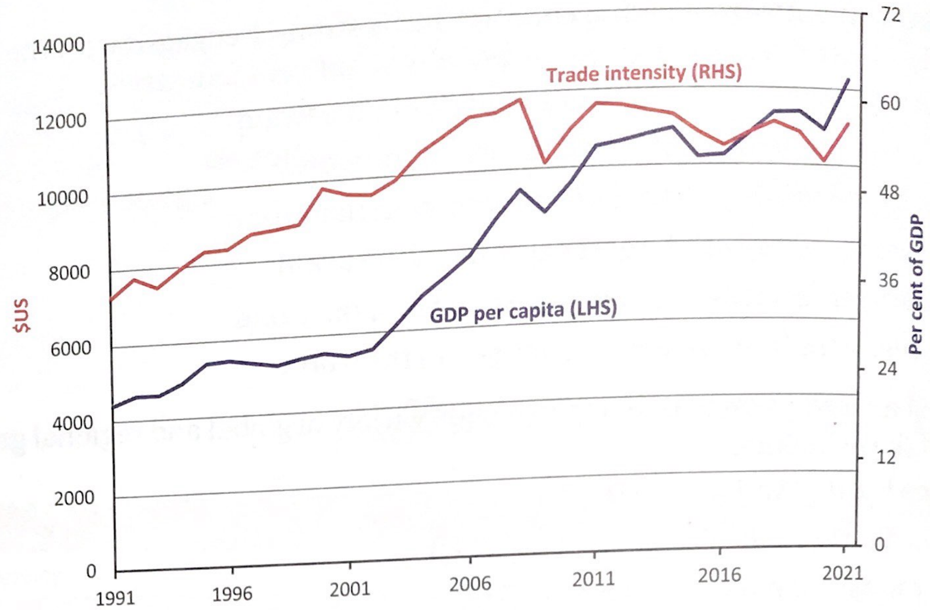


Figure 1.2 Global GDP and trade

periods when global trade has slowed, world economic growth has also been relatively weak.

Why did world trade experience rapid growth in the period following World War II? It was partly due to the success of world organisations such as the World Trade Organisation (WTO), the International Monetary Fund (IMF) and the World Bank in promoting the liberalisation of world trade. It was also due to improvements in transport and communication which drastically lowered the costs of international commerce. Trade has always been seen by economists as an 'engine of growth'. Specialisation and exchange is the cornerstone of all modern economies and is the key factor in raising living standards. For most economies, including Australia, trade as a proportion of GDP has been increasing over time. Economies are becoming more open to trade and investment and as a result, living standards have increased. In the past decade, the pace of globalisation has slowed with many countries turning away from free trade and adopting more protectionist policies. Weaker economic activity has also led to many countries adopting protectionist measures, such as tariffs as a means to stimulate domestic employment. This has had a negative impact on global trade.

International trade can be broadly distinguished between trade in goods (merchandise) and trade in services. The bulk of international trade concerns physical goods (79 per cent), while services account for a much lower share (21 per cent). This makes sense given that goods are generally easier to trade than services. Many services are in fact non-tradable. For example, it is not possible to export a haircut or a restaurant meal. But services trade, including tourism, financial, and professional services is starting to accelerate. Merchandise

World Exports 2021	
Manufacturing	55%
Fuels & Minerals	15%
Agriculture	9%
Services	21%

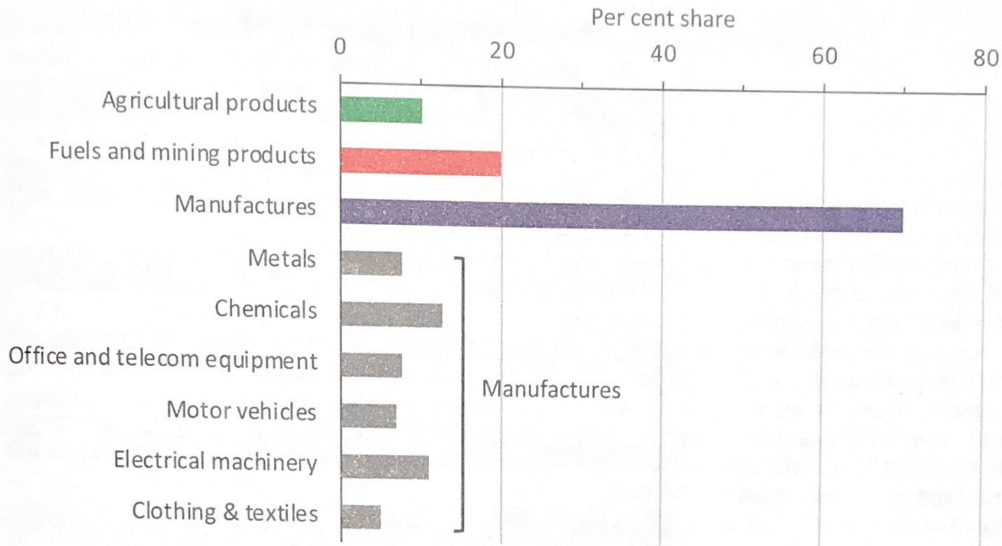


Figure 1.3 World merchandise exports by major product group

trade is divided into three main categories: agriculture, mining and fuels, and manufactured goods. Trade in manufactured goods dominates world trade accounting for over half of all trade flows.

Mining and agriculture account for around 24 per cent of total trade. Figure 1.3 shows some of the major merchandise product groups exported in the world. Important categories in manufactured exports are chemicals, electrical machinery which includes household appliances,office and telecommunications equipment, metals and motor vehicles. Trade in services comprises transport, travel and other services, which includes categories such as telecommunications, financial services, construction and computer services. Transport and travel (tourism) services normally account for around 50 per cent of total services trade. But in 2020, due to the impact of the pandemic, these categories shrank to just 33 per cent. In many developing countries, tourism ranks as the major export sector.

Not surprisingly, the countries that dominate world trade are the largest economies – the United States, China and Germany. These three countries account for almost one third of world merchandise exports. China is the world's largest exporter, while the United States is the largest importer. The three largest exporters of commercial services are the United States, United Kingdom and Germany. Figure 1.4 provides a breakdown of world exports by region over several decades. The most notable change is the rapid emergence of China –from 1 per cent of world exports in 1983, to 15 per cent in 2020. At the same, Japan's relative importance has slipped, its share of world exports halving over this period. While Europe is still the dominant region for exports, accounting for 38 per cent, Asia's share has increased significantly over the period, from 19 per cent in 1983 to 36 per cent in 2020.

World trade is dominated by the largest economies – the United States, China and Germany. These three countries account for 30% of world exports. China has emerged rapidly to become the world's largest exporter – from 1 per cent of world exports in 1983 to nearly 15 per cent in 2020. Europe is still the dominant region for exports, but will soon be overtaken by Asia.

World Exports by Region & Selected Country

Region/Country	1983	1993	2003	2020
North America	16.8	17.9	15.8	13.1
United States	11.2	12.6	9.8	8.4
Canada	4.2	3.9	3.7	2.3
South & Central America	4.5	3.0	3.1	3.1
Europe	43.5	45.3	46.2	38.2
Germany	9.2	10.3	10.2	8.1
Netherlands	3.5	3.8	4.0	4.0
France	5.2	6.0	5.3	2.9
United Kingdom	5.0	4.9	4.2	2.4
Africa	4.5	2.5	2.4	2.2
Middle East	6.7	3.5	4.1	4.5
Asia	19.1	26.0	26.1	36.1
China	1.2	2.5	5.9	15.2
Japan	8.0	9.8	6.4	3.8
India	0.5	0.6	0.8	1.6
Australia & NZ	1.4	1.4	1.2	1.7

Figure 1.4 World exports by region and country

Remember that it is individuals (both firms and households) that engage in trade, not countries. Why do people trade? Because it is advantageous. Trade enables people to consume a greater variety of goods and services. Everyone gains when they engage in trade. When a country exports its goods and services, domestic producers gain from higher prices and greater production. When a country imports, domestic consumers gain from lower prices and greater consumption.

Cross border trade is no different than trade in a local market, with one exception. Most countries have their own currency and so an exchange rate needs to be established before international trade can take place.

There are a number of factors that affect economic transactions between different economies:

- The exchange rate – movements in the exchange rate affect the price of exports and imports. For example, if the Australian dollar (AUD) falls in value (a depreciation), Australia's exports become cheaper to overseas buyers, while imports increase in price to Australian buyers.
- World economic growth – Australia's exports are dependent on foreign demand. Increased economic growth in foreign countries will increase the demand for Australia's exports. China and Japan, for example, are our most important customers for our mineral and

Global Value Chains - today, most goods and an increasing share of services are "made in the world"

World trade, investment and production are increasingly organised around global value chains (GVCs). A value chain is the full range of activities that firms engage in to bring a product to the market, from conception to final use. Such activities range from design, production, marketing, logistics and distribution to support to the final customer. They may be performed by the same firm or shared among several firms. The growth of GVCs has increased the interconnectedness of economies. It has been estimated that more than half of world trade in goods and services takes place within GVCs.

The tendency of countries to specialise in particular stages of a good's production (known as vertical specialisation), has created new trade opportunities, especially for small developing countries. As a result, world trade in intermediate goods, capital goods and services has grown with the rise of vertical specialisation. The expansion of the operations of multinational enterprises (MNEs) through foreign direct investment (FDI) has been a major driver of the growth of GVCs. Participation in GVCs contributes to economic growth through the gains that firms achieve from specialisation and improved productivity (access to new technology and knowledge).

Source: OECD Interconnected Economies

energy resources. If their economies grow, then the demand for our resources increases.

- Domestic economic growth – Australia's imports are determined by domestic economic activity. Higher economic activity in Australia raises domestic income which increases demand for imported consumer goods and services while increased investment will increase capital goods imports.
- Relative inflation rates – if Australia's inflation rate is greater than our trading partners it will reduce the competitiveness of domestic goods and increase the competitiveness of foreign goods.
- Relative interest rates (the interest rate differential) – if interest rates in Australia are relatively higher than other economies, especially the United States then financial capital will flow into the Australian economy.
- Productivity & cost efficiency – the cost efficiency of domestic firms relative to foreign firms will determine their success in the global market. Productivity improves cost efficiency by increasing output per worker and will increase exports.

International competitiveness

International competitiveness is an important aspect of globalisation. The OECD defines a nation's competitiveness as *'the degree to which a country can produce goods and services which meet the test of international markets, while simultaneously maintaining and expanding the real incomes of its people over the long term'.* A much simpler definition of international competitiveness is the ability of a country to compete successfully against other countries in international trade.

There are several organisations that produce annual competitiveness reports:

- the World Economic Forum (WEF) and
- the International Institute for Management Development (IMD)

The World Economic Forum is the international organisation for public-private cooperation. Its focus is to tackle important global issues by bringing together both governments and private corporations. Each year, the WEF compiles a Global Competitiveness report that provides a detailed map of the factors that drive productivity, growth and human development. The WEF defines competitiveness as '*the set of institutions, policies, and factors that determine the level of productivity of a country*'. The Report covers 141 economies, which account for 99% of the world's GDP. A competitiveness index is derived for each country and is based on a set of twelve key factors called the '12 Pillars of Competitiveness'. These are the factors that are considered to be most important in increasing a country's productivity and therefore its economic growth. The index aims to measure the drivers of 'multi factor productivity' (MFP), which is the part of economic growth that is not explained by growth in the factors of production. MFP can be interpreted as reflecting improvements in the quality of both labour and capital.

The International Institute for Management Development (IMD) is a top-ranked global business school based in Switzerland which also publishes an annual world competitiveness ranking. IMD defines competitiveness in terms of the ability of nations to create and maintain an environment which sustains the

The 12 Pillars of Competitiveness (World Economic Forum)

1. Institutions: the legal and administrative framework within which individuals, firms, and governments interact
2. Infrastructure: extensive and efficient infrastructure such as a well-developed transport and communications network and efficient electricity supplies
3. ICT adoption: information and communication technology (ICT) access and usage are key factors affecting a countries' overall technological readiness
4. Macroeconomic stability: low inflation, low unemployment
5. Health: extent and quality of health services is critical to maintain an active & fit workforce
6. Education and skills: extent and quality of education and training
7. Product market efficiency: competitive markets lower costs and promote improvements in productivity
8. Labour market efficiency: labour market flexibility enables workers to shift from one economic activity to another rapidly at low cost
9. Efficient financial system: economies require sophisticated financial markets that can make capital available for private-sector investment
10. Market size: large markets allow firms to exploit economies of scale.
11. Business dynamism: attitude to risk and entrepreneurship
12. Innovation capability: requires sufficient investment in research and development (R&D)

Ranking	IMD World Competitiveness Report	WEF Global Competitiveness Report	GDP per capita 2021
1	Denmark	Singapore	Luxembourg
2	Switzerland	United States	Ireland
3	Singapore	Hong Kong	Switzerland
4	Sweden	Netherlands	Norway
5	Hong Kong	Switzerland	Singapore
6	Netherlands	Japan	United States
7	Taiwan	Germany	Denmark
8	Finland	Sweden	Sweden
9	Norway	United Kingdom	Australia
10	United States	Denmark	Netherlands
	(Australia 19th)	*(Australia 16th)*	*(Australia 9th)*

Figure 1.5 International competitiveness rankings

competitiveness of firms. It benchmarks the performance of 63 countries, based on more than 340 criteria - both statistical data and survey data. The IMD focuses on four main factors that are seen as the drivers of competitiveness:

- economic performance – domestic economy, international trade, inflation and unemployment;
- government efficiency – public finance, fiscal policy, business legislation, institutional framework;
- business efficiency – productivity, labour market, finance, management practices; and
- infrastructure - basic infrastructure, technological and scientific infrastructure, health and environment, education.

Notice that these factors are not that dissimilar to the '12 pillars of competitiveness' and are a useful way to think about the determinants of competitiveness. Notice also that both the government and the private sector are important in determining a country's international competitiveness. Figure 1.5 compares the ranking of each organisation's latest competitiveness report. Singapore achieves a first and a third which reflects its strong performance in trade, its high quality education system and its sound technological infrastructure. It is not surprising that seven of the top ten ranked countries are common to both lists: Singapore, Denmark, Switzerland, the Netherlands, Hong Kong, Sweden, and the United States. Australia was ranked 19th by IMD and 16th by the WEF. What is also interesting is the close correlation with the GDP per capita ranking. This makes sense given that a high level of competitiveness would indicate high labour productivity and therefore high income levels.

International competitiveness affects a country's ability to engage in international trade and will therefore have a positive effect on a country's production and income. A fall in competitiveness implies that goods and services produced within a country have difficulty finding buyers in both foreign and domestic markets. Competitiveness matters because it can affect a country's standard of living. The ultimate economic objective for any country is to improve the economic welfare or living standard of its inhabitants. Improved competitiveness implies that a country can increase its national income. The competitiveness of a country's goods and services depends on a large number of factors, but some of the key economic determinants are:

- changes in labour productivity due to factors such as technology, education and training;
- changes in a country's price level (inflation) relative to its trading partners;
- changes in a country's wages relative to its trading partners; and
- changes in the exchange rate.

Most statistical indicators of international competitiveness try to reflect these changes by using price measures. Two of the more commonly used measures are a nation's real unit labour costs and the value of its exchange rate. Real unit labour costs reflect changes in a country's wages relative to its productivity. Productivity measures how much output can be produced from a given input, such as labour. It is usually measured by dividing total production (GDP) by the number of hours worked. An increase in productivity will increase competitiveness. Real unit labour costs will fall if either productivity rises or if wage costs fall. This will cause an increase in competitiveness. To compare the value of Australia's exchange rate with other countries it is important to use a trade weighted exchange rate rather than a single rate such as the US dollar. Australia's trade-weighted index (TWI) measures the change in the value of the Australian dollar relative to its major trading partners. The real TWI takes into account changes in Australia's inflation rate relative to trading partners. If the real TWI falls (a depreciation) then this implies an improvement in competitiveness since the price of Australia's exports to overseas buyers will fall. An appreciation in the exchange rate will have the opposite effect, causing a decrease in competitiveness.

Australia's international competitiveness improves if either the real trade weighted index (TWI) falls and/or if real unit labour costs fall.

Figure 1.6 shows changes in Australia's real unit labour costs and the real TWI since 2010. Between 2010 and 2012 both the RULC index and the RTWI were relatively high due to the mining boom in Australia. After 2012, world commodity prices (especially iron ore and coal) fell, bringing an end to the decade long mining boom. As a result, the real exchange rate fell from its 'dizzy' heights.

Between 2013 and 2020, the real TWI depreciated by around 25 per cent, boosting the competitiveness of the traded goods sector. Real unit labour costs remained relatively high in Australia up to 2016 before falling by around 13 per cent by 2020 also boosting Australia's competitiveness. It is interesting to note that Australia's trade balance increased significantly over this period of improving competitiveness.

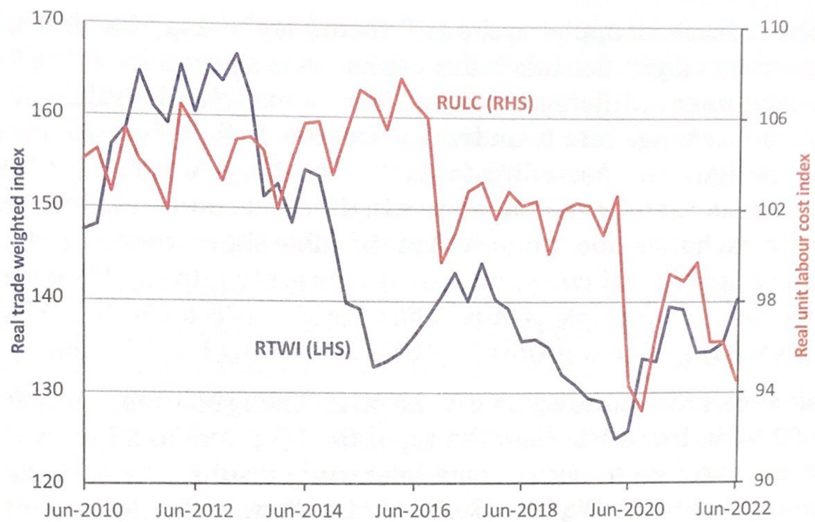


Figure 1.6 Measures of international competitiveness

Purchasing Power Parity

Should the same goods sell for the same price in different countries? For example, should the same model iPhone sell for the same price in Australia and the United States, after the prices are converted using the current exchange rate? Purchasing power parity (PPP) is the theory that says they should. If the prices are different then this would suggest that the exchange rates are not correctly aligned. If a good in Australia sells for $100, then that same good should sell for $75 in the United States if the exchange rate was AUD 1 = USD 0.75 (or USD 1 = AUD 1.33).

So the simple formula to see if PPP holds is:

$$Ep = P1/P2$$

where: Ep is the ppp exchange rate between the two countries ; P1 is the price of the good in country 1; and P2 is the price of the good in country 2

Let's test the formula for a number of different goods. The following table shows the prices for four different goods in the US and Australia as at 26th October 2022 and then shows the implied PPP exchange rate. The actual exchange rate at the time was AUD 1 = USD 0.64. Notice the wide range of values for the implied exchange rate - from AUD 1 = USD 0.57 to USD 0.71.

Good	Price in $US	Price in $AUD	PPP exchange rate
iPhone 14 pro	$999	$1749	$AUD1 = $US0.57
Starbucks latte	$2.95	$4.80	$AUD1 = $US0.61
iPad	$449	$749	$AUD1 = $US0.60
Microsoft 365	$69.99	$99	$AUD1 = $US0.71

A famous example of applying the PPP theory is the 'Big Mac' index created by the Economist magazine. This index compares the prices for a 'Big Mac' sold in McDonald's stores in different countries. This simple index is useful in determining whether an exchange rate is under or overvalued. The 'Big Mac' index for 2022 is shown in figure 1.7. According to the Purchasing Power Parity (PPP) theory, a 'Big Mac' should sell for the same price in different countries, once converted to a common exchange rate. Column 2 in the table shows the prices for a Big Mac in each country's local currency. This is converted into the US price using the exchange rate. For example, in Australia a Big Mac sells for $6.70 (USD4.63. In July 2022 the exchange rate was USD 1 = AUD 1.45 or AUD 1 = USD 0.69.

The table shows the wide disparity in the price of a Big Mac measured in US dollars – from $2.34 in Indonesia (less than half the US price) to $6.70 in Switzerland. We can use the data to derive some interesting results. If we divide the actual Australian price of the Big Mac ($6.70) by the US price ($5.15) we get the implied PPP exchange rate. This suggests that USD 1 should equal AUD 1.30 or equivalently AUD 1 should equal USD 0.77. This suggests that Australia's exchange rate in July 2022 was undervalued by 10 per cent. When you compare actual exchange rates in the table with the implied PPP rate, you will see that most currencies are trading well below their implied value, meaning that they are undervalued. Two currencies in the table that are overvalued are Sweden (9 per cent more expensive) and Switzerland (30 per cent more expensive).

It is important to remember that PPP is meant to be a long term indicator showing where currencies might trend in the future. Why do the prices in the Big Mac index vary so widely once converted into a common currency? It is basically due

Figure 1.7 The 'Big Mac' Index (July 2022)

According to the purchasing power parity (PPP) theory, the same product should sell for the same price in different countries. This table shows a wide disparity in the price of a Big Mac measured in US dollars - from $2.34 in Indonesia to $6.70 in Switzerland.

Country	Big Mac in local currency	Exchange rate ($1US) July 2022	Big Mac in $US	Implied PPP of $US	% Over or Under Valued
Australia	A$6.70	1.45	4.63	1.30	-10
Britain	£3.69	0.83	4.29	0.59	-25
Canada	C$6.77	1.29	5.25	1.31	+2
China	Yn24	6.75	3.55	4.66	-31
Euro Area	€4.65	0.97	4.79	0.90	-7
Indonesia	35000R	14977	2.34	6796	-55
Japan	¥ 390	137.9	2.83	75.7	-45
Malaysia	Myr 10.9	4.45	2.45	2.12	-52
Singapore	S$5.90	1.39	4.24	1.15	-17
Sweden	Kr 57	10.20	5.59	11.07	+9
Switzerland	Fr 6.50	0.97	6.70	1.26	+30
United States	$5.15	1.00	5.15	1.00	0

to differences in the costs of producing a Big Mac across countries. Prices will reflect the cost of key inputs such as raw materials and wages. Real wages are determined by labour productivity. A country that is relatively more productive at producing tradable goods will have higher wages for workers in that sector. This will drive up prices and wages in the non-tradable sector, including the fast food industry. This is why the price of a Big Mac is higher in countries such as Sweden and Switzerland and lower in Indonesia and China.

A better guide to show purchasing power parity would be to compare the prices of a good which did not reflect differences in input costs, for example a uniform product such as the Apple iPad or iPhone. The official price for an iPad in Australia in October 2022 was A$749 while in the United States it was $449. The implied PPP of the US dollar is 1.67 (749/449) which suggests that the implied exchange rate of the Australian dollar should be US$0.60. The actual exchange rate was AUD 1 = USD 0.64. This suggests that the Australian dollar is relatively close to its implied PPP value. What if we compare the prices of the iPhone 14? In the United States it sells for US$799, while in Australia it sells for $1399. This implies that AUD 1 should equal USD 0.57! This seems odd given that the iPad price difference is closer to the PPP value. Perhaps Apple is taking advantage of the popularity of the iPhone in Australia? There are only three countries where the iPhone has 60 per cent or more of the market - Japan, the United States and Australia. This means that Apple can sell its smart phone at a premium price in these markets.

Globalisation

Globalisation is one of the defining trends of the modern era. It is discussed everywhere from political and business circles to the ordinary person in the street. The term globalisation generally refers to the opening of international borders to the flows of trade, investment, immigration, information and technology. The many, substantial benefits of globalisation include higher average incomes, greater innovation, richer cultural exchanges and improved standards of living around the world. Globalisation is often wrongly blamed for many of the world's problems including climate change, world poverty and environmental degradation. But this is a myth reported by those who are opposed to change and progress. What is an undeniable fact, is that globalisation has been responsible for creating unprecedented prosperity. The evidence for globalisation is seen in the ever expanding trade in goods and services, the growth in foreign investment and the increased movement of people. It has been propelled by cheaper and faster transportation, more innovative information technology, fewer or lower trade barriers, and better economic management. Joseph Stiglitz, a winner of the Nobel Prize for Economics, defines globalisation as:

> *"the closer integration of the countries and peoples of the world brought about by the enormous reduction of costs of transportation and communication, and the breaking down of artificial barriers to the flows of goods, services, capital, knowledge, and people across borders".*

Indicators	1990	2000	2010	2021
A. Economic:				
Total Trade (% GDP)	39	51	57	57
High income countries	41	51	59	57
Low income countries	-	59.1	66.9	53.5
Tariff rate, mean all products	15.0	10.8	7.5	5.2
High income countries	8.4	6.5	4.8	3.9
Low income countries	-	13.4	12.8	11.0
FDI net inflows, $US billions	205	1357	1391	1582
High income countries	171	1134	761	746
Low income countries,	0.5	5	23	26
B. Social				
Fixed Broadband Subscribers, per 100 people	..	0.4	8	16
High income countries,	..	1.7	26	36
Low income countries	..	..	0.1	0.5
Mobile Phones, per 100 people	0.1	12	76	106
High income countries,	1.0	48	109	122
Low income countries,	0.0	0.0	28	59
International Tourist Arrivals, millions	1082	1332	1756	2403
High income countries, millions	790	930	1153	1522
Low income countries, millions	-	4.4	13.4	17.4

Source: World Bank

Figure 1.8 Indicators of globalisation

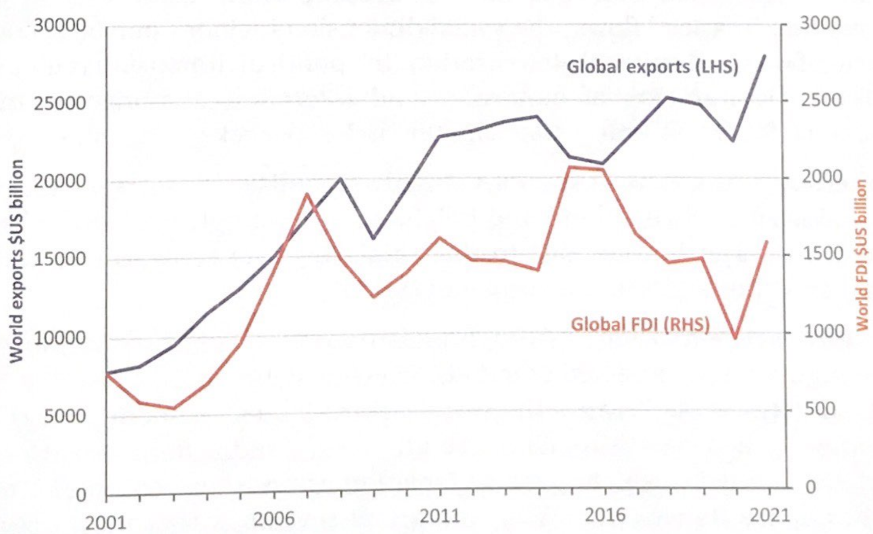
There are many indicators that illustrate how goods, capital, and people have become more globalised:

- the value of trade (goods and services) as a percentage of world GDP increased from 39 percent in 1990 to 57 percent in 2021;
- the average global tariff rate on all goods has fallen dramatically from 15 per cent in 1990 to just 5 per cent in 2020;
- since 1990, inflows of foreign direct investment (FDI) have increased by a factor of seven - increasing from US$205bn in 1990 to US$1582bn in 2021;
- the number of internet subscribers per 100 people has increased from 0.4 in 2000 to 16 in 2021 (a factor of 40);
- the number of mobile phone subscriptions per 100 people has increased from 12 in 2000 to 106 in 2021 (a factor of 9); and
- the number of international tourist arrivals has more than doubled between 1990 and 2021.

The key measures of globalisation that most economists focus on are trade in goods and services and foreign direct investment (FDI) flows. FDI involves the direct investment by companies or governments into foreign firms or projects. It is usually defined as an investment that acquires at least 10 per cent equity in the foreign enterprise. Foreign investment brings many benefits to the recipient economy in terms of because it brings with it new technology, management know-how, skilled labour and access to international markets.

Trade has been the 'engine of globalisation'. Since 1990, the volume of world trade has grown at twice the rate compared with the growth of world GDP. The most commonly used measure of a country's trade openness is the ratio of a country's trade to GDP. This ratio, has on average, increased quite markedly across all groups of economies, including both developed and developing countries. It represents a quick and simple measure of a country's level of integration with the rest of the world. Research has shown that those economies that increase their trade openness over time experience faster rates of economic growth. Between 1990 and 2021, world trade as a proportion of GDP have increased from 39 per cent to 57 per cent. Figure 1.9 shows the growth in both global exports and foreign direct investment (FDI) since 2001 measured in billions of $US. Notice that FDI flows are more volatile than trade. World exports more than tripled between 2001 and 2021, rising from $US 8 trillion to $US 28 trillion while FDI inflows doubled over the same period from $US 800 billion to $US 1600 billion. Generally world trade and FDI show a positive relationship since they both correlate with global economic growth. Rising trade and investment are associated with periods of strong economic activity. Periods of contraction such as the global financial crisis (GFC) and the pandemic of 2019-20 saw sharp declines in both trade and investment.

Figure 1.9 Global exports and foreign direct investment



Many people think that globalisation is a relatively recent phenomenon, however, it has been occurring since the dawn of civilisation. The first wave started in Europe around 1870 and ended with the beginning of World War I (1870 - 1914). This wave of international integration was fueled by colonial expansion and the onset of the industrial revolution. The second wave of globalisation began after the Second World War and extended to the GFC of 2009. Both episodes were characterised by strong growth in trade and living standards (GDP per capita). The period of history between these waves was a period of economic upheaval with the World Wars and the Great Depression of 1930. This was an era of anti–globalisation, during which countries pursued protectionist policies which slowed world growth and development. The decades between 1990 and 2010 were a particularly rapid era of globalisation that coincided with a number of important global events - the end of the Cold War; the birth of the Internet; the creation of the World Trade Organisation (WTO) and the emergence of China as an economic superpower.

The decade after 2010 has been quite different with a marked slowdown in the pace of globalisation. The Economist magazine referred to this period as the era of 'slobalisation'. This period has been characterised by an escalation of trade tensions with many countries. The global financial crisis of 2009 caused the world economy to contract and this had a lasting negative impact on world trade. Many countries reverted to protectionist policies and imposed barriers on the movement of both goods and people. The US-China trade war and the pandemic resulted in a decrease in all the measured indicators of globalisation - trade, investment and travel.

The Swiss Economic Institute (KOF) publishes an annual globalisation index which measures the economic, social and political dimensions of globalisation. It is used to monitor changes in the levels of globalisation of different countries over a long period of time. Figure 1.10 shows this index for several countries, including Australia, from 1985 to 2019 (latest data available). The index measures globalisation on a scale from 1 to 100. The economic dimension includes both trade flows and financial flows. The social dimension includes personal contact, information flows and cultural globalisation. The political dimension is measured in terms of the numbers of embassies and international nongovernmental organisations (NGOs) as well as participation in UN peacekeeping missions.

The Netherlands was ranked the most highly globalised country in the world in 2019, followed by Switzerland and Belgium. Interestingly, the top 15 ranked economies are all in Europe, due to their high levels of economic, social and political connections within the European Union.

Small countries tend to be more strongly globalised than large ones because they are more highly interconnected with neighbouring countries. The United States was ranked 24th, while Japan – the world's third-largest economy – was 36th. China comes in the lower third of the overall index, ranking 80th. Australia was 28 out of 208 countries which given its isolation as an island continent, means it 'punches above its weight'. What the graph reveals is that most countries