

Globalisation and Government

Whoever is the lord of Malacca has his hand on the throat of Venice.

Tomé Pires, 16th century Portuguese trader and diplomat

The Nature of Globalisation ♦ Globalisation, Trade, Output and Prices ♦ Distributional Consequences of Globalisation ♦ Globalisation and Government Revenue ♦ Globalisation and Government Expenditure ♦ Globalisation and Government Policies

Globalisation is highly controversial. Proponents argue that the international flow of capital, labour and goods increases output and incomes in most countries. And they point to the extraordinary growth in world GDP over the last 30 years due in no small part to the growth in international movements of capital, labour and goods and the integration of China into the world economy. In the words of Benjamin Franklin, ‘no nation was ever ruined by trade’.

On the other hand, critics blame globalisation for a variety of economic and political ills. They hold globalisation responsible in developed countries for major increases in inequality, falling real wages of many workers, and stresses on housing affordability, personal security and welfare services due to high immigration rates. Anger at globalisation led to the nationalist Brexit vote in the UK in 2016, the “America-First” election of President Trump in the US in 2017 and the rising tide of populist parties in European elections (and to a minor extent in Australia) in recent years. In developing economies, globalisation may be perceived as 21st century economic imperialism.

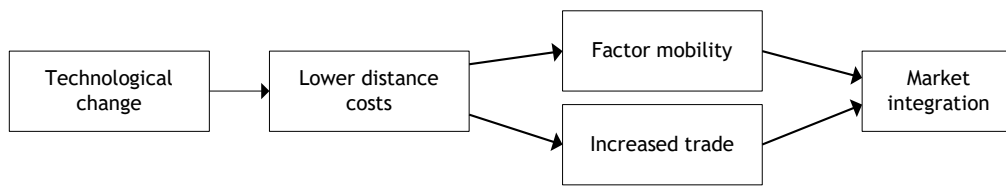
In this chapter, we start by describing the nature of globalisation. Section 2 discusses how globalisation affects trade, output and prices. Section 3 reviews the impact of globalisation on income distribution. Sections 4 and 5 discuss how globalisation influences government revenue and expenditure. The last part briefly discusses government policies.

The Nature of Globalisation

In economic analysis, **globalisation** means the worldwide integration of markets. In the end state, there would be one world market for both factors of production and goods rather than national or regional markets. Markets integrate as the costs of distance fall. Capital, labour and technology become more mobile and international trade in factors of production and goods increases. These events are driven primarily by technological change, notably recently by the worldwide digitisation of markets. Thus, the causation runs:

Globalisation

The worldwide
integration of
markets



However, globalisation is not simply a function of technical change. Government policies also drive globalisation. Policies on labour movements, capital flows, and trade in goods and services influence the pace and nature of globalisation. Box 34.1 describes how government policies have played an important role in the rise of globalisation.

Dimensions of globalisation

Globalisation has five main economic features. The first is international trade. Since the Second World War, international trade in goods and services has grown twice as fast as world output—at about 6 per cent per annum compared with a 3 per cent growth in world output. This implies that imports and exports as a proportion of output have increased substantially in most countries.

Second, financial markets are increasingly integrated. In the 1980s and 1990s many governments relaxed controls on capital flows. Cross-border flows of capital increased over twice as fast as cross-border commodity flows and over four times as fast as world output.

Box 34.1 Globalisation in historical perspective

There was trade between the Middle East and China over 2000 years ago. International trade expanded steadily over the centuries with the development of sailing ships and the discovery of new lands, the industrial revolution in the 18th century, and the development of the iron steamship and the telegraph in the 19th century.

Traders required finance to bridge the gap between the purchase of goods and their sale, often many months later. Trading banks generally provided this short-term finance. On the other hand, long-term capital flows were used to clear and plant land, dig mines, build factories, construct railways and develop other infrastructure. Merchant banks and finance houses provided most of this long-term finance in the form of bonds, debentures and shares. By 1914, international trade as a proportion of world output was almost as high as it is today.

The period from 1920 to the mid-1950s was one of de-globalisation. International trade and flows of finance fell especially during the Great Depression of the 1930s and the associated protectionist policies. After the Second World War, most European countries restricted outflows of capital to protect their fixed exchange rates and diminished foreign exchange reserves.

In the 1960s, many newly independent countries turned to inward-looking, import-substituting economic strategies. Two of the world's largest countries, China and the Soviet Union, adopted command and control socialist systems. These systems were under considerable strain when the information and communication technology revolution arrived in the 1980s.

Government policies have also had a major influence on globalisation in recent years. In the early 1980s the world was divided into three main economic systems: the developed and emerging market economies; government-led developing economies, including India, that were inward looking, import substituting and foreign investment hostile; and the socialist economies of China, the Soviet Union and a few others.

Over the last 30 years many countries (especially China, India and Eastern European countries) have made dramatic policy changes, notably by liberalising exchange rates and trade and capital flows. In the early 1980s, fewer than two billion people lived in broadly open market economies. To-day nearly all the world's population of seven billion people live in at least semi-open market economies, with extraordinary digitisation of information services. But some of these technological and policy changes are now strongly questioned.

These capital flows include foreign direct investment (FDI) and financial (portfolio) investment. FDI is direct investment in physical capital. It is often associated with transfer of technology. Portfolio investment may be equity investment (purchase of assets) or debt finance. Portfolio investment indirectly supports local capital formation and enhances local capital supply. Both forms of investment increase foreign ownership of domestic assets. Portfolio investment is generally more volatile.

Third, production systems are increasingly internationalised as the technologies of transport, logistics and communications advance and firms operate in more than one country. Multinational firms may run vertically integrated operations or multi-domestic strategies. In a vertically integrated operation, some parts of the firm produce inputs for other parts based on their competitive advantage. Intra-firm trade accounts for over a quarter of world trade. Firms can also organise integrated operations by outsourcing and joining into contractual relationships with other firms. With a multi-domestic strategy, the parent firm wholly or partly owns and controls affiliates in several markets, but each affiliate serves mainly its local or regional market.

The fourth major economic feature of globalisation is permanent and temporary labour migration. In most OECD countries the proportion of foreign born population increased by between 1 and 4 per cent between 1995 and 2005 (Hanson, 2008). However in about half the OECD countries the foreign-born population was still under 10 per cent. Worldwide, only 3 per cent of all people lived outside their country of birth. By comparison, in Australia, foreign-born persons rose from 27.4 per cent in 2001 to 30.2 per cent in 2016.

The fifth feature is the use of international standards and law as the basis for conducting business. Sovereign states have signed numerous treaties that provide shared standards and rules. Institutions such as the International Monetary Fund (IMF), the Bank for International Settlements, the OECD, the World Trade Organization (WTO) and other UN organisations develop compacts that become agreements between most countries of the globe. The precursor to the WTO was the General Agreement on Tariffs and Trade (GATT). After the Second World War, in eight GATT rounds tariffs fell from an average of almost 50 per cent to less than 5 per cent.¹ As signatories to the WTO, some 155 countries² have now joined into a detailed code of conduct governing virtually every aspect of international commerce, including not only tariffs and quotas but also health standards in international trade and many complex issues of international services.

Measures of globalisation

As shown in Table 34.1, measures of the amount of integration in the major product and factor markets are available, notably data on trade flows, financial flows, direct portfolio investment and payments to non-nationals as a percentage of GDP. These reflect the first four features of market integration noted above. It is harder to obtain simple measures of transaction restraints such as non-tariff barriers to trade, capital controls or risk premiums that reflect political instability.

Drawing on these measures of integration, Table 34.1 provides a qualitative assessment of the extent of globalisation in the markets for goods, financial and physical capital, and labour. H, M and L indicate high, medium and low levels of globalisation respectively. Financial markets are the most integrated. However, interest rate parity is not fully achieved when there is a high degree of political risk. There also remain significant non-tariff barriers in goods markets, capital controls on FDI in many countries and widespread controls on cross-border labour movements. In general, the markets of developed economies are more highly integrated with each other than they are with the markets of less developed countries.

¹ Schulze and Ursprung (1999).

² The number increases regularly.

Table 34.1 Measures of globalisation: high, medium and low globalisation

Market	Flow data	G	Stock data	G	Price and wage equality	G	Actual barriers	G
Goods and services	Trade % of GDP	M	Na		Law of one price	L	Tariffs Non-tariff barriers	M L
Financial capital	Portfolio investment as % of GDP	H	Foreign ownership as % of total stock of assets	M	Interest rate parity (IRP)	M	Capital controls	M
Physical capital	FDI investment as % of GDP	M	FDI as % of capital stock	M	Real IRP	M	Capital controls	M
Labour	Income payments to non-nationals as % of GDP	M	Non-nationals as % of workforce	M	Reduced international wage differentials	L	Migration controls	L

Source: Based on Schulze and Ursprung (1999). (G = globalisation H, M, L = high, medium and low.)

Ideally, we would like to have a single measure of a country's globalisation. The simplest single measure is probably international trade as a proportion of GDP. However, that does not account for the other features of globalisation. The KOF Index of Economic Globalization is an example of an attempt to estimate a comprehensive measure of economic globalisation (<http://globalisation.kof.ethz.ch>). This gives 50 per cent weight to flows of trade, FDI, portfolio investment and income payments to non-nationals as a percentage of GDP (with a weight of about a quarter to each) and a weight of 50 per cent to various restrictions such as hidden import barriers, mean traffic rate, and capital account restrictions. This approach seems to have two limitations. There does not seem to be a clear rationale for the weights allocated to the different features of globalisation and there appears to be double counting in estimating both volumes of trade and capital flows and restrictions on these flows. Nevertheless, the results are plausible. In the latest (2014 data) ranking, Singapore, Luxembourg and Ireland rank 1, 2 and 3 in the Economic Globalization Index, Australia is 42, while the ex-Soviet republics of Turkmenistan and Uzbekistan rank 204 and 205 and the Virgin Islands and West Bank/Gaza bring up the rear at numbers 206 and 207.

Globalisation, Trade, Output and Prices

A fundamental theorem of economics is the theorem of comparative advantage: all parties to trade can gain. We start by outlining this theorem.³ We then briefly describe some other effects of globalisation on factor markets.

Comparative advantage and the benefits of trade

The **theorem of comparative advantage** states that two parties (firms or countries) can gain from trade whenever one party has a comparative advantage in the production of some good(s). A country has a comparative advantage in producing a good if the opportunity cost in terms of other goods forgone is lower than in another country. A country nearly always has a comparative advantage in producing some good even though it may be less efficient in absolute terms at producing both (or all) goods that both parties produce.

Suppose that workers in Australia and China produce two goods: wheat and textiles. As shown in Table 34.2 overleaf, an Australian worker can produce 10 kg of wheat or 10 metres

Comparative advantage

Exists when the opportunity cost of production of some good is lower in one country than in another

Theorem of comparative advantage

Any two parties (e.g. countries) can gain from trade whenever one party has a comparative advantage in the production of some good

³ The effects of international trade are discussed in most microeconomic texts, for example Taylor, Moosa and Cowling (2000). The discussion here is brief.

Table 34.2 Comparative advantage and gains from trade

Commodity	Output per labour day		Opportunity cost of production	
	Australia	China	Australia	China
Wheat (kgs)	10	2	1.0 cloth metres	2.5 cloth metres
Cloth (metres)	10	5	1.0 wheat kg	0.4 wheat kg

of cloth in a day. The (opportunity) cost of a kg of wheat is 1 metre of cloth. Conversely, the cost of a metre of cloth is 1 kg of wheat. A Chinese worker can produce 2 kg of wheat or 5 metres of cloth in a day. The (opportunity) cost of a kg of wheat is 2.5 metres of cloth, and the cost of a metre of cloth is 0.4 kg of wheat. These figures imply that Australia has a comparative advantage in producing wheat because the amount of cloth given up per kg of wheat is lower than in China. China has a comparative advantage in producing cloth because the opportunity cost of a metre of cloth is only 0.4 kg of wheat instead of 1.0 kg.

Although, in this hypothetical case, Australian workers have an absolute advantage in producing wheat and cloth, both countries can gain from trade. Suppose that there are two workers in each country and that one produces wheat and the other cloth. Table 34.2 shows total daily output. Now suppose that the workers adopt the Australian exchange rate of one metre of cloth for one kg of wheat. The two Chinese workers would produce 10 metres of cloth and trade cloth for wheat from Australia. If they sell 4 metres of cloth, they would consume 6 metres of cloth and 4 kg of wheat compared with 5 metres of cloth and 2 kg of wheat without trading. In this case, the Australians would produce 14 kg of wheat and 6 metres of cloth, but they would consume the same as without trade because the exchange rate does not change. Now retain these new levels of production but suppose that the exchange rate is 2 metres of cloth for 1 kg of wheat. With trading, the Chinese would consume 6 metres of cloth and 2 kg of wheat, while the Australians would consume 18 metres of cloth and 10 kg of wheat. Both parties consume more cloth than before, but no less wheat. *Trade increases output when countries produce according to their comparative advantage.*

However, two caveats are needed. First, it assumes that workers can switch readily between producing wheat and cloth. Those who cannot will become unemployed (or underemployed). Second, trade is beneficial only if the differences in productivity offset freight costs. Suppose that a Chinese worker spends 0.6 of a day in travel time to execute the trade. In this case the Chinese workers could produce 7.0 metres of cloth and no wheat. With the most favourable exchange rate for them (1:1), they could trade and finish with 5 metres of cloth and 2 kg of wheat, and the Australians would be no worse off. Trade is beneficial only when travel time falls to less than 0.6 of a day.

The effects of a fall in transport costs. These are shown in Figure 34.1. Suppose firms in two countries, X and Y , produce computers in a competitive market. Firms in X produce computers at an ex-factory cost of A and the costs of supplying computers inclusive of transport costs to different locations in X and Y are shown by line ACD . The equivalent cost schedule for firms in Y is shown by line ECB . Firms in X supply at a competitive price up to Q_1 . Thus, firms in X have a share of the market in Y . Now suppose that transport costs fall and that firms in X can supply customers at prices along the AF line. Although the ECB schedule would also rotate downward (this is not drawn), firms in X now supply all the computers in Y .

Given a competitive market, the gain from the fall in transport costs is equal to area $ACEF$. Further, all gains will be passed on to consumers, including those in Y . Firms in Y simply switch to producing other goods. If markets are competitive, there are gains from trade in both countries. However, if the market is not competitive, firms in X may charge above marginal cost and gain some rent from increased market share while firms in Y may lose some producer surplus. Both consumers and firms in Y may lose as transport costs fall.

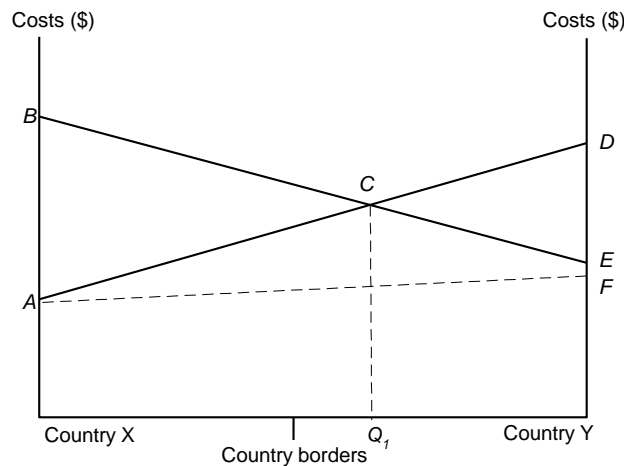


Figure 34.1 Benefits of lower transport costs and increased trade

Lower transport costs generally increase the number of firms that can supply any given market. This reduces prices and produces net benefits in that market. In a competitive market, consumers gain and producers adapt.

Larger markets also enable firms to achieve economies of scale and to reduce the cost per unit of output. Even with no difference in the efficiency of production between countries, countries can gain by specialising, adopting economies of scale and trading rather than by self-sufficiency policies (see Taylor *et al.*, 2000). However, countries may not gain if they cannot adapt their production, especially if labour or capital is under-employed, or if they become subject to the monopoly power of foreign suppliers.

Globalisation and factor markets

We now turn to globalisation impacts on factor markets, starting with capital markets. International financial markets move capital from savers to borrowers and foreign exchange from nations with balance of payments surpluses to nations with current account deficits. Competitive markets reduce the gap between the interest rate paid to lenders and the rate charged to borrowers and the spread between the buying and selling price of foreign exchange. Both spreads create a deadweight loss (DWL) due to missed transactions. Globalisation allows financial institutions to compete in the markets of any country. This provides productivity gains, enables capital to be employed in the most productive opportunities and reduces DWLs from missed transactions.

Given the large earnings differentials for workers of similar skills in different countries, economic theory suggests that migration of workers from low to high productivity countries increases global output and income. Hanson (2008) reported that these global gains from migration are largely captured by the migrants, which they share with their families through remittances. This may be at the expense of some local incomes, but it appears not enough to produce negative country or world economic growth.

Another aspect of globalisation is the international integration of production systems. This facilitates the international flow of technology and capital, raises local productivity and allows goods to be produced in countries that could not otherwise produce these goods. It is generally efficient as multinational firms seek to produce their goods at least cost. Also, local

workers in the multinational firms generally choose to work in these firms because they perceive the real wage is higher than in other local alternatives.

However, the benefits of globalisation depend on the ability of markets to adjust. Following the integration of Eastern and Western European economies, between 1995 and 2005 employment in Germany fell by 1.4 million, mostly in manufacturing. Sinn (2007) observed that: 'The workers went into the welfare state, into state-financed unemployment. The dirty industrial jobs were abolished but nothing was created in exchange.' This resulted from rigid wages combined with generous wage replacement incomes. When wages are high, the return to capital falls and capital leaves the country while unemployment increases. But given Germany's economic performance in recent years, this verdict may have been premature.

On the other hand, it seems that labour markets in the industrial heartland of the United States, especially in the steel and aluminium industries, have not been able to adjust to international competition.

The evidence

Evidence supports the thesis that globalisation (integrated world market) increases output and reduces prices. Over the 20 or so years between the mid-1980's and the mid-2000's there occurred an extraordinary increase in the integration of world markets driven by technology, especially in communications, and by political changes in the Soviet Union, Eastern Europe, China and India. The rate of world economic growth over this period was significantly higher than in any previous decade of the 20th century. Consumers of numerous products, including food, clothing, steel, motor vehicles, communications and education services, benefited from lower transport and distance costs and increased international competition.

In Chapter 5, we found that open economies tend to achieve higher rates of growth than closed economies. Edwards (1998) provided further evidence with a detailed econometric study of the relationship between openness and growth for 93 countries. He represented economic growth by estimated total factor productivity growth and tested for nine indicators of openness. Edwards concluded that more open countries have achieved faster productivity growth and that this result is robust with respect to openness indicators, estimation technique, time period and functional form. The World Bank (2002) reported that the more globalised developing countries increased their per capita growth rates from one per cent per annum in the 1960s, to 3 per cent in the 1970s, 4 per cent in the 1980s and 5 per cent in the 1990s, as global markets became more integrated.

However, globalisation also contributed to the nearly worldwide depression between 2008 and 2011. Financial institutions and economies around the world were badly hit, first between 2007 and 2009 by the crises in the US housing market and banks, and then between 2009 and 2011 by the government debt crisis in some European countries that affected banks that had lent to them. Countries with more financial autonomy suffered less than those linked closer to global financial markets, but even they could not escape the effects of the worldwide slowdown in economic activity.

Distributional Consequences of Globalisation

While theory and evidence suggest that countries as a whole generally gain from globalisation, some groups within countries may still lose. So, who gains and who loses from globalisation?

We consider here how globalisation affects skilled and unskilled labour and owners of capital and land. Of course, some individuals may incur losses as workers but gain as consumers. In this analysis, skilled labour is assumed to be relatively abundant in developed economies and unskilled labour to be abundant in less developed economies.

The Heckscher–Ohlin international trade model (the basis for most modelling of international trade) indicates that, if capital and technology are completely mobile and there are no transport costs, trade equalises factor and product prices across countries. This is known as the **theorem of factor price equalisation**. In a closed economy, goods produced by factors in plentiful supply sell at a low price. Goods produced by scarce factors command a high price. A country exports low-cost goods and imports goods produced locally at relatively high cost. Trade increases earnings of local factors in plentiful supply and reduces earnings of factors in scarce supply. Developed economies export goods produced by skilled labour and import goods produced by unskilled labour. Poor countries do the reverse. Thus, the wages of skilled workers in developed economies and of unskilled workers in less developed countries rise. Conversely, the wages of unskilled workers in developed economies and of skilled workers in less developed economies fall. This process continues until the ratio of skilled to unskilled wages is the same in developed and less developed countries. This suggests that trade increases wage dispersion within rich countries but reduces it in poor countries.

However, the theorem of factor price convergence holds fully only if the relevant countries can produce all goods, imported goods are close substitutes for locally produced goods, there are few non-traded goods and labour is mobile between sectors. Returns to factors do not converge when there are significant sectors of non-traded goods or where labour does not move into internationally traded goods sectors.

Also, globalisation does not eliminate all transport costs, other barriers to factor and product movements or political risks. Although capital is mobile, workers in developed economies work with substantially more physical capital than do workers in poor countries. They are therefore more productive and continue to earn higher wages than comparably skilled workers in poor countries. Due to transport costs, price differentials exist for traded goods and many goods are not traded. This also allows wage differentials between countries for comparably skilled workers.

Turning to capital, with free capital movement, the marginal return to capital rises as capital moves to the most productive opportunities. The rise in the rate of return depends on the elasticity of world savings. The more that savings respond to higher rates of return, the lower the increase in the marginal return to capital.

On the other hand, land is not mobile. Trade and capital mobility increase the return to productive land, which receives more capital and obtains a larger trade area for its products and reduce the return on less productive land.

Consumers generally gain from globalisation. Globalisation reduces prices by lowering transport costs, increasing competition and lower-unit costs of production. Consumers of imported goods gain. Australian consumers have benefited greatly from substantial falls in the relative prices of imported manufactured goods over the last 30 years. However, some consumers may lose when exports increase and local prices rise. When developing economies increase food exports to developed economies, consumers in the former pay higher local food prices. In Australia, fish prices increase with the rise in fish exports to Asia.

Some critical issues. In developed economies, less skilled workers are major potential losers from globalisation. In Australia, they compete increasingly with low-wage workers in Asia. Where Australian workers work with more capital, their productivity is higher and they receive higher wages. However, if the ratio of Australian earnings to Asian earnings exceeds the ratio of Australian to Asian productivity, less skilled Australian workers are likely to experience lower wages or less employment, or both.

There are some compensating factors. The rise in income of high-skilled workers increases the demand for services, many of which are labour intensive and non-traded. Second, low-skilled workers gain (as do others) from lower import prices, especially for manufactured goods. Third, higher economic growth increases tax revenues and public services.

Theorem of factor price equalisation

With unrestricted trade and no transport costs, trade equalises factor and product prices across trading partners

Within developing countries, some workers may not gain from globalisation because they do not participate in traded markets. However, the criticism that multinational firms exploit unskilled labour, including children, in poor countries seems less secure. Certainly, unskilled workers in poor countries receive much lower wages than their counterparts in rich countries. This does not mean that globalisation has worsened their conditions. Child labour reflects poverty, not trade. Edmonds (2001) showed that opening up the Vietnamese economy led to a large increase in household income and a sharp drop in child labour. The wages paid by foreign affiliates of multinational firms to poor-country workers are typically double the local manufacturing wage.⁴ As Stiglitz, generally a strong critic of globalisation, observed (2002, p. 5): 'People in the West may regard low paying jobs at Nike as exploitation, but for many people in the developing world, working in a factory is a far better option than staying down on the farm and growing rice'.⁵

However, critics of globalisation, including Stiglitz (*ibid.*), argue that the process of globalisation is profoundly influenced by the power relations between states. The rich countries make the rules of international market engagement and reap the benefits. The most egregious example is the protection of farm producers in the European Union and the United States. The US protects other industries such as steel producers. It also upholds restrictive covenants on the intellectual property rights of its corporations regardless of the impact on poor countries. On the other hand, it breaks the rules, for example when Bayer (a German multinational company) was required to reduce the price of ciprofloxacin to combat anthrax threats in the US. The US government has been less accommodating with patents for AIDS drugs, which poor countries want relaxed so that they can obtain the drugs at much lower prices.

Stiglitz (*ibid.*) and other critics of globalisation also cite the dominance of international institutions such as the International Monetary Fund (IMF) and the World Bank by rich countries. In their view, both institutions have imposed harsh and politically unrealistic governance conditions on poor countries in return for loans provided and these conditions have created economic recession and political instability rather than economic growth.

Globalisation and income distribution: some evidence. In this section we review the effects of globalisation on worldwide poverty and inequality and on inequalities within countries.

Global poverty has fallen substantially over the last 30 years since markets became much more integrated. Drawing on World Bank data, Harrison (2006) reported that the percentage of people living below the extreme poverty line of \$1 per day (in 1985 prices) had halved since the early 1990s, although the number still exceeded one billion. The fall was largely due to declines in poverty in South and East Asia, including China, the Middle East and North Africa. There was little decline in poverty in Central Asia, Latin America or sub-Saharan Africa, where nearly half the population continued to live below the severe poverty line. Dollar and Kraay (2001) also showed that the poor had shared in gains in national income growth, with the poorest 20 per cent in most countries obtaining the same percentage gain as the country did. There have also been significant gains in life expectancy and education in low-income countries over the last 30 years. The most serious levels of poverty exist in countries that are least integrated with the global economy.

As we saw in Chapter 5, incomes between countries also appear to have converged, especially for countries that are relatively open, which should reduce global inequalities. Lindert and Williamson (2001) found that globalisation had reduced income gaps between nations. However, in a review of literature on global income inequality, Anand and Segal

⁴ *The Economist*, 29 September 2001.

⁵ Another argument is that multinationals exploit their workers by paying them less than the value of their marginal product. This may occur with imperfect competition in the labour market.

(2008) found that the worldwide Gini coefficient (GC) was between 0.630 and 0.686 in the 1990s and that there is no consensus whether this has risen or fallen over the last 10 years. These various findings with respect to global inequality are sensitive to both the time period and the way that countries are included. Because of the size of China and its income growth, inequality measures weighted by population usually indicate that global inequality has fallen. Unweighted inequality measures often show the reverse.

However, as noted in Chapter 20, many studies have found that globalisation is associated with rising inequality *within* countries since 1980 (Harrison, 2006; OECD, 2008 and 2009; Aristei *et al.*, 2009). As reported by OECD (2011), the GC for disposable household income in OECD countries rose from 0.29 in the late 1980s to nearly 0.32 in 2010. It rose for 17 of the 22 OECD countries for which long-term data were available. In nearly all OECD countries, the wages of the 10 per cent highest-paid workers have risen faster than the wages of the 10 per cent lowest-paid workers. In developed economies, the demand for skilled workers outstripped the growth in supply and unskilled workers found it hard to move out of declining sectors into expanding ones.

The rise in the skilled–unskilled wage ratio in developed countries is consistent with the Heckscher–Ohlin international trade model and the economic theory of globalisation. Many analysts (Wood, 1998; Cornia, 2004; Dreher and Gaston, 2008) conclude that globalisation was a major cause of rising inequality within countries, especially in developed economies. On the other hand, Zhou *et al.* (2011) found no correlation between the GCs in 60 countries and two constructed measures of globalisation. However, the authors' choice and weighting of variables in their globalisation measures were arbitrary. Also, a simple bivariate analysis may not expose the real drivers of income inequality. For example, a high GC and low globalisation could both be related to low income levels.

Within Australia, we have also observed increasing income inequality and linked this with globalisation (Chapter 20). There have also been significant structural employment changes since 1990 due to global factors. Employment in the education and training sector rose from 591 000 in August 1990 to 859 000 in August 2010 due mainly to a large increase in international students. Over the same period, employment in mining rose from 98 000 to 193 000 (nearly all since 2003). On the other hand, employment in manufacturing fell from 1126 000 to 993 000 as tariff and non-tariff barriers were removed and China became the major supplier of manufactured goods. The retail sector is also now affected significantly by the growth of Internet trading. However other major non-trade sectors, such as utilities, health services, construction, transport and public administration have been little affected to-date.

Conclusions. Market integration closes the gaps between product and factor prices in developed and developing economies. It generally raises the wages of low-skilled workers in poor countries but reduces wages of these workers in rich countries. Also, workers in previously protected industries lose from policy liberalisation. In practice, markets are far from fully integrated. Differences in levels of capital intensity and knowledge, as well as restrictions on factor mobility, result in substantial differences in incomes between similarly skilled workers in different countries.

Globalisation has generally reduced international poverty although some countries have not experienced these benefits. Thus, the overall trend in international inequality is not clear. However, globalisation has most likely increased inequality within developed economies.

Globalisation and Government Revenue

Globalisation may be expected to reduce government revenues for several reasons. The most important reason is the increased mobility of factors of production. The more mobile are factors, the more easily they change jurisdictions to escape tax. This reduces the tax base. To

attract or retain mobile marginal capital and labour, governments must provide competitive tax rates. Usually this means lower tax rates. Thus, to retain revenue, governments must either broaden the tax base or increase tax rates on immobile factors.

Second, modern technology facilitates the movement of money and enables tax havens and tax evasion. People can be paid more easily in non-domestic accounts and evade income tax, purchase online and evade sales taxes, or transfer wealth around the world and evade tax on income from capital. However, technology combined with increasing cooperation between taxation agencies also increases government capacity to monitor financial transactions.

Third, tariff reductions reduce tax revenue on trade. In some developing countries, trade taxes account for a high proportion of government revenue, partly because other tax bases (such as wages and profits) are small or easily evaded. However, trade taxes typically account for only 1 to 2 per cent of government revenue in developed economies.

Taxes on factors of production

Accordingly, we focus here on the major issue, namely taxes on factors of production. A principal hypothesis of the globalisation literature (for example, Gemmell *et al.*, 2008) is that tax rates will fall on mobile factors of production (capital) and rise on less mobile factors (labour and land).

Taxation of capital. When a country taxes international capital, the gross rate of return required by lenders increases. Owners of capital, especially portfolio capital, can shift their capital to another country until the local after-tax return meets the international rate of return on capital (or more if there is a local risk premium). Therefore, a tax on foreign capital is borne by local firms that pay more for capital and by immobile local factors of production, which have less capital to work with.

In theory, this tax should affect only supply of non-resident capital because governments can tax their residents on their worldwide income from capital. Thus, residents have no tax incentive to invest overseas. However, cross-border investments may evade tax. Despite double-taxation agreements, the introduction of withholding taxes on interest income in Germany, the US and other countries led to capital flight from these countries because income from some assets was evading national taxation. Schulze and Ursprung (1999, p. 313) reported that:

Interest income had already been liable to personal income tax prior to the introduction of the withholding tax; and the withholding tax payments are fully credited against the personal income tax. Thus, the withholding tax was targeted only at domestic tax evasion, which triggered international tax evasion.

Tax evasion is possible when investment income is taxed in the country of the recipient but not taxed, or only lightly taxed, at source and when there are limited communications between national tax authorities.

Income generated by FDI is taxed through company income tax. Some research shows that FDI is sensitive to corporate tax rates. Cassou (1997) found a significant negative relationship between the US corporate tax rate and FDI in the United States and a significant positive relationship between foreign corporate tax rates and FDI from the United States. Devereux and Griffith (1998) found that effective average tax rates influence the location of US firms in Europe. A one per cent increase in the effective average tax rate in the UK reduced the probability of a US firm producing there by an estimated 1.3 percentage points.

To attract corporations, and gain the benefits of increased investment, governments may reduce their corporate tax rates. However, taxation is only one factor in a firm's investment decision. Governments may also provide favourable regulations or service inducements.

Table 34.3 Corporate income tax rates in the OECD

<i>Results</i>	<i>1986</i>	<i>1991</i>	<i>1998</i>	<i>2011</i>
Average unweighted tax rate	43.5	36.3	33.2	25.5
Range (maximum to minimum)	28.0	27.0	20.0	20.2
Standard deviation	7.0	6.8	4.5	6.0

Source: OECD (2011) Tax Database.

The overall effect is that globalisation increases tax competition and lowers corporate tax rates. As shown in Table 34.3, the average (unweighted) rate of corporate income tax in OECD countries fell from 47 per cent in 1982 to 25.5 per cent in 2011. Smaller countries lowered their rates most whereas the larger economies, such as the US, the UK and Japan, lowered their rates by lesser amounts.⁶ In Australia, the corporate tax rate fell from 49 per cent in the mid-1980s to 30 per cent in 2001, which was still the rate through 2018. Also, corporate tax rates have converged. In the 1990s, the gap between the highest and lowest corporate tax rates in the OECD decreased significantly and the standard deviation, which measures the degree of dispersion of tax rates from the mean, also fell.

Although corporate tax rates have fallen, corporate income tax has not declined as a percentage of GDP. From 1990 to 2010, the weighted average company tax revenues in the OECD remained at about 3 per cent of GDP (Henry Tax Review, 2010). The unweighted average (which reduces the influence of the US) rose to about 4 per cent of GDP. This reflected both the rise in corporate profits as a percentage of GDP and a broadening of the corporate tax base. The fall in statutory tax rates overstates the decline in effective tax rates when depreciation rules, investment allowances and other corporate supports are tightened.

Taxation of labour. There remain substantial barriers to cross-border movements of labour. However, skilled high-income workers are usually in international demand and can afford to relocate. Some labour-short countries in the Middle East need labour at all skill levels. Governments must offer competitive tax rates to attract and retain labour, especially skilled labour. Over the last 25 years, there has been a worldwide decline in high marginal tax rates and the progressivity of income tax structures.

Rodrik (1997) examined whether economic integration affects **relative** tax rates for capital and labour. He measured integration by the ratio of the sum of exports and imports to GDP.⁷ Tax rates for capital and labour were obtained by dividing respective tax revenues by the gross pre-tax income of each factor. Thus, he tested for the average tax rate on capital and labour. Analysing 18 OECD countries from 1965 to 1991, he found that average tax rates on labour increased with openness and that average tax rates on capital fell with openness. He concluded that, as economic integration increased, the tax burden shifted from capital to labour.

Summary. Tax rates on mobile factors (capital and skilled high-income workers) have generally fallen absolutely and relatively and there is increasing pressure to reduce corporation tax. On the other hand, tax rates on less mobile factors (unskilled workers, property or natural resources) have risen. Less mobile workers tend to be lower-income workers. Property owners are generally higher-income persons.

⁶ As we saw in Chapter 31, the US has now legislated to reduce the corporate tax rate radically to 20%.

⁷ Note that this is a measure of trade mobility, not capital mobility (the main factor in tax competition).

Taxes on consumption

Consumption is generally less mobile than factors of production. Most consumption takes place in the home country, and most imported goods can be taxed. Therefore, it is harder to avoid consumption taxes. However, avoidance has increased with the rapidly rising purchases over the Internet, most of which have been free of consumption taxes.

On balance, because of the relative immobility of most consumption activities notwithstanding untaxed purchases over the Internet, globalisation may be expected to lead to higher consumption taxes. Also, user charges may be expected to increase, for example for road use, education, health services and so on. Both phenomena have occurred. As we saw in Chapter 31, over the last 30 years, OECD countries including Australia have significantly increased consumption taxes, notably by use of the value-added tax (or GST).

Shifts in the tax structure towards taxation of consumption and away from taxation of capital affect the burden of taxation. It increases the tax burden of those outside the workforce including pensioners, students and the unemployed, and reduces the tax burden on savers.

Tax competition and economic efficiency

We have examined the impacts of tax competition on the incidence of tax, but how does it affect economic efficiency?

When a factor of production is not mobile, lowering the tax rate has no effect on the tax base. The efficient tax rate will depend only on local effects, that is, the marginal social benefit of taxation and the marginal social cost, including any DWL associated with impacts on labour supply or saving.

When factors of production are mobile, the tax rate set in one country can affect the tax base in another. A reduction in a local tax rate because of tax competition reduces the tax base of other jurisdictions and is therefore a negative externality. However, the taxing jurisdiction is generally concerned only with its own revenue and ignores this externality. Tax competition is likely to reduce tax rates for mobile factors of production. Ignoring the negative externality of tax competition may result in under-taxation and hence under-provision of public goods in both the taxing jurisdiction and in the other jurisdictions. However, the impact may be only minor.

This result applies especially when income is taxed at source, as is commonly the case. Differential taxation of income at source affects the allocation of mobile capital and the size of the tax base. If income is taxed according to the destination principle, a resident's worldwide capital income is taxed at the same rate, regardless of its source. Tax competition is then less likely to affect the tax base because residents are less mobile than capital.

Most countries, including Australia, tax income under both the residence and source principle. In Australia, residents are taxed on their worldwide income and imports bear the GST, whereas exports are GST free. Law-abiding residents have no tax incentive to move capital overseas. The Australian government also taxes income from Australian sources that accrues to foreigners. Thus, the Australian system has a tax-competitive source-based element, which may discourage foreign capital and marginally distort the worldwide allocation of capital and productive efficiency.

Concluding observations

Globalisation is likely to put downward pressure on tax rates, especially on capital and on high personal income tax rates. This might be expected to reduce tax revenues. However, tax revenues have not fallen. As a proportion of GDP, tax revenues in OECD countries have risen slightly from an unweighted average of 33 per cent in the mid-1970s to around 35 per cent between 2002 and 2008. Moreover, government revenues are generally higher in countries with open economies.

Evidently, conclusions about globalisation and tax revenues must be drawn cautiously. Tax revenue is the product of the tax base and tax rate(s). A broadening of the tax base, or a rise in its value, may offset a decline in the tax rate. Open efficient economies that encourage trade may have broad tax bases. Second, high tax rates on immobile factors may offset low tax rates on mobile factors. Third, and most importantly, tax revenues depend also on the demand for government services. As discussed below, global forces increase the demand for some government expenditures. Government revenue may rise in response to this increase in demand despite the impact of tax competition on tax rates.

Globalisation and Government Expenditure

In Chapter 2, we identified four main economic determinants of government expenditure: household income, demographics, welfare needs and production costs. The main political determinants are political ideology, the discretionary decisions of politicians and public officials, and interest groups.

Table 34.4 shows the possible impact of globalisation on these eight drivers of expenditure. Two factors stand out as possible drivers of increased government expenditure. One is the effect of globalisation on welfare needs. The ‘compensation hypothesis’ (Gemmell *et al.*, 2008) suggests that economic inequality and insecurity resulting from globalisation increase public expenditure. Related to this is the rise in interest group pressure as groups seek to protect their interests from foreign competition. On the other hand, the ‘efficiency effects’ of globalisation may reduce the discretionary power of politicians or public servants to raise expenditure or the tax to finance it. Also, increased competition may reduce production costs. Therefore, globalisation could increase or decrease total government expenditure, depending on which expenditure drivers are most influential as well as on the revenue constraint. This will depend also on the ideology of the governing party.

Total government expenditure. Several econometric studies have assessed the impact of globalisation on government expenditure. As usual with such studies, issues arise with definition of the variables as well as with the relationships between them. In most studies the dependent variable is total government expenditure as a share of GDP. Arguably, total non-defence expenditure would be a more relevant dependent variable. The variables representing global economic integration include the share of imports plus exports in GDP, the volume of capital flows, covered interest rate differentials and estimates of the degree of capital market liberalisation. Some studies, for example Garrett (1995) and Cusack (1997), include variables representing left–right political ideology.

Table 34.4 Globalisation and factors affecting government expenditure as percentage of GDP

<i>Determining factors</i>	<i>General influence on public expenditure</i>	<i>Possible impact of globalisation</i>
<i>Economic factors</i>		
Income	Income elasticity about one	No effect on expenditure as % of GDP
Demographics	Expenditure rises with ageing	No effect of globalisation
Welfare needs	Expenditure rises with poverty and inequality	May significantly increase expenditure
Cost of production	Expenditure rises with input prices	Could reduce expenditure slightly
<i>Political factors</i>		
Political ideology	Expenditure a function of ideology	Impact important but ambiguous
Political discretion	Expenditure a function of discretion	Could reduce expenditure
Public officers’ discretion	Expenditure a function of discretion	Minimal impact
Interest groups	Interest groups raise expenditure	Could increase expenditure

Schulze and Ursprung (1999) surveyed seven studies of government expenditure, including three that incorporate political and economic factors as independent variables (politico-economic models) and four that focus on economic factors (apolitical models). They reported that, in the former models, it is often difficult to separate the impacts of market integration and politics. Garrett (1998) found that a combination of globalisation and left-wing power was associated with increased public expenditure, especially at high levels of globalisation, but that the separate influences of globalisation and politics are not clear. Swank (1997) found that capital market integration was associated positively with public expenditure in countries characterised by high corporatism (e.g. Norway, Sweden), high central authority (e.g. Denmark, Finland) and high consensus democracy (e.g. Belgium, the Netherlands).

Early apolitical models focusing on economic factors found that public spending was usually associated positively with market integration. Quinn (1997) found that capital market integration usually increased government share of expenditure. Rodrik (1998) and Garrett (1998) found that government spending rose as a share of GDP with openness to trade. However, Gemmell *et al.* (2008) found that no clear relationship between government expenditure and globalisation. Overall, the compensatory demand for more social insurance programs and expenditure due to globalisation appears to be broadly offset by efficiency factors that tend to reduce government expenditure. Governments can accommodate the compensatory demands despite the constraints on taxation due to more mobile factors. However, the net impact is broadly neutral.

Composition of government expenditure. It follows that globalisation is likely to change the composition of government expenditure with an increase in social security expenditures, especially personal transfer payments. In most countries, transfer payments have risen as a share of both GDP and government spending since the 1970s. However, this may have reflected increased welfare needs or changes in the political views of governments independently of global economic forces. Econometric studies are needed to separate out the influence of market integration and other factors.

Based on their review of such studies, Schulze and Ursprung (1999) concluded that market integration has led to higher social security expenditures. Quinn (1997) found that financial integration increased welfare and security payments. Rodrik (1998) found that trade integration increased most forms of government spending, including spending on health, education and social security. In a more recent study, Gemmell *et al.* (2008, p. 168) found:

strong support for the compensation hypothesis on the mix of spending. Increases in globalisation measured by a country's stock of inward FDI are associated with a shift away from productive expenditures such as education and transport and communications and towards social welfare and public services spending.

Globalisation and Government Policies

Finally, how is globalisation likely to affect public policy? Some effects result from technology. Others arise from government agreements that are necessary for the international conduct of business. While technology both constrains and empowers government, international agreements are mainly constraints. Nevertheless, a key message is that most governments retain substantial autonomy over the policy spectrum.

Technology impacts. The volume and mobility of short-term capital, along with modern communications, make it very hard for governments to control cross-border capital movements as they did routinely between 1945 and the late 1970s. With free capital movements, governments cannot set both interest rates and the exchange rate. Regarding fiscal policy, if a government adopts budget deficits that financial markets judge inflationary

and likely to produce exchange rate depreciation, capital flight will raise interest rates and trigger a fall in the exchange rate. Therefore, globalisation of financial markets has simultaneously increased the need for financial regulation and deprived governments of some policy autonomy. This was evident in the Asian financial crisis in the late 1990s (see Box 34.2) and even more strongly evident in the global financial crisis that started in late 2007 and ran for several years. Of course, markets have always punished unsustainable policies such as over-valued exchange rates or persistent large budget deficits. What is new is the strength and speed of the punishment.

Modern factor mobility and communications have also reduced the capacity of governments to regulate the economy in other ways. Policy making implies a capacity to coerce from which the subject bodies cannot escape. Today, if the return on investment is capped by price regulations, capital investment goes overseas. For example, in the early 2000s price regulations encouraged the Australian Gas Light Company to redirect capital investment from Australia to New Zealand. If regulation constrains profits, it may also discourage entry into the market. Another area of greatly reduced government power is information regulation. It is extremely difficult to regulate the information or entertainment (including pornographic 'entertainment') that individuals may receive.

On the other hand, in some policy areas, such as competition policy, there is less need for regulation. Globalisation generally increases competition and reduces market failures associated with lack of competition. In the past there were many natural local monopolies in communications, construction and transport in Australia. These are now more contested markets. Written and oral communications that used to be the natural monopoly of the postal or telephone service are now possible by numerous electronic means. Telephony is a highly competitive industry requiring less regulation than was traditionally required.

Moreover, government has gained powers from technological advances. Computers have greatly increased government's capacity to hold or discover information on individuals. Governments can readily monitor traffic speeds. Genetic screening enhances government's capacity to provide improved health services and to detect criminals. Although technology is conceptually different from globalisation, it would be perverse to count only the reductions in government powers associated with technology-driven globalisation and to ignore how technology has increased the power of government in other ways.

International issues. International treaties are the basis for international action on matters of global concern. Australia is a signatory to over 900 international treaties. Global political concerns influence the use of labour and natural resources. Rules governing labour, for example child labour, are driven by international concern for human rights.⁸ Rules governing the use of resources are responses to market failures connected with global public goods and externalities.

Box 34.2 Financial markets and the Asian meltdown in 1997

The rapid capital flight from Asian countries and the crash in exchange rates in 1997 showed that globalisation of financial markets (free capital flows) is not compatible with highly regulated domestic financial markets and fixed exchange rates. All the countries mainly affected by the meltdown, Indonesia, Malaysia, South Korea and Thailand, had regulated

financial markets and fixed exchange rates. On the other hand, none of those countries had adequate prudential supervision of their banks and other financial institutions and none had a legal framework that allowed creditors to realise on the assets of bankrupt borrowers. The meltdown was a consequence of these poor regulations.

⁸ The International Labour Organization, based in Geneva, is the main international agency responsible for labour.

International agreements on endangered species, whaling activity, and the use of resources in Antarctica are examples of semi-successful policy responses to market failures. It remains to be seen whether international agreement will be as effective on climate change.

Any government that wants good relations with other countries must accept some limitations on its ability to act autonomously. Certainly, international bodies have weak powers to enforce international agreements. Enforcement often depends more on the sanctions applied by other signatories of the treaty. However, the Australian High Court has ruled that Australian laws are invalid if they conflict with United Nations treaties entered into by the Commonwealth government. These treaties empowered the Australian government to stop construction of the proposed Franklin dam in Tasmania and the flooding of world heritage areas and to limit commercial activities around the Barrier Reef.

The importance of trade has also led many countries to cede power over trade restrictions to supra-national agencies such as the WTO. Global market integration requires global rules and adherence to these rules. Supra-national organisations are needed to deal with non-cooperative behaviour, such as tariffs which reduce the general benefits of trade. Access to the international benefits depends on agreeing to the international rules of trade. Inevitably, regulations over tariffs extend to equivalent non-tariff barriers to trade. Again, the WTO has little direct power and must rely on the will of independent nations for enforcement. In 1999 the WTO ruled that Australia's quarantine restrictions on salmon imports (a non-tariff barrier) contravened the rules of trade to which nearly all nations have agreed. Australia did not have to remove the restrictions, but if it failed to do so it would face sanctions from countries whose exports have been affected. International economic unions, such as the European Union, or free trade agreements, such as the North American Free Trade Association, are other ways in which countries agree to forgo national autonomy to gain the benefits of increased trade, specialisation and economies of scale. Australia and New Zealand have a free trade agreement which aims to integrate the two markets.

In summary. Integrated economic markets put pressure on national governments to bring their economic policies into line with those of other countries and restrict a government's macroeconomic and microeconomic policy options. The strength of the tendency towards policy convergence depends on a country's share of global trade and capital flows and its size. Small open countries that rely heavily on international trade and capital are under more pressure to adjust policies to meet market expectations. But in the global financial crisis even large countries, such as the United States, and major economic groupings of countries, such as the European Union, found their autonomy to set policies restricted by their capacity to attract international capital.

However, globalisation has not prevented governments from conducting policies consistent with their ideological stance. Governments can still determine the level and pattern of public spending. Governments often adopt compensating mechanisms to offset the distributional effects of globalisation. Also, technology has increased government's power to monitor and regulate its citizens in various ways. Democratic institutions and party ideologies remain important in shaping public policies. As I observed in previous editions of this book, in 2004, 2008 and 2012, "globalisation is not about to eliminate the nation state". As Brexit and America First have shown, this is even more true in 2018.

Summary

- Globalisation means the worldwide integration of markets. It is characterised by knowledge transmission, a global capital market, international production systems and international trade.
- It is driven by technological change that reduces distance costs. It may be promoted or hindered by public policy.
- Globalisation allows producers to specialise in their comparative advantage and achieve economies of scale, allows capital to be employed in the most productive opportunities, increases competition and reduces prices.
- Globalisation has contributed significantly to reduce the number of people in poverty around the world, especially in more open economies. Open economies have had significantly faster rates of economic growth than closed economies.
- The main beneficiaries from globalisation are exporters and consumers. The main losers are uncompetitive businesses. In terms of labour, the main winners are usually skilled workers in developed countries and low wage workers in open developing countries. The main losers are less-skilled workers in developed countries.
- On a worldwide population basis, globalisation has most likely reduced inequality. However, it has significantly increased income inequality in many developed countries.
- Globalisation constrains government revenue by creating tax competition, which puts downward pressure on tax rates on mobile factors, such as capital and high-skilled workers. However, taxes on consumption have risen.
- In part to offset the unequal impacts of globalisation, governments have increased compensatory public welfare spending.
- Reflecting the revenue constraints on the one hand and compensatory expenditure on the other hand, total government expenditure has stayed an approximately constant percentage of GDP.
- Integrated economic markets put pressure on governments to align their economic policies with those of other countries and restrict their macroeconomic and microeconomic policy options.
- Nevertheless, nationalism is very much alive. Most governments retain a high degree of policy autonomy.

Questions

1. In the words of Adam Smith, 'it is the maxim of every prudent master of a family, never to attempt to make at home what it will cost him more to make than to buy'. Explain how the theorem of comparative advantage is an application of this maxim.
2. Mercantilists argued that exports increase a country's wealth whereas imports reduce it. Why is this view of the economy misleading?
3. According to Benjamin Franklin, 'No nation was ever hurt by trade'. Is this true?
4. What are the main features of globalisation? Can these features be measured? Is it possible to generate a robust single measure of globalisation?
5. Australia and the United States have signed a bilateral free trade agreement. Are all such moves towards free trade always beneficial? What are likely to be the main efficiency advantages and disadvantages of this proposed agreement? Can these advantages and disadvantages be quantified?
6. What problems arise in trying to determine whether globalisation affects economic growth?
7. Why do open economies tend to grow faster than closed economies? Given your answer, should governments ever put restraints on openness?
8. How is globalisation likely to affect the main tax rates for mobile and immobile factors of production?
9. What are the advantages and disadvantages of international corporate tax competition? Overall, is this competition desirable?
10. Globalisation may both reduce global inequality and increase inequality in rich countries. True or false? If true, is this desirable?
11. How does globalisation influence government expenditure?
12. Economists generally argue that government should work with market forces rather than work against them. Is this also true of global economic forces?

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