29 THE BALANCE BETWEEN MARKETS AND INTERVENTION

29.1 Markets and intervention: the debate continues

Not all development requires government intervention. In Nepal, local women access credit through local banks.

Role of government in the microeconomy

From the early chapters in this book, we have examined the impact of government intervention in the free market. From the loss of welfare that results from price controls to the dead weight loss of excise taxes and subsidies, government intervention in the free market tends to reduce overall efficiency in a market, leading to either an over- or an under-allocation of resources and a net loss of consumer and producer welfare. In its attempt to help consumers or producers, a government ultimately harms society as a whole when it picks winners and losers in the nation's economy.

The exception to the general rule that government intervention in free markets reduces overall welfare is when government intervenes in a market in which resources are inefficiently allocated when left alone. Government may be able to increase overall welfare in society by regulating the production or consumption of:

- demerit goods (those which create negative externalities through their production or consumption and so are over-provided by the free market)
- merit goods and public goods (those which create positive externalities through their consumption or production and so are under-provided or not provided at all by the free market).

In the case of public goods, government may simply provide them in lieu of the free market.

The role of government in the provision of particular goods that improve the well-being of the nation's people, particularly merit goods such as education, health and infrastructure, must be examined to determine the extent to which government intervention improves on or interferes with the nation's economic development.

Role of government in the macroeconomy

In macroeconomics, there is no consensus among economists with regard to the extent of government intervention necessary to make a national economy function efficiently at its full employment level. The issue of the government's role is the subject of debate between two competing schools of economic thought:

- the demand-side, Keynesian school
- the neo-classical, supply-side school.

Keynesians believe that the overall level of economic activity in a nation is determined by the level of aggregate demand (AD) and that government should play an active role in regulating the level of demand to meet the macroeconomic objectives of full employment, price stability and economic growth.

Neo-classical economists, on the other hand, believe that any attempt by government to manage demand results in a misallocation of resources and reduces the efficiency and ability of the free market economy to correct itself in times of high inflation or high unemployment. Therefore, argue the neo-classicals, the government that governs best is that which governs least. Leave the economy be, argues this school of thought, and the demands of consumers in society will be most efficiently met through the market mechanism and the pursuit of profits by firms.

Can anyone truly know what is 'good' and what is 'bad'? To what extent can government policies improve on the behaviour of free-willed individuals in sociey?

Role of government in the international economy

Much like government intervention in individual markets within a country, government intervention in the free trade of goods and services between nations generally reduces overall welfare and efficiency in the long run. Interventionist policies include:

- protectionist tariffs and quotas
- subsidies aimed at improving the competitiveness of domestic producers in international markets
- exchange rate manipulation aimed at making one country's goods more attractive to foreign consumers or at making imported capital goods more affordable to domestic consumers.

Of course, this does not keep governments from regularly intervening in the functioning of the free market. And in some cases, government intervention has improved the welfare of the people; for example:

- by increasing employment and income through exchange rate controls (China's export-fuelled economic growth of the last two decades)
- through state sponsorship of domestic industries that with government support have achieved economies of scale and cornered the market in several key global industries (heavy industries in South Korea and Japan).

Government intervention in the free market has certainly benefited the economic superpowers of the 21st century, from Germany's export-driven economy, to China's state-run enterprises, and the American defence industry, which will receive $80 billion of government spending on research and development in 2011.

29.2 Market-oriented and interventionist policies

Learning outcomes

- Discuss the positive outcomes of market-oriented policies (such as liberalized trade and capital flows, privatization and deregulation), including a more efficient allocation of resources and economic growth.
- Discuss the negative outcomes of market-oriented strategies, including market failure, the development of a dual economy and income inequalities.
- Discuss the strengths of interventionist policies, including the provision of infrastructure, investment in human capital, the provision of a stable macroeconomic economy and the provision of a social safety net.
- Discuss the limitations of interventionist policies, including excessive bureaucracy, poor planning and corruption.

The need for government and the free market

The fact is, without any government at all, many of the goods and services that society truly needs would be under-provided by the free market. In addition, without the watchful eye of government regulators, firms with only their private costs and benefits in mind would surely over-produce many of the goods that in fact are very harmful for human health and the environment.

Despite what the most ardent free market advocates believe, there is an important role for government in any economic system. While the majority of the goods and services households demand can be provided efficiently by the free market, many of the goods necessary to promote long-run, sustainable economic development and growth must be provided by, or at the very least supported by, the government.

In this chapter, we examine in detail the delicate balance in today's world between the free market and the government, focusing on economic development.

- On the one hand, to what extent is it within the power of the free market to increase the standard of living by improving health, education, and the availability of consumer goods and services (all measures which form the basis for economic development)?
- On the other hand, to what extent can government promote development through its own policies and interventions in a nation's economy?

W To learn more about free markets, visit www.pearsonhotlinks.com, enter the title or ISBN of this book and select weblink 29.1.

There is no easy answer to these questions, and the best we can hope to achieve is some guidance on how to evaluate the roles of government and the free market in promoting sustainable, achievable economic development.

Market-oriented *vs* interventionist policies

A market-oriented growth and development policy is generally any policy that requires little or no role for government in promoting economic development through the unregulated activities of the free market. Individual consumers and producers interact with one another free of government intervention, regulation or control. Market-oriented development policies often require the deregulation or privatization of state-owned enterprises, handing the production of certain goods and services to private businesses. These seek to maximize their profits through the provision of their products to the rest of society, and thereby provide society with goods and services that improve human welfare.

In the context of economic development, we must examine the effectiveness of private enterprises at providing the goods needed to promote improvements in human welfare: healthcare, education and infrastructure.

To access Worksheet 29.1 on fair trade, please visit www.pearsonbacconline.com and follow the onscreen instructions.

Since the decline of the Soviet Union in 1991, the formerly communist nations of Eastern Europe have undergone the greatest period of privatization of state-owned enterprises in history. Whereas for most of the 20th century, most consumer goods and services were provided by the state, beginning in the 1990s and continuing through the 2000s, private industry has taken over the provision of countless essential (and non-essential) products for these nations' consumers.

Strengths of market-oriented policies

Privatization and deregulation

The major argument for privatization and deregulation of industries previously managed or regulated by the government is that the incentives of a private firm will always be to reduce costs, achieve efficiency, and provide a quality product to consumers.

In contrast, it is believed that when important services are provided by the government, the incentives do not always align with the goals of efficiency and meeting the demands of consumers. When government attempts to provide goods such as education, health and basic utilities (water, sanitation, electricity), there is always the possibility that corruption, bureaucratic red tape and misaligned incentives will result in wastefulness. This in turn will reduce the likelihood that these essential goods will be provided in an efficient manner that meets the nation's development goals.

The trade-off between efficiency and equity (fairness) is at the core of the debate over whether the government or the free market best promotes development through the provision of these goods. While a state-run enterprise providing an essential good (e.g. water) to a nation's citizens may aim to provide services in a fair and equitable manner, it is likely that it will fail to provide its services in a low-cost, efficient manner. The objectives of efficiency and equity are not easy to achieve together.

Improved efficiency in the provision of public goods

One way to analyse the effects on efficiency of a market-oriented approach to providing goods that improve human welfare is to apply the microeconomic models which examine marginal benefit and marginal cost of a particular good (Chapter 6).

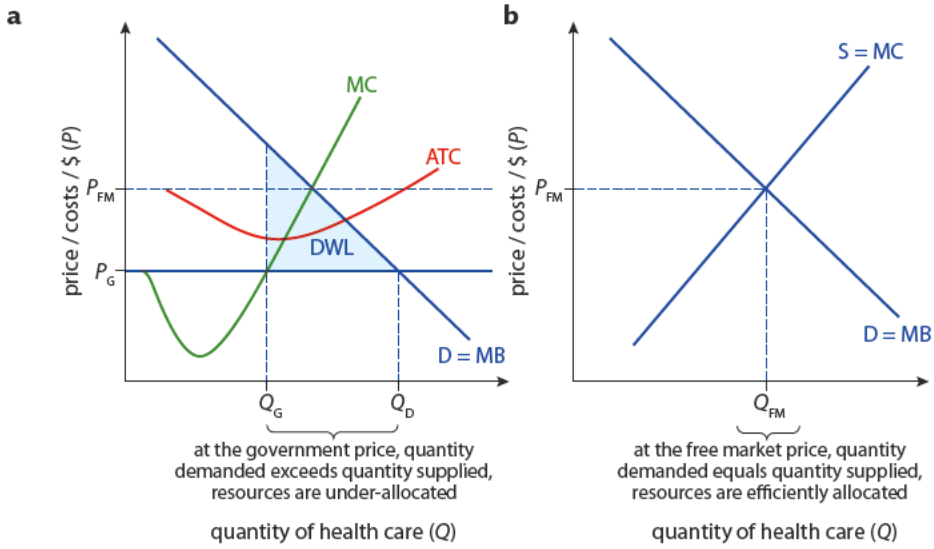
Let's consider Ukraine. This country is undergoing a transition from government-provided healthcare (a guaranteed benefit under the Soviet Union, of which the Ukraine was a state until 1991) to a free market for healthcare. Today, Ukraine has a dual healthcare system: a publicly funded service available to all citizens, and a private health system available to those willing and able to afford private insurance premiums. The state-run health programme is subject to price controls determined by government policies aimed at

Beds line a hallway inside a public hospital in the Ukraine.

making healthcare affordable to all Ukrainian citizens. On the other hand, in the market for private healthcare, hospitals and clinics are allowed to charge consumers higher prices, and thus the providers are willing and able to supply a greater quantity of healthcare than the public system.

Figure 29.1 shows Ukraine's transition from a regulated, national healthcare monopoly to a more competitive, private healthcare system.

Figure 29.1 Ukrainian healthcare. **a** Under government provision; **b** under competitive free market provision.



Under the government-provided healthcare programme, the state-run hospitals essentially held a monopoly on healthcare in Ukraine. The state-run monopoly was not able to charge the price it would have set under a free market system (P_{FM}), since the goal of equity required a lower price (P_G). However, because the government system was under-funded, the quantity demanded (Q_D) far exceeded the quantity supplied (Q_G). The result was a shortage of healthcare for the Ukrainian people and a large loss of welfare (blue triangle, DWL, dead weight loss).

The government's goal of equity, supposedly achieved by keeping healthcare prices low, conflicted with the economic objective of efficiency, since without large enough subsidies from the government, the public healthcare system operated at a level at which it actually earned economic losses (at Q_G and P_G, the average cost of healthcare is greater than the price). Ultimately, the inefficient public healthcare system also failed to achieve equity in the provision of a good vital to human welfare. Misaligned incentives and the inability of the price mechanism to allocate resources efficiently created an environment ripe for corruption.

The question was, then, what would happen if the provision of healthcare in Ukraine were completely turned over to the free market? In fact, just such a transition has been underway over the last two decades.

Through a system of healthcare privatization, hundreds of private health clinics have opened up in Ukraine serving customers who are able to afford private health insurance or are able to pay directly for medical services themselves. The incentives of a private health clinic do not lie in making healthcare affordable to all Ukrainians, but rather in maximizing their own profits. At first, this may appear less desirable for the Ukrainian healthcare consumer, but on close inspection it is apparent that despite the higher price of healthcare under the privatized free-market system, there is a significantly greater quantity of healthcare provided (Q_{FM} compared to Q_G) than under the government system.

In addition, assuming the private market for healthcare is competitive, the dead weight loss (efficiency loss) under the government system is reduced or eliminated when the market is privatized. The quantity of healthcare demanded has fallen under the free-market system because the prices charged by private clinics are higher than the prices set by the government. However, the quality and the quantity of care provided has increased because private hospitals and clinics are able to charge a price that reflects the true market demand and supply of healthcare.

To learn more about public goods, visit www.pearsonhotlinks.com, enter the title or ISBN of this book and select weblink 29.2.

Each individual in society is responsible for taking care of his or her own health. Therefore, healthcare should be considered a purely private good. In the world around you, what evidence is in support of arguments for and against this idea?

The price mechanism works, price controls don't

As the situation in Ukrainian healthcare shows, price controls in a market for a good essential to human welfare lead to shortages. Price controls are a standard method of government intervention that is supposed to help either the consumers or the producers of essential goods. Governments may attempt to increase equality and help those who need help most by using price ceilings in the markets for essential goods such as food or fuel.

The problem with such intervention is that a price set by a government means nothing in a market economy. Prices set lower than those that would be determined by the market lead to shortages; price floors set above equilibrium lead to surpluses.

Of course, consumers who are able to get the essential good (often food or fuel) at the official prices are certainly better off than if they had paid the free market price, but the unfortunate truth of price controls is that very few people are able to buy the desired good at the government's price. As a result of prices set below equilibrium, black markets emerge in which consumers buy the good at a price much higher than that set by the government.

In 2014, the new government of Venezuela, led by President Maduro, announced price control laws in an attempt to halt rising prices and food shortages. The new measures followed a decade of price controls under former President Hugo Chavez to introduce 'fair prices', with devastating consequences.

Queues snake around the state-run supermarket as people wait for hours to buy staples like rice and milk, and basic hygiene products like toilet paper. But the shelves are empty – stripped by the 'fair prices' that have made the cost of importing food too expensive and the lure of the black market too tempting.

New laws promise clampdowns on the hoarders, on those who overcharge and on the food traffickers who smuggle subsidised essentials over the border to Colombia.

But it is the black marketers who thrive – ordinary Venezuelans forced to turn to the buhoneros (street peddlers), paying prices vastly inflated above the government's price ceilings. The result is scarcity and hunger – the two devils 'fair prices' were meant to slay.

Adapted from various news sources, 2014

Empty shelves and frustrated customers.

This story is one of inefficiency of government intervention in the free market. Venezuela was facing extreme shortages of basic foodstuffs and other goods that were intensified by the government's attempt to maintain fair and reasonable prices. But as a result of its interventions, the welfare of the Venezuelian people was made far worse than it would have been had prices been allowed to rise. The rising prices would have incentivized producers of food, medical supplies and essential primary commodities to increase their production to reap the rewards higher prices would have promised. But in the absence of a

Examiner's hint

Price controls make an excellent topic for an IA commentary. Governments try to control more prices than you might immediately realize. In addition to key products like food and fuel, governments regularly intervene in markets for items ranging from tuition for universities to rents for inner-city apartments and electricity, gas and water utility rates. In almost every case, attempts at improving equity by controlling prices leads to shortages or surpluses of the goods in question. The subject offers an excellent topic for analysis and evaluation in a commentary.

functioning price mechanism, the market economy simply could not work, and despite the government's good intentions, Venezuelans suffered.

A similar attempt at government price controls took place in China in 2007 when the world price of oil reached its all-time high of $150 per barrel. In an attempt to keep fuel affordable for Chinese households and businesses, the government in Beijing imposed strict price controls on diesel and petrol. The outcome was predictable for anyone familiar with the way markets are supposed to work.

China has been forced to reverse its policy of controlling the price of oil after its fuel cap brought long queues and rationing to filling stations across the country.

In the wake of a record surge in global oil prices, the government announced in September that it would intervene to keep fuel prices at current levels amid fears of their impact on already record levels of inflation. But just two months later Beijing has ordered a U-turn and raised prices in an attempt to alleviate the supply crisis that has gripped much of the country.

The fuel cap prevents Chinese oil refiners from passing on rising crude oil costs to consumers, but the lower fuel prices has led to increased demand from consumers while incentivising the refiners to scale back production to limit their losses. The government's relaxation of its fuel price controls is intended to encourage refiners to increase supply in the hope of shortening the long queues of trucks waiting to fill up that have become commonplace across many parts of China.

Despite the increase in fuel prices, state-run refiners such as Sinopec witnessed dramatic knock-on effects as profits slumped 77% in the first six months of 2008.

Adapted from various new sources, 2007 and 2008

It is ironic that one of the consumers supposed to benefit from government price controls seems to favour the efficiency of the free market over the equity of government control. The price mechanism is one of the greatest attributes a market-oriented approach to economic development and growth offers. Without the signals and incentives made clear by a functioning system of prices, government has no hope of providing human welfare-improving goods and services more efficiently than the free market.

Improved efficiency in the international flows of goods, services and capital

Beyond the gains in efficiency resulting from the privatization of vital industries that relate to economic development, a market-oriented approach to international trade policies also has a beneficial effect on efficiency and resource allocation that may improve the level of development for a nation's people.

Economist Milton Friedman once declared 'We economists don't know much, but we do know how to create a shortage. If you want to create a shortage of tomatoes, for example, just pass a law that retailers can't sell tomatoes for more than two cents per pound. Instantly you'll have a tomato shortage. It's the same with oil or gas.'

In Chapter 27, you learned about two strategies for economic development that require the use of protectionist policies to promote the development of domestic industries either among domestic consumers (import substitution) or among foreign consumers (export promotion). Under import substitution, the government must erect barriers to trade that make foreign produced goods less attractive to domestic households in a developing country. Consumers then substitute domestically produced goods for the imports they might otherwise have consumed. Under export promotion, domestic industries of interest to the government receive large subsidies that would give them a competitive advantage over foreign competitors in international markets, growing the developing country's export sector, presumably creating jobs and income that otherwise would not exist for the nation's households.

While both policies at first appear to have merit, we must analyse again the effect on efficiency of such interventionist methods for promoting economic development.

Tariffs on imports (aimed at increasing demand for domestic goods) and subsidies (aimed at making domestic firm's products more attractive to foreign consumers) are inefficient in that they lead to an over-allocation of resources towards the goods the government decides the nation should produce more of.

Let's consider a decision by the government of Country V, a rice-producing nation, to impose a tariff on all imported rice. The aim is to improve the welfare of the country's rice growers and reduce dependence on foreign rice. Assume that the world price of rice, P_W, is lower than the domestic price of rice in Country V, indicating that other countries are able to produce and export rise at a lower cost. Figure 29.2 shows the effect of such a tariff, a development strategy commonly employed by the governments of poor countries.

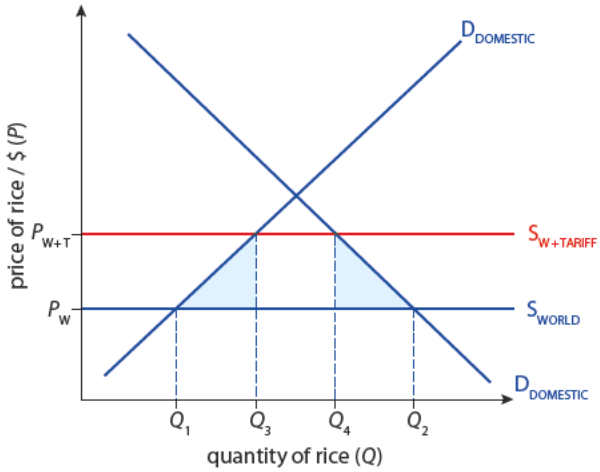


Figure 29.2
Protective tariffs lead to higher prices for essential commodities, reducing welfare of poor households.

The tariff on imported rice has the intended effect of increasing domestic rice output from Q_1 to Q_3, but has it improved the level of economic development in Country V? It is more likely that the average Country V citizen is worse off because of the tariff on rice. The two blue triangles in Figure 29.2 represent the loss of total welfare, in this case of consumer surplus, in Country V. Since good nutrition and affordable food are indicators of economic development, the higher price of rice, meant to help Country V's rice farmers, in the end makes the citizenry as a whole worse off. Economic development is actually hindered due to a protectionist import substitution policy aimed at promoting economic development.

Export promotion policies for economic development also demonstrate the inefficiency of government intervention and the limitations of government at promoting economic development. Export promotion policies are those which aim to make certain domestic industries more competitive in global markets, typically through the use of targeted government subsidies.

In the 1990s, Malaysia was experiencing rapid economic growth with the stated goal of achieving developed nation status in a very short period of time. *Vision 2020* was an ambitious government plan to make Malaysia the economic powerhouse of Southeast Asia by the year 2020. In order to achieve this goal, the Malaysian government believed it needed a large export sector, able to compete with its more developed Asian rivals, Singapore, South Korea, Taiwan and Japan.

The Malaysian government believed the nation needed a large exporting automobile sector in order to be a developed country. The government aimed to develop the country's automobile sector through an aggressive set of protectionist policies focusing on both import substitution and export promotion. Substantial tariffs were levied on imported

While import substitution and export promotion policies are generally thought of as inefficient, they have been used successfully by developing nations in the past. Japan, South Korea, Taiwan and Malaysia are all middle- or high-income Asian countries which, during their own periods of development, employed strategic protectionism to achieve national economic objectives that increased overall income and improved the welfare of the nation's people.

automobiles, sometimes as high as 100%, while the state-owned automobile company, Proton, received billions of Malaysian ringgit over two decades.

Protons on the assembly line in a Malaysian factory.

Malaysia car manufacturer Proton has announced an ambitious new five-year plan to massively boost exports in a drive to halt falling profits due to declining domestic sales.

The government-backed company hopes new models such as the Suprema S will prove popular with foreign consumers as it earmarks half of total volume for overseas markets. Proton currently sells to over 20 countries but its sales lag at below 5%.

Proton's share of the Malaysian car market dipped below 25% in 2013 as sales stalled, while exports have also slumped in recent years, with only 6,000 units sold in 2013 compared to over 16,000 in 2011.

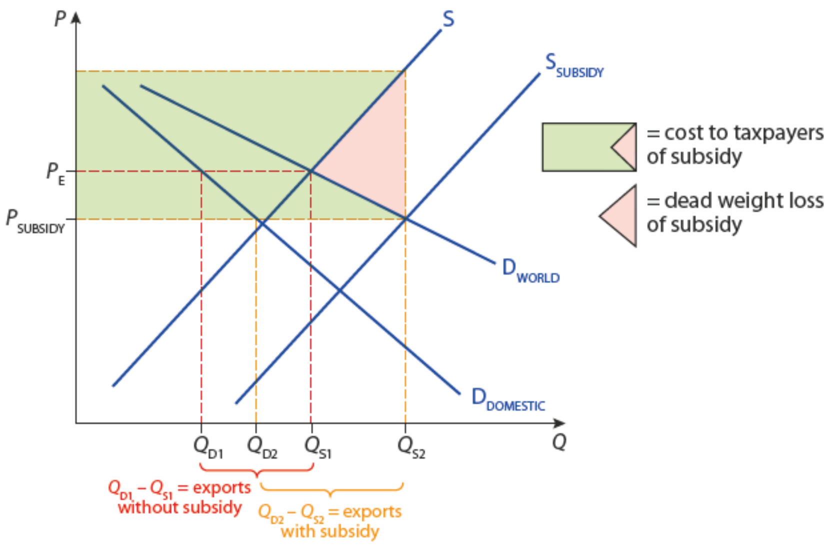
The Malaysian government, however, remains committed to bucking this downward trend.

"Although running at a loss, Proton will continue to export its models to create future markets," trade minister Mustapa said.

Adapted from various new sources, November 2013 to April 2014

Figure 29.3 is a subsidy diagram (Chapter 5) which we can use to analyse the effects on efficiency and total welfare in the Malaysian car market, and to evaluate the use of export-promotion as a strategy for economic development.

Figure 29.3
Malaysia's automobile market with and without subsidies: subsidies for domestic producers impose a greater cost on society than the benefit created.



It is clear from Figure 29.3 that the government's effort to promote the export of cars is causing over-allocation of resources to the automobile market.

World demand for Malaysian cars is greater and more elastic than domestic demand, since the world market includes consumers in China and India who have a wide selection of cars produced all over the world to choose from. Without subsidies, Malaysia would export Q_{S1}–Q_{D1} cars to the rest of the world at price P_E.

However, under the government's policy of export promotion, Proton receives billions in subsidies, increasing the supply of Malaysian cars to $S_{SUBSIDY}$ and reducing the price to $P_{SUBSIDY}$. The greater supply and lower price of Malaysian cars leads to an increase in the quantity of Protons demanded by Malaysian consumers to Q_{D2} and the quantity demanded by the rest of the world to Q_{S2}–Q_{D2}. Malaysian car exports increase, Proton's revenues rise and employment in the Malaysian car industry grows.

But has the government's policy of export promotion led to an overall improvement in the welfare of the Malaysian people and therefore promoted economic development? To answer this question, we must look at the overall cost to society of increased car exports and compare it to the benefit the policy added.

The cost to the Malaysian taxpayer to achieve the government's objective of greater car exports and thus a stronger industrial sector is clearly greater than the added benefit to the Malaysian economy. The cost of the subsidy (the distance between the S curve and the $S_{SUBSIDY}$ curve multiplied by the quantity of cars produced Q_{S2}) represents Malaysian households' tax money that was given to Proton to increase the supply of cars in Malaysia.

The benefit to Proton of increased sales and lower costs plus the benefit to Malaysian households of lower prices for Protons is represented by the green area in Figure 29.3. But the total cost is shown by the green and pink areas. The deadweight loss represents the difference between the amount of Malaysians' taxes spent on the subsidy and the added benefit the subsidy provided to the Malaysian people. Therefore, we can conclude that the total cost exceeded the total benefit in monetary terms.

But what was the opportunity cost of the government's decision to promote the export of automobiles? This requires us to consider what could have been provided to Malaysian households with the tax money that went to the car industry. Economic development requires improvements in human health, education and access to life-improving goods and services; the cheaper cars resulting from the subsidy clearly fall short of these goals.

Malaysian households would have benefited more in economic development terms if their tax money had gone towards improving the Malaysian education system, building more hospitals, training more doctors or providing access to sanitation to the poorer parts of Malaysia. These are just a few examples of what government could have done to bring more economic development to Malaysia than its decision to promote the export of Protons to China and India.

Market-oriented policies: many strengths

Whenever a government influences the allocation of resources through the use of price controls, tariffs or subsidies in a market for consumer goods the outcome is always suboptimal for society as a whole. In the case of protective tariffs, consumers of the protected good are harmed at the expense of increased domestic production. In the case of a subsidy aimed at promoting exports and growing a nation's manufacturing sector, the nation's people are also negatively affected because taxpayer money going to support the government's favoured industry could instead have been used to provide public goods such as education and healthcare, both of which are under-supplied by the free market.

In all the examples we have looked at here, government intervention resulted in less allocatively efficient levels of output than would have been achieved by the free market. Free trade, on both the micro-level and the international level, eliminates inefficiency as competition forces producers to allocate resources efficiently towards the products most in demand domestically and internationally.

Should we, therefore, conclude that the government should always keep its hands out of the market and let private firms pursue their profits and thereby allow the needs of society to be met entirely by the free market? Unfortunately, as we now know, free markets often fail to achieve allocative efficiency on their own. We must, therefore, examine the situations in which government intervention may actually improve on the allocation of resources achieved under the market system.

Weaknesses of market-oriented policies

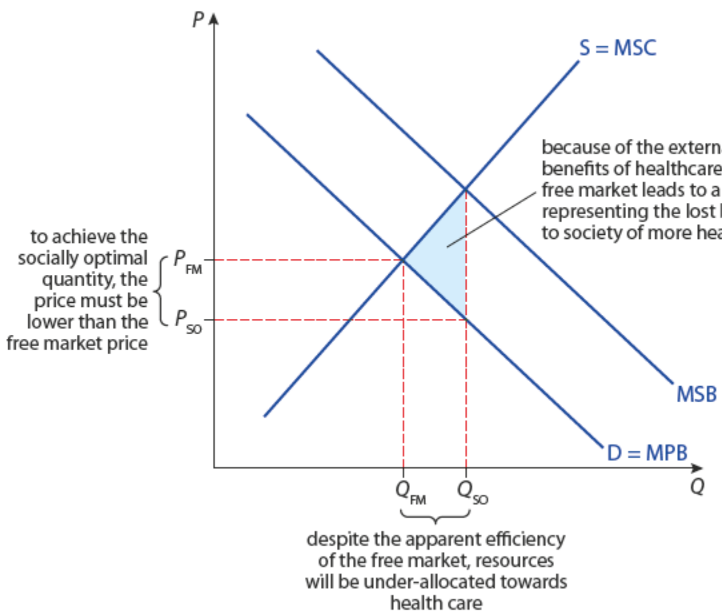
To understand when it is beneficial for the government to intervene in the markets for certain goods and services, we must look more closely at a market for a merit good such as healthcare. In Ukraine, we saw that under a system of government price controls, there was an under-allocation of resources towards healthcare. Privatizing and deregulating the healthcare market, it was assumed, would eliminate the inefficiency of government provision because the higher prices attracted more healthcare providers and reduced the quantity demanded until it equalled the quantity supplied.

But such a simple analysis overlooks that fact that healthcare is a merit good – one that creates positive benefits for society when consumed by private individuals. A healthier population makes for a more productive workforce and thus generates greater income and employment opportunities for the nation as a whole. Healthier parents are better able to raise children and provide them with a good education, which further improves the level of well-being of the population over time.

When left to the free market, however, a merit good such as healthcare in the Ukraine will be under-provided, much as it was under government provision, since the market fails to account for the external benefits of such a good when determining the price of healthcare and the quantity provided by private clinics. But the government also failed to account for these external benefits, and its meagre attempt to make healthcare available to the people through the use of price controls failed as well.

Figure 29.4 looks at the healthcare market in Ukraine under the assumption that the consumption of healthcare creates external social benefits that are not realized by the individual healthcare consumer.

Figure 29.4
The market for healthcare in the Ukraine: Because of the positive spillover benefits of healthcare, resources are under-allocated towards the good by the free market.



The analysis in Figure 29.4 seems to contradict our original conclusion that the free market results in greater efficiency than the government's attempt to provide healthcare. This would only be true if the marginal private and marginal social benefits of healthcare were the same – in other words, if there were not external benefits. But as with many goods whose consumption improves human welfare and thus promotes economic development (such as education and infrastructure), the external benefits of healthcare are only realized when the government intervenes in the free market to make it more affordable to consumers.

A price ceiling, however, is not enough, since it only intensifies the shortage that already exists by distorting the price signal to healthcare providers. What is needed in markets like that for healthcare in Ukraine is a complementary approach to promoting economic development: an approach involving both the efficiency of the price mechanism achieved through the free market and the watchful eye of a government aware that certain goods may be under- or over-produced without an active role for government.

29.3 Complementary approach: a market with government intervention

Learning outcomes

- Explain the importance of good governance in the development process.
- Discuss the view that economic development may best be achieved through a complementary approach, involving a balance of market-oriented policies and government intervention.

To promote economic development in a manner that respects the efficiency of free markets while simultaneously recognizing that in certain cases they fail to achieve the socially optimal level of output of human welfare-improving goods, governments should adopt a complementary approach to economic development.

The market mechanism involving demand, supply, and equilibrium price should be allowed to function, even in markets for goods such as healthcare. Government provision in Ukraine proved even more inefficient than when the market underwent privatization. But even the free market failed to achieve the socially optimal level of healthcare provision. Therefore, the role for government should be to assist the free market in achieving a socially optimal price and quantity for the good, through a combination of subsidies and price controls that respects supply and demand, rather than undermining it.

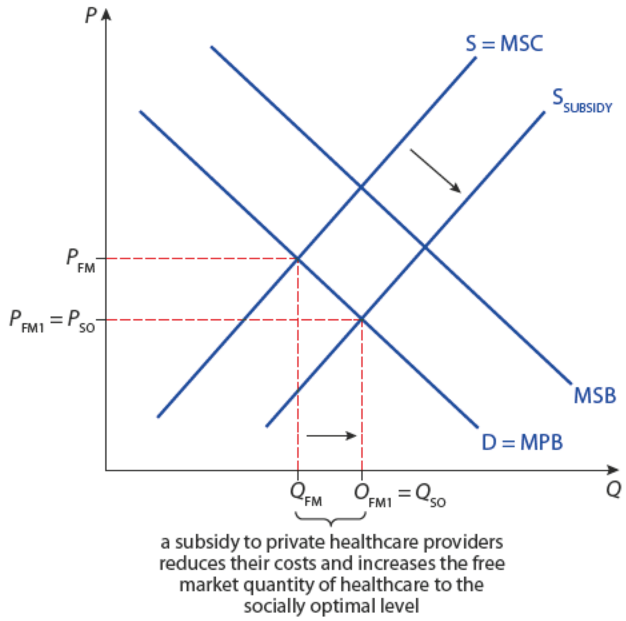
For example, a government policy that reduces the costs of private providers to the level at which they can provide healthcare at price P_{SO}, or a policy that increases the marginal private benefit to the level at which it intersects supply at Q_{SO} would correct the market failure using market mechanisms. Subsidies for healthcare providers or consumers would help reduce the dead weight loss in the Ukrainian healthcare market (Figure 29.5, overleaf).

This analysis points to the fact that government intervention in the market is not always inefficient. If done responsibly, recognizing the efficiency of the price mechanism and the interaction of supply and demand that underlies the functioning of a free market, government intervention can improve efficiency and welfare and thus lead a nation towards economic development.

But when undertaken irresponsibly, without paying attention to the importance of prices in determining the quantity of a merit good demanded and supplied, government provision of the goods and services important to development in a poor country can lead to an even greater misallocation of resources than under the free market.

The role of government in the market for healthcare is one of the most controversial issues facing some nations today. The US has higher healthcare costs than anywhere in the world, and nearly 1 in 6 Americans live without any health insurance coverage whatsoever. Even there, however, many oppose any government involvement in the market for healthcare, claiming that any intervention distorts incentives and reduces the quality and variety of services available.

Figure 29.5
Market for healthcare in Ukraine. A government subsidy increases the supply of healthcare and reduces the externality resulting from its under-provision.



Where government intervention is needed

When we recognize that certain goods simply cannot be provided at the level that is socially optimal by the free market, the need for a complementary approach to provision in which the government improves on the efficiency of the free market becomes clear. Market failures tend to exist in markets for goods without the provision of which a nation's economy is unlikely to achieve the objective of economic development. Besides healthcare, other merit or public goods without which a country would not achieve the objective of economic development include education, social safety nets and infrastructure.

Education

Without government support, education would be under-provided in many developing countries.

Education is a good with countless external benefits of consumption. When a nation educates its children, the nation's human capital is improved and they are more likely to grow up to become productive members of the workforce, contributing to the production of goods and services that benefit fellow citizens, and paying taxes that can in turn be used to provide more education to future generations.

Without government intervention in the market for education, resources would be vastly under-allocated towards schooling for the nation's youth. Most developed nations provide education as a benefit for all citizens to at least the secondary level.

Less developed countries (LDCs) can learn from the model that has successfully contributed to the economic growth and high living standards of Western European, East Asian and North American countries. A private education system has many benefits for a nation, but without the support of government, only the most privileged and richest members of society are able to improve their human capital to a level that leads to a higher standard of living. A publicly supported education system reduces inequalities in society and improves the well-being of all members of a nation.

Social safety nets

Social insurance is another area of the economy that would be inefficient without the presence of government. Social insurance includes those systems that transfer the risks of an individual becoming unemployed, disabled, or retiring without an income to society as whole. While markets for private insurance exist in most countries, the countries with the highest level of human development tend to have strong and stable systems of social safety nets.

A report prepared by the International Labour Organization in 2000 found that 75% of the 150 million people unemployed around the world lack any unemployment insurance protection. The report showed that the countries providing the most generous support to unemployed workers were Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden and Switzerland. These 14 countries provide unemployed workers with benefits averaging 60% of their last salary for more than one year following the loss of their job. This benefit allows workers and their families to maintain a suitable standard of living during their period of economic hardship while they have time to look for a new job.

Countries with medium-level systems included Australia, Canada, Ireland, Japan, New Zealand, the UK and the US. In these countries, fewer of the unemployed workers received benefits and the compensation provided was lower, averaging around 40% of salaries earned before being laid off.

In the countless countries not mentioned above, there are literally tens of millions of unemployed workers receiving no benefits whatsoever from the private or public sectors during their times of hardship. The total lack of any social insurance is an obstacle to economic development in a low-income country. The families of unemployed workers in a country without a social safety net suffer:

- children are more likely to go undernourished
- children are more likely to supplement the family income by working rather than going to school
- healthcare is out of reach for a family with no income.

This all tends to perpetuate poverty in LDCs and reduce the likelihood that human welfare will improve over time.

The International Labour Organization argues that social insurance could and should be used in LDCs to further promote development through government-guaranteed employment of those who lose their private-sector jobs. Such individuals could be put to work building projects that improve the nation's infrastructure, education and health systems. The costs of such programmes are far outweighed by the benefits:

Workers who are fortunate enough to be covered by unemployment benefits are mainly concentrated in industrialized countries. But for those who work in the rural or urban informal sectors in developing countries – including 750 to 900 million underemployed workers – hardly any unemployment protection exists at all.

... these groups of workers should be assisted through employment in labour-intensive infrastructure programmes – feeder roads, land reclamation, minor dams, wells and irrigation systems, drainage and sewerage, schools and health centres. Employment provided under such programmes can be organized so that workers can obtain an employment guarantee for a number of days per year ...

... social protection, even in the supposedly expensive forms to be found in most advanced countries, is affordable in the long term. It is affordable because it is essential for people, but

It may be the case that a very strong social safety net can reduce growth and development in a nation. In 2010, Denmark was forced to examine closely its system of benefits, which provides unemployed workers with up to 90% of their salary for up to four years following the termination of their employment. Such a generous benefit can create a disincentive to seek employment, which may slow the growth of a nation and reduce its competitiveness in the global economy.

To access Worksheet 29.2 on poverty alleviation, please visit www.pearsonbacconline.com and follow the onscreen instructions.

also because it is productive in the longer term. Societies which do not pay enough attention to security, especially the security of their weaker members, eventually suffer a destructive backlash.

International Labour Organization, 2000

Infrastructure

A nation's infrastructure includes more than its roads and railways, although such capital goods are also necessary for a nation to achieve economic development. Infrastructure includes telecommunications, transportation, and utilities such as sewage, running water, electricity and gas. When private firms are given control of a nation's infrastructure, the results can be detrimental to the nation's economic development and growth. Without government provision or subsidies to providers, such capital goods as electricity and water systems will be under-provided.

Lack of infrastructure, such as roads, poses an obstacle to economic development.

Certain types of infrastructure such as roads and railways, it could be argued, are in fact public goods. Very few private firms would find it economically feasible to construct highways across a poor, developing country, for instance. It would simply be too difficult to recover the costs of production through charging for the use of such a system of roads. Therefore, without government provision, such major capital investments would simply not take place.

On the other hand, certain types of infrastructure can be provided by the free market in a cost-effective, profitable manner. The market for cellular phone service, for instance, has been a hotly contested one in many developing countries. For instance, in the Democratic Republic of the Congo (DRC), a nation with one of the lowest Human Development Index rankings in the world, there were 5.9 million cellular service subscribers in 2007, representing 9.3% of the population. Of the four providers of cellular service in the DRC, only one (in fact the one with the fewest subscribers, Congo Chine Telecoms) was partially controlled by the DRC government. The three leading providers of this service, so vital to the nation's human development and economic vitality, were private multinational corporations.

CASE STUDY

Cellphones and electricity in Africa

Cellphones have led to huge improvements in the well-being of the rural poor all over the developing world. Cellphones provide poor Africans with:

the means to communicate, apply for a job, get product prices and availability, and access health information.

In some African countries the ability to transfer money has transformed lives. This is especially widespread in Kenya where over 60% of mobile owners use their device for money transfers. At a click, millions of Kenyans are bypassing the lengthy bank queues and making small transfers that would otherwise take hours to complete.

Adapted from www.pewglobal.org and the *Economist*, 10 June 2010

The ability of remote, poor communities to engage in economic activities across vast distances quickly and efficiently with a cellphone increases the incomes of the poor and empowers them as contributors to the economic well-being of the country.

While mobile phones and the network infrastructure needed to operate them have been sufficiently provided by the private sector, a much more basic, related good needed to operate the phones has been grossly under-provided. Many of the remote, rural communities that benefit most from cell phones are so far off the grid that they do not have even have access to the electricity needed to charge mobile phones. Ironically, the phones, provided efficiently by the free market, depend on electricity, which has historically been provided by government, but is currently under-provided in much of Africa. This poses problems for the rural poor in Africa:

Africa's 48 sub-Saharan countries have the same electricity generation capacity as Spain. But dilapidated infrastructure means as much as a quarter of even this capacity is unavailable, meaning power shortages and regular interruptions to supply. These outages are particularly acute away from the main urban centres.

Adapted from the African Development Bank Group, 2008

The inefficiency of having to spend hours or even days just to charge a cell phone poses an obstacle to the extent to which this technology can improve the well-being of those with access to it. The cost to the government of a rural African country of providing the most remote communities with electricity on the national grid is prohibitive. But it turns out the free market has recently come up with a possible solution to a problem traditionally solved by government infrastructure spending. Entrepreneurs have begun to provide the rural poor in Africa and other parts of the world with low-priced solar electricity units.

Manufactured cheaply in China, a solar electricity unit can be purchased in Africa for as little as $80. One unit provides enough electricity for a household to power several electric lights, a few common appliances and to charge electronics such as cellphones. The benefits enjoyed by households that have acquired such systems quickly outweigh the costs. The renewable electricity provided by solar panels has reduced poor families' dependence on increasingly scarce heating and cooking fuel, improved health and provided children with the ability to study under electric lights after dark, thereby improving the quality of education received.

Solar electricity and other such sustainable, low-cost methods of providing the rural poor with access to those goods traditionally provided by big, government infrastructure projects are still emerging. Markets have popped up around the developing world, but there is no reliable supply of resources to meet the ever-increasing demand of the hundreds of millions of poor households still living without electricity in the world.

CASE STUDY

Water in Bolivia

While the private sector is able to provide certain goods that improve human welfare efficiently and in a far more effective manner than the government, other merit goods are better left to the government to provide. If the very survival of the population depends on access to a particular good, such as safe drinking water, then handing the provision of such a good over to the free market could have dramatically harmful effects on human welfare. Privatizing goods traditionally provided by the public sector does not always lead to the most efficient or equitable outcome.

Protesters in Cochabamba, Bolivia demand lower rates for their water.

In order to receive an infrastructure development loan from the World Bank, the government of Bolivia agreed to privatize its water systems in late 1999. The rights to the water supply in Bolivia's third largest city Cochabamba were sold to the American corporation Bechtel. In January 2000 Bechtel suddenly restricted the supply of water to the city and increased the usage rates charged to residents. The impact this privatization had on the well-being of Bolivians is illustrated in the following extract from a report on what became known as the Cochabamba Water Revolt:

The World Bank had coerced Bolivia to privatize its water, as a condition of further aid. The new company, controlled by Bechtel, the California engineering giant, announced its arrival with a huge overnight increase in local water bills. Water rates leapt by an average of more than 50%, and in some cases much higher. Bechtel and its Spanish co-investor, Abengoa, priced water beyond what many families could afford.

The people demanded that the rate hikes be permanently reversed. The Bolivian government refused. Then the people demanded that the company's contract be cancelled. The government sent out police and soldiers to take control of the city and declared a state martial law.

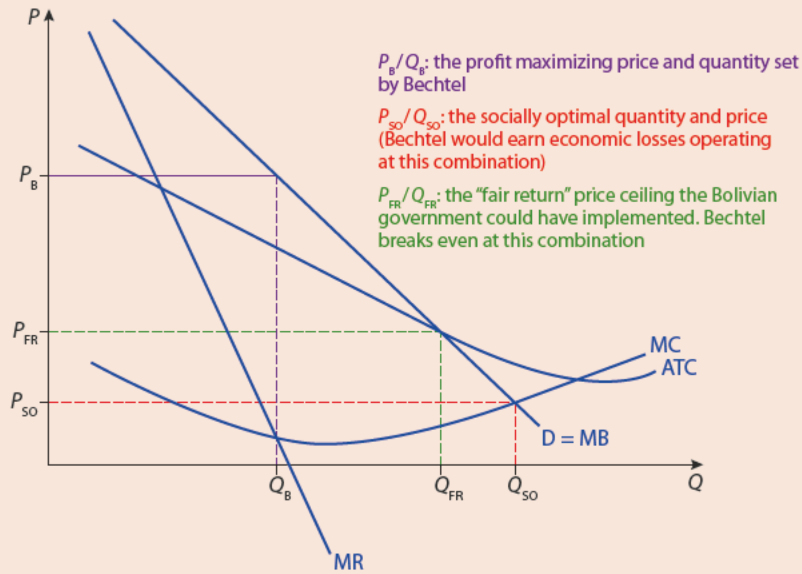
In the face of beatings, of leaders being taken from their houses in the middle of the night, of a seventeen-year-old boy being shot and killed by the army – in the face of it all, the people did not back down. In April of 2000, Bechtel's company was forced to leave and the people won back control of their water.

WW4 Report, 2006

A profit-seeking firm like Bechtel would probably have done a very good job providing water to Bolivians in the most efficient manner possible. It would be in the company's interest, after all, to eliminate any inefficiencies in the provision of water to reduce its costs and thereby maximize its profits.

Since large utilities such as water markets are typically natural monopolies, the market for water in Bolivia can be illustrated by Figure 29.6. Demand intersects the average total cost of water provision while it is still downward sloping, indicating a scenario in which it makes sense for only one firm to provide the good to the market.

Figure 29.6 The water market in Cochabamba, Bolivia: A natural monopoly under-provides important goods, thus government regulation is required.



The high price that Bechtel tried to charge Bolivians for water probably reflected their actual private cost and the private benefits of water provision. The problem was, once privatized, Bechtel became a purely monopolistic seller of a merit good. To an economics student, this can be understood as a double market failure. Monopolists always prefer to restrict output and charge a price higher than that which would be charged in a competitive market. Granted, the Bolivian government was itself a monopolist before selling the rights to Bechtel but, unlike Bechtel, the government at least placed the interests of Bolivians above those of private shareholders and charged a lower price closer to the socially optimal level.

If Bechtel or any private company is left to provide a merit good like water (needed for sanitation, health and human welfare), strict government regulation is needed. The Bolivian government could have implemented a 'fair return price' for water in Cochabamba. This would have established a price ceiling equal to Bechtel's average total cost and allowed the firm to break even while providing water at a quantity and a price closer to the socially optimal level than the purely monopolistic quantity and price.

Such a regulated private monopoly would still have the incentive to reduce its costs and provide water as efficiently as possible, since the profit motive still underlies the business of providing water to the people of Cochabamba. This is in contrast to a state-run monopoly providing water, in which the possibilities for corruption and waste are likely to undermine the economic objective of efficiency achieved in a competitive market.

The outrage at the government's privatization of Cochabamba's water supply reflects the double market failure under Bechtel's control, since in addition to the output being restricted in Bechtel's pursuit of profits, water is a merit good for which the marginal social benefit of consumption exceeds the marginal private benefit. To the citizens of Cochabamba, the unregulated privatization of the water supply presented an unacceptable step backwards away from economic development, demonstrating yet another situation in which the unfettered free market was unable to meet the development needs of a poor country's people.

In the end, the Bolivian government recognized the benefits of cheap water and took over its provision once more, making sure that it remained affordable and available in quantities more socially optimal than the price and quantity provided under Bechtel.

Efficiency is of greater importance than equality. Therefore, even in markets for goods such as water, infrastructure and healthcare, private firms can do a better job of providing goods to a nation's people than the government could possibly hope to achieve. What evidence would be required to prove this statement correct?

Striking a balance between government and market

Economics is sometimes called the dismal science. Originally this term referred to the fact that it dealt with the inevitable problem of scarcity faced by all human societies and the myriad conflicts that arise over the use and allocation of scarce resources. Throughout your course, you have explored situations both micro and macro, local, national and international, ranging from the efficiency of the elusive perfectly competitive market to the inefficiency of protectionism.

You have learned about the theories, models, graphs and other tools economists employ to try and deal with scarcity efficiently and equitably, with the well-being of society as the ultimate goal. The competing objectives of efficiency and equity may not always coincide but the outcome achieved by Adam Smith's invisible hand of the market can be improved on. This can be brought about through the implementation of re-allocative policies such as taxes, subsidies and price controls by an economically informed and well-intentioned government.

In this regard, economics is hardly dismal at all. It offers a toolkit for making the world a better place. By quantifying the seemingly unquantifiable, such as the 'marginal social benefit of healthcare', economists are able to present realistic, achievable solutions to challenges affecting human welfare. The central problem of scarcity is dismal indeed but economics is ultimately a hopeful science offering market-based solutions to humankind's biggest problems.

Yet the dismal truth is that good economics is not always valued by those in power who have the greatest ability to affect the allocation of the scarce resources we depend on. In reality, good politics does not always equal good economics – a claim for which the poor decisions of politicians and leaders in countless countries, day after day, present ample evidence.

Whether it's a decision to cut taxes and increase government spending in a country on the brink of a debt crisis, or the decision to control the price of fuel in a city where long queues are already forming at petrol stations, or to privatize a water system in a region where poor people already find it difficult to maintain health, government decisions often reflect poor economic judgement.

And the free market itself rarely has all the answers to the problem of scarcity. The idea that markets promote efficiency and therefore achieve a socially desirable outcome places great faith in the assumption that competition exists to ensure that efficiency emerges. In reality, a market system driven by individuals pursuing self-interest does not always lead to the most desirable outcomes for society as a whole, despite Adam Smith's belief in the allocative power of the invisible hand.

Markets tend to experience cyclical fluctuations over time, evolving from periods of innovation and competition to periods of increasing concentration of market power among a few large firms, stagnation and inefficiency. The creative destruction of the free market and innovation in welfare-improving technologies sometimes requires the guiding hand and watchful oversight of a socially conscious government.

The markets for goods which are vitally important to a nation's economic development (healthcare, education, infrastructure, social insurance) and certain welfare-improving technologies must all be examined carefully with the tools and models of economics so as to decide the extent to which the free market is capable of promoting human welfare and development. The motives of the free-market pursuit of profits lay the foundation for efficiency, while the interests of society must be attended to by watchful government regulators.

Development will not be achieved in any country left entirely to the free market; nor will total government control promote improvements in human welfare. The complementary approach of a market-oriented development strategy combined with careful government oversight is the most likely to promote economic development while creating an atmosphere for sustainable economic growth.

Dismal science or a sliver of hope?

Despite all your reading, the conversations in class, the diagrams you've drawn in your notes, and the pages and pages of analysis and evaluation you have laboured over, the theories and tools of economics only get us so far in our understanding of how to make the world a better place. The welfare of human societies ultimately rests in the establishment and maintenance of economic systems that take into account the costs and benefits of human behaviour on society, on the environment including other species with which we share the planet, and on generations of humans both present and in the future.

Sustainability is defined as 'the ability to endure'. The ability of any economic system to endure depends on the extent to which it accounts for the future in its decisions as to how resources should be allocated in the present. Unfortunately, neither the free market nor government intervention has done a sufficiently good job of accounting for future generations in the economic interactions and policies of the 20th and 21st centuries.

In the film *The Corporation*, the economic and environmental challenges the world has faced since the industrial revolution are compared to the challenges faced by the earliest pioneers of human flight. Those intrepid adventurers would push their crafts off high cliffs, flap their mechanical wings, and think they were flying because the ground was still so very far away. But eventually they would crash to the ground, as they were doomed to from the moment they pushed off the cliff's edge. Without knowledge of flight mechanics and good design, their craft could never fly. Like the early flight pioneers, society has yet to develop an economic system that allows all human civilization to soar.

Again, like those pursuing the dream of flight, Western civilization pushed itself off a massive cliff into the unknown when it embarked on the path towards industrialization that began in England over 300 years ago. Today, LDCs around the world are travelling the same path. The ground in this analogy is the point at which the world's resources are depleted to a degree beyond which they are unable to be replenished. It once seemed so far away that very few people ever considered the likelihood of civilization crashing into it. But today it is growing ever closer.

The economic systems we have developed, some argue, are as unsuited to making our civilization sustainable as mechanical wings were to flight. Eventually, if we do not realize that the ground is growing nearer, human civilization will crash. The question is, at what point will our civilization realize it is on a path towards total resource depletion and self-destruction? At what point will we begin implementing much-needed reforms to the economic systems that govern our allocation of resources?

Sustainability in economics

When will good economics – an economics that accounts for all stakeholders, those living now and those of future generations – prevail in our exchanges with one another on a local, national and international level? Only when an economic system prevails that accounts for the true costs and benefits of our behaviour to society, to the environment, and to future generations will human civilization enter an era in which it can truly fly and thereby avoid the fate of the flight pioneers and their flapping mechanical wings.

Economics is only dismal insofar as it is ignored by policymakers and politicians. Economics offers a design for a civilization that could truly fly, allowing humans to survive indefinitely in a world in which resources are allocated efficiently between the competing wants and needs of society in a sustainable manner.

The ability of humankind to endure, to sustain itself into the future, is increasingly questionable. A greater understanding of economic theories, and an implementation of the models and tools economics teaches us can help ensure that future generations will live in a world in which human societies everywhere can live happy, healthy lives, free of fear and conflict. In this regard, economics is the most hopeful science of all.

To learn more about sustainability, visit www.pearsonhotlinks.com, enter the title or ISBN of this book and select weblink 29.3.

What criteria can economists use to decide on the balance between markets and intervention? Is development economics dependent on external normative notions such as what constitutes a good or fulfilled life?

To access Quiz 29, an interactive, multiple-choice quiz on this chapter, please visit www.pearsonbacconline.com and follow the onscreen instructions.

PRACTICE QUESTIONS

1 **EU's secret plans target markets in developing countries**

- i The European Union (EU) has drawn up secret plans aimed at opening the service sector markets in the world's poorest countries in return for reducing its farm subsidies.
- ii The demands made by the European Union would allow European firms to charge for providing water to some of the 1.2 billion people living on less than a dollar a day. Water has always been regarded as a free good, but this idea is changing. It would give large gains to European banks, telecommunication businesses and business service firms.
- iii The European Union is under intense pressure to remove **export subsidies** that depress global food prices and impoverish farmers in the developing world. Reform of Europe's agricultural policy is a top demand from developing countries.

iv Supporters for less developed countries argue that the EU proposals are not pro-development, nor do they encourage sustainable development. Many poor countries would be tied to unfair and irreversible commitments if they agree to European requests. If these economic decisions go wrong developing countries would be affected for generations to come. A more effective approach would be to encourage **export-led growth**.

v While the privatization of water would result in a higher price for the consumer, the advantage is that the water will be clean and filtered, enabling the population to be healthier and live longer, acting as a positive externality. Against this is the cost of implementing the privatization, possible social and economic upheaval, and institutional and political factors that would act as significant barriers to economic growth and development.

vi Among its demands, the EU wants Bolivia to let in more overseas water companies despite a recent case where a multinational company increased water prices by 200% in one city. The EU is also looking at Panama with similar plans where water privatization plans were scrapped in 1998 after strikes and demonstrations.

adapted from Gary Duncan, *The Times*, 26 June 2003

a Define the following terms indicated in bold in the text:

i export subsidies (paragraph iii) (2 marks) [AO1]

ii export-led growth (paragraph iv). (2 marks) [AO1]

b Using an appropriate diagram, explain the effect of EU export subsidies on the market for agricultural commodities. (4 marks) [AO2], [AO4]

c Using an appropriate diagram, explain why consumers will buy nearly constant quantities of water despite higher prices. (4 marks) [AO4]

d Using information from the text and your knowledge of economics, evaluate the degree to which market failure and externality theory applies to the market for water and whether it should be produced privately or publicly. (8 marks) [AO3]

2 **Drug companies bring hope for HIV/AIDS sufferers**

i 'Industry puts the average cost of developing a new drug at around US$800 million. Were it not for a patent system that rewards companies for risking millions on research, anti-HIV/AIDS drugs would not exist', said **World Trade Organization's** (WTO) director general, Mike Moore.

ii 95% of individuals worldwide who are infected with the HIV/AIDS virus live in poor countries, with almost no access to life-prolonging treatment because of barriers such as the high cost of drugs.

iii One possible solution to the high cost of drugs seems to be through differential pricing schemes [a form of **price discrimination**] that charge poor countries less than the rich. This form of legal price discrimination is already used for vaccines and contraceptives, with prices as low as 1% of those in the USA. Major pharmaceutical companies have recently promised to cut prices to cost levels in Africa. The aim is to cut the price for HIV/AIDS therapy by as much as 95%.

iv The big multinational corporations (MNCs) do not, in theory, object to differential pricing for their pharmaceutical products. But they still want patent protection and guarantees to prevent the re-entry of low-priced drugs back to developed countries.

v Delay can spell disaster when dealing with HIV/AIDS. A recent forecast sees South Africa heading for an economic collapse within three generations, as the number of wage-earners is dramatically reduced and parents die before they can teach their children the basics of life. Thankfully, the chance of this problem happening was reduced last week, when the South African government announced a serious, well-funded and long-term plan for treating its sick citizens with HIV/AIDS drugs. If the plan is competently implemented, HIV-positive parents should survive long enough to put their children through school, and South Africa should pull back from the brink of catastrophe.

adapted from *Science*, 17 March 2000, Vol 287, Issue 5460;
Lancet, 7 April 2001, Vol 357, Issue 9262;
The Economist, 29 November 2003, p11;
Time, 2 February 2004, Vol 163, Issue 5, p44

a Define the following terms indicated in bold in the text:

i World Trade Organization (paragraph i) (2 marks) [AO1]

ii price discrimination (paragraph iii). (2 marks) [AO1]

b Using a production possibility curve or aggregate demand and supply diagram, explain the impact on economic growth of a lack of progress in dealing with the HIV/AIDS problems described above for a country like South Africa. (4 marks) [AO2], [AO4]

c Using an appropriate diagram, explain why HIV/AIDS drugs might be under provided by the free market. (4 marks) [AO2], [AO4]

d Using information from the text and your knowledge of economics, examine the benefits and costs to various stakeholders of government intervention in the market for HIV/AIDS drugs in less developed countries. (8 marks) [AO3]