

## Emulation: How Rich Countries Got Rich

Around the thirteenth century the Florentines, Pisans, Amalfitans, Venetians and Genoese began adopting a different policy for enhancing their wealth and power because they noticed that the sciences, the cultivation of land, the application of the arts and of industry, and the introduction of extensive trade could produce a large population, provide for their countless needs, sustain great luxury and gain immense riches without having to add more territories.

Sebastiano Franci, Milanese Enlightenment reformer, 1764

### *A new view of the world: from zero-sum game to innovation and growth*

Since time immemorial the majority of the Earth's inhabitants have lived simple lives, in relative poverty, in an often fragile balance between population size and the resources available to them. As Alfred Marshall, one of the founders of neo-classical economics, expressed it, all migrations in history have been created by diminishing returns: an increasing density of population set off against an unchanged availability of natural resources and unchanged

technology. We find this mechanism described in the Bible (Genesis 13: 6) when the tribes of Israel had to part because 'the land was not able to bear them, that they might dwell together: for their substance was great, so that they could not dwell together'. Although luxury goods gradually came into being, these were for the selected few, and riches were mainly gained by the conquest of new territories.

In such a world, wealth and poverty were a zero-sum game; wealth was basically acquired by already existing riches changing owners. This view of the world, which must also have existed from time immemorial, was codified by Aristotle and shaped the world-view of scholasticism, the philosophy of late medieval Europe. 'One man's benefit is another man's loss,' confirms St Jerome (c.341–420). As late as 1643 the Englishman Sir Thomas Browne (1605–82) argued that 'all cannot be happy at once because the glory of one state depends upon the ruins of another'. History tended to be cyclical, as described by fourteenth-century Arab historian and economist Ibn Khaldun. For him societies were formed through social cohesion, and there were desert societies and town societies. A desert tribe conquered a town, but decayed as it became more refined and weaker, and after a certain number of generations the town would again be conquered by a new desert tribe.

The changes Sebastiano Franci describes above as taking place in certain Italian cities have their origins in a fundamental change to the traditional world-view. This mentality switch, which asserted itself in many ways, was a product of the late Renaissance. Many factors combined to cause the zero-sum game gradually to disappear as the dominant world-view, and at the same time to introduce an element of progress over and above the cyclical nature of history. Several of these new elements can be traced far back in time, but only during the Renaissance did they gather sufficient critical mass to enable a change of traditional world-view and forge a new cosmology. These new core elements of the Renaissance – which for the first time in history created generalized wealth in certain geographical areas – have disappeared from current economic thinking. One important underlying reason

for the inability to remedy world poverty today is that these discoveries of the Renaissance – and later those of the Enlightenment – are not easily formalized in the language in which modern economists have chosen to express themselves.

It was very clear to people early on that most wealth was to be found in the cities, and particularly in certain cities.<sup>1</sup> The cities were the home of free citizens; in the countryside, people were generally serfs, belonging to the soil and the local lord. Arising from these observations were investigations into an understanding of the factors that made the cities so much wealthier than the countryside. Gradually, the wealth of the cities was perceived to be a result of *synergies*: people of many different trades and professions sharing a community. Florentine scholar and statesman Brunetto Latini (c.1220–94) described this synergy as '*il ben commune*', or 'the common weal'. Most early economists, the mercantilists and their German counterparts – the cameralists – used such synergies as a fundamental element in their understanding of wealth and poverty. 'It's the common weal that makes the cities great,' repeats Niccolò Machiavelli (1469–1527) almost three hundred years after Brunetto Latini.

With this social understanding of wealth as a phenomenon that could only be understood as a collective phenomenon, the Renaissance rediscovered and flagged the importance and creativity of the individual. Without keeping both these perspectives in mind – the common weal and the role of the individual – neither the Renaissance view of society nor the phenomenon of economic growth can be understood. This theoretical ambivalence, keeping the interests of both society and the individual in mind as units of analysis, characterized continental European economic theory, particularly German, up to the Second World War, but has subsequently almost disappeared. In the twentieth century, analyses of this point led to important debates about the relationships between different forms of freedom (for instance, the trade-off between the right of the individual to carry weapons versus the right of the rest of society not to be shot). The loss of this dual theoretical perspective – exemplified by Margaret Thatcher's 'There is no such thing as society' – seriously inhibits our understanding of poverty

and failing states. The methodology of standard economics too often makes it blind to genuine synergies.

Aristotle's view of the world as a zero-sum game slowly gave way to an increasing understanding that new wealth could be *created* – not only conquered – through innovation and creativity. The gradual change in the meaning of the word 'innovation' elucidates this development. In 1277 Roger Bacon (c.1214–94) was arrested in Oxford for 'suspect innovations', a heresy consisting of searching for knowledge outside the Bible and the works of Aristotle. When, about 300 years later, Francis Bacon (1561–1626) wrote an essay, *Of Innovations*, innovations were accepted as carriers of increased human wealth and happiness. In his utopian vision, *The New Atlantis*, Francis Bacon describes a state where innovation holds the seat of honour and people have invented self-propelling vehicles, submarines, microphones and medicines to prolong life. Bacon also describes the world's first 'national research council', Salomon's House. The growth of manufacturing activities broke the vicious circles of diminishing returns, creating what was for a very long time the exclusive privilege of cities: *increasing returns*. As previously mentioned, increasing returns means that as production expands – even without technical change – the cost of production per unit falls. Antonio Serra (1613) formulates the recipe for a wealthy state as consisting of increasing returns combined with a large division of labour, in other words in maximizing the number of different professions and activities in the city.

England's story is the prototype of how a country goes from poor to rich. It was policy before it became written theory, but even in 1581 author John Hales understood the importance of the manufacturing multiplier for national wealth: 'What groseness of wits be we of ... that will suffer or owne commodities to go and set straungers at worke, and then buy them againe at theyr handes.'<sup>22</sup> This is the basic insight found in all countries that, one after the other, industrialized. The same principles were applied in Japan and Korea in the second half of the twentieth century.

Under conditions of falling costs with increasing output – what we have called increasing returns or economies of scale – a large

population was no longer seen as a problem for seventeenth-century economists. On the contrary, economies of scale in production and division of labour among all the new crafts made a large population a condition for economic growth.<sup>3</sup> Not only was it a necessary precondition for wealth to have a large and growing population, the concentration of this population was also exceedingly important. English economist William Petty (1623–87) therefore suggested moving the population of Scotland and other then peripheral areas to London, where the people would contribute much more to economic growth than they were able to do in the empty fringes of the island. Not until after 1798, when Thomas Malthus (1766–1834) reconstructed an economic theory built on diminishing returns in agriculture (not on innovation and economies of scale in manufacturing) did a growing population once more, as in the biblical Genesis, come to be regarded as a problem. Malthus and his friend Ricardo's reintroduction of diminishing returns as a core feature of economics, and the simultaneous dismissal of both increasing returns and innovations had dramatic consequences because with it the previous understanding of wealth as a joint product of synergies, increasing returns and innovations, was lost. The emphasis on diminishing returns gained Ricardo's economics the name a 'dismal science' and its trade theory constitutes, to this very day, both the main excuse for colonialism and neo-colonialism and the core of the mechanisms that keep poor countries poor. Also lost was an important feature of Enlightenment science: understanding differences through the creation of classification systems or taxonomies.

Early modern Europe also saw a marked connection between discoveries – geographical and scientific – and innovations, between development of theory and development of practice. A growing understanding of an infinite universe in constant expansion was a condition for the mercantilist world-view: as the whole cosmos could expand endlessly, so could the economy. Giordano Bruno (1548–1600), the scientist and hermetic magus who was burned at the stake in Rome on 1 July 1600 for, among other things, holding the universe to be infinite, thus also contributed importantly to the opening up of Europe's economic cosmology.

At the very core of the process of economic progress is the dynamic combination of synergies and innovations under conditions of a substantial specialization and division of labour. This was clearly understood by economists as early as the seventeenth century. Later we shall see how such an economic growth system was to function in the Dutch town of Delft.

Religion was slowly loosening its universal grip on society and at the same time opening itself up to innovation, resulting in a radical shift in the meaning of the term and the attitude towards it, as exemplified by the treatment of Roger Bacon in the thirteenth century and Francis Bacon in the early sixteenth century.<sup>4</sup> When Constantinople, the capital of the western Roman Empire of Byzantium, fell to the Turks in 1453, many philosophers moved to Italy; as a result Western philosophy and the Western Church became heavily influenced by the Eastern Church. In the process a more dynamic version of Genesis – the story of Creation – gained a foothold. The reasoning went roughly like this: if man is created in the image of God, it is our duty to try to emulate God. What, then, is God's most typical attribute? It has to be His creativity and His innovations; He had created both Heaven and Earth. Gradually it became obvious that our role on this Earth ought to be more than that of gardeners and maintenance workers in God's Creation. God had spent six days creating, and had then left the rest of the creation to humankind. Consequently, to create and to innovate became our pleasurable duty. It is our duty to populate the Earth, and as with human propagation God had also introduced incentives for us to innovate in the joy of discovering new things. Alexandre Koyré (1892–1964) puts it this way: humankind had graduated 'from being a spectator into being an owner and master of nature.'<sup>5</sup> Humankind had set out on an expedition to collect new knowledge, and no matter how much wisdom was absorbed, we would keep on pushing the never-ending frontiers of knowledge.

That, briefly, is the story of the evolution of the understanding of economic growth as a joint product of synergies, a large division of labour, increasing returns and new knowledge. As we shall see, it was also understood that the potential for achieving growth was, at any time, limited to certain economic activities. In other words,

economic growth was activity-specific. This holistic understanding, also taking qualitative differences into account, is at best found in a piecemeal fashion in today's ruling economic theory. Elements of the story – such as increasing returns – are occasionally, and individually brought back, but no longer are all the elements in their self-reinforcing totality brought together convincingly enough to influence the economic policy that we allow poor countries to follow. Poor countries today are those where these elements are not yet found to a sufficient degree. Colonies were regions where this kind of synergetic interaction was *not* intended to take place, and Ricardian trade theory was the first theory that made colonialism morally defensible. Although the prohibition of manufacturing industries – whether explicit or de facto – is the key element in any colonial and neo-colonial policy, standard Ricardian trade theory says this does not matter. But our world economic order is based on this theory, a theory that predicts that economic integration between an indigenous tribe in the Amazon and Silicon Valley will tend to make both communities equally rich.

*Emulation: strategic economic policy comes into being with Henry VII of England (1485)*

That Europe's 'islands of wealth' were often also islands in a geographic sense was not lost on early economists. The wealth of a city or nation appeared, somewhat paradoxically, to be inversely related to its natural wealth. The most important areas, like Holland and Venice, had little arable land. They had therefore been forced into specializing in manufacturing industry and overseas trade. In Florence, the most important European city-state not situated on a coast, the big landowners had been for centuries kept from having any political power. Consequently, as in the coastal states, the interests of craftsmen, manufacturers and traders dominated the life of the city. Florence understood very early the basic mechanisms that created wealth and poverty. For centuries the landowners formed a perennial threat to the Florentines as potential allies of the enemies of the state. Keeping the landowners away from power had a dual purpose for the citizens of Florence: it

secured both economic power and wealth through the establishment of manufacturing and political power. To avoid speculation and prevent shortages of food, Florence vehemently prohibited the transport of food outwards from the city storage places. Economic power and patronage joined in creating a flourishing of the arts as a characteristic of non-feudal societies. This historically crucial link between political structure and economic structure – between democracy and an economy diversified away from dependence on agriculture and raw materials – is another crucial historical lesson lost today when we, with great violence and at great expense, attempt to establish democracies in nations where the economic structures are essentially feudal and pre-capitalist.

For Europe's poor nations it became clear that there was an important connection between the *production structure* of the few wealthy city-states and their riches. The wealthiest city-states – Venice and those in Holland – had dominant market power in three different areas. In economic terms they enjoyed the type of rents we have referred to earlier, allowing increasing profits, real wages and taxable income. Both had very large and diversified manufacturing and craft sectors. In the early 1500s manufacturing represented about 30 per cent of all employment in Holland. Venice had 40,000 men employed in the shipyards (the *arsenale*) alone. Each controlled an important market for a raw material, salt in Venice and fish in Holland. Even in its early stages of development, and still relatively poor, Venice always fought hard to keep its dominant position in the salt markets. In Holland the invention of salted and pickled herring (an early fourteenth-century invention) had created a huge market that was controlled by the Dutch. Third, both had built up a very profitable overseas trade. This first prosperity in Europe was based on triple rents – a triple market power in types of economic activities that were all conspicuously absent in the poorer European states: manufacturing, a virtual monopoly in an important raw material and profitable overseas trade. Wealth had been created and maintained behind huge barriers to entry created by superior knowledge, by possessing a large variety of manufacturing activities that created systemic synergies, by market power, by low costs created through innovations and increasing returns – both in individual industries and

as systemic effects – by the sheer scale of their operations, and by the economies of scale in the use of military might. After 1485, England emulated the triple rent structure that had been created in the resourceless city-states of Europe. Through very heavy-handed economic intervention, England created its own triple rent system: manufacturing, long-distance trade and a raw-material rent based on wool. The success of England would eventually lead to the demise of the city-states and the growth of the nation-states: synergies found in the city-states were extended to a larger geographical area. This was to be the essence of the mercantilist project in Europe.<sup>6</sup>

To go back briefly to economic theory: before Adam Smith it was often understood that economic development was based on collective rent-seeking, originating in synergies of increasing returns, innovations and division of labour that were found clustered only in the cities. This is the opposite of the perfect competition postulated by today's standard textbook economics. Ever since Ricardo's writings, from the pinnacle of an industrialized England in 1817, the pattern is the same: wealthy nations keep poor countries poor based on theories postulating the non-existence of the very factors that created their own wealth. As we shall see, countries that have got rich after 1485 have all done so in defiance of Ricardo's economic theories.

History's first deliberate large-scale industrial policy was based on an observation of what made the rich areas of Europe rich: that technological development in one field in one geographic area could extend wealth to an entire nation. King Henry VII of England, who came to power in 1485, had spent his childhood and youth with an aunt in Burgundy. There he observed great affluence in an area with woollen textile production. Both the wool and the material used to clean it (Fuller's Earth or aluminium silicate) were imported from England. When Henry later took over his destitute realm with several years' future wool production mortgaged to Italian bankers, he remembered his adolescence on the Continent. In Burgundy not only the textile producers, but also the bakers and the other craftsmen were well off. England was in the wrong business, the king recognized and decided on a policy to make England into a textile-producing nation, not an exporter of raw materials.<sup>7</sup>

Henry VII created quite an extensive economic policy toolbox. His first and most important tool was export duties, which ensured that foreign textile producers had to process more expensive raw materials than their English counterparts. Newly established wool manufacturers were also guaranteed tax exemption for a period, and were given monopolies in certain geographical areas for certain periods. There was also a policy to attract craftsmen and entrepreneurs from abroad, especially from Holland and Italy. As English wool-manufacturing capacity grew, so did the export duties, until England had sufficient production capacity to process all the wool they produced. Then, about a hundred years later, Elizabeth I could place an embargo on all raw wool exports from England. In the eighteenth century Daniel Defoe and other historians saw the wisdom in this strategy, which they labelled the 'Tudor Plan', after the kings and queens from that family. Like Venice and Holland, and by the same methods, England had acquired the same triple rent situation: a strong industrial sector, a raw material monopoly (wool), and overseas trade.

Several English historians point out that the industrial policy plan of the Tudors was the real foundation of England's later greatness. On the Continent this plan was to have significant consequences. Florence was one of the states hardest hit by the English competition. The Florentines tried to make do with Spanish wool, and they tried to diversify from wool production to silk, but the English policy was so successful that the golden age of Florence was definitely over.

Spanish wool producers were England's main competitors as producers of raw materials and in 1695 the English economist John Cary suggested that England ought to buy all Spanish wool on the market in order to burn it. England did not have sufficient capacity to process this wool, but to remove the raw material from the market would strengthen their market power:

We could promote a Contract with the Spaniard for all (wool) he hath; and if it should be objected that we should then have too much, 'tis better to burn the Overplus at the Charge of the Public (as the Dutch do their Spices) than to have it wrought up abroad, which we can't otherwise prevent, seeing all the Wool of Europe is Manufactured somewhere.<sup>8</sup>

The trade war was really a fight to be able to carry out the activities yielding the highest profits, paying the highest wages and/or that could be taxed the most. It was clear to all participants that strategic trade policy was, in effect, 'war by other means'.

For several hundred years Europe's trade policy was based on the principle of maximizing the industrial sectors of each country, while often at the same time damaging the industry of other countries. As the German economist Friedrich List put it in 1841: for several hundred years England's economic policy was based on a simple rule: import of raw materials and export of industrial products. To be wealthy, countries like England and France would have to emulate and copy the economic structures of Venice and Holland, but not necessarily their economic policies. Countries already wealthy could afford a very different policy from those of countries still poor. In fact, once a country had been solidly industrialized, the very same factors that required initial protection – achieving increasing returns and acquiring new technologies – now required bigger and more international markets in order to develop and prosper. Successful industrial protection thus carries the seeds of its own destruction: when successful, the protection that was initially required becomes counterproductive. As an anonymous Italian traveller in Holland said in 1786: 'Tariffs are as useful for introducing the arts [manufacturing] in a country, as they are damaging once these are established.'<sup>9</sup> Here lies the key to understanding the timing of free trade. Again, this is an insight which is lost in today's economic theory as applied to large parts of the world.

The fundamental principles of Henry VII's economic policy toolbox have, since then, been mandatory ingredients in the economic policies of all countries that have worked their way up from poverty to wealth. The exceptions to this rule are few. A small city-state devoid of resources but with a huge hinterland, like Hong Kong, may get rich in the same 'natural' way as Venice and Holland did. Studying the inner mechanisms of such states, however, makes it clear that the principle of wealth creation – from the cost of a taxi licence in Hong Kong to the city's huge corporations – is not perfect competition, but rent seeking, that is, profiting from imperfect rather than from perfect competition.

The first US Secretary of the Treasury, Alexander Hamilton, with his 1791 *Report on the Manufactures of the United States*, recreated

a toolbox very similar to that of Henry VII. Hamilton's stated goals were the same: a larger division of labour and a larger manufacturing sector. The same toolbox was employed by virtually all continental European countries in the nineteenth century, including my own country Norway in the European periphery. The theories of German economist Friedrich List – who had lived long enough in the United States to become an American citizen – were the main inspiration for the European nations that followed England's policies and path to industrialization. List's writings were translated into many languages and the same 'Listian' toolbox was used in Japan from the Meiji restoration in the 1860s and in Korea – a country poorer than Tanzania in 1950 – from the 1960s onwards. Poor countries are those who have not employed this toolbox, or have employed it for too short a period and/or in a static way that has prevented the competitive dynamics from taking root. The comparison between 'good' and 'bad' protectionism in Appendix IV highlights the qualitative differences between protectionist practices.

### *The toolbox of economic emulation and development*

...the fundamental things apply, as time goes by.

Sam, the pianist, in *Casablanca*

1. Observation of wealth synergies clustered around increasing returns' activities and continuous mechanization in general. Recognition that 'We are in the wrong business'. Conscious *targeting, support and protection* of these increasing returns' activities.
2. Temporary monopolies/patents/protection given to targeted activities in a certain geographical area.
3. Recognition of development as a synergic phenomenon, and consequently the need for a diversified manufacturing sector ('maximizing the division of labour', Serra, 1613).
4. A manufacturing sector solves three policy problems endemic to the Third World simultaneously: increasing

national value added (GDP), increasing employment and solving balance of payments problems.

5. Attracting foreigners to work in targeted activities (historically, religious persecutions have contributed to this in an important way).
6. Relative suppression of landed nobility and other groups with vested interests based in the production of raw materials (from Henry VII in the 1480s to Korea in the 1960s). Physiocracy, the originator of today's neo-classical economics, represented the rebellion of the landowning class against the policies on this list in pre-Revolutionary France. The American Civil War is a prototype conflict between free traders and raw materials exporters (the South) on the one hand and the industrializing class (the North) on the other. Today's poor countries are the nations where 'the South' has won the political conflicts and civil wars. Opening up too early for free trade makes 'the South' the political winners. Standard economics and the conditionalities of the Washington institutions de facto represent unconditional support for 'the South' in all poor countries.
7. Tax breaks for targeted activities.
8. Cheap credit for targeted activities.
9. Export bounties for targeted activities.
10. Strong support for the agricultural sector, in spite of this sector being clearly seen as incapable of independently bringing the nation out of poverty.
11. Emphasis on learning/education (UK apprentice system under Elizabeth I, Francis Bacon's *New Atlantis*, scientific academies, both in England and on the Continent).
12. Patent protection for valuable knowledge (Venice from 1490s).
13. Frequent export tax/export ban on raw materials in order to make raw materials more expensive to competing nations. (This started with Henry VII in the late 1400s, whose policy was very efficient in severely damaging the woollen industry in Medici Florence.)

*Spain as a frightening example of what not to do*

From the mid-1500s the theatre of Europe provided further elucidation in economic theory and policy, setting an example of what a country should *not* do. Spain had long been an important industrial state. 'In Europe, to describe the best silk one once said "the quality of Granada"'. To describe the best textiles one once said "the quality of Segovia",' wrote a Portuguese economist in the 1700s. By then Spanish manufacturing industry was history and the mechanisms that had diminished its manufacturing capacity and its wealth in tandem were eagerly studied across Europe. Their conclusions on what had happened were virtually unanimous.

The discovery of the Americas led to immense quantities of gold and silver flowing into Spain. These huge fortunes were not invested in productive systems but actually led to the de-industrialization of the country. The landowners primarily profited from the 'funnel of gold' from the Americas, as they had a monopoly on the export of oil and wine to the growing markets of the New World. The supply of such goods is highly inelastic, and subject to diminishing rather than increasing returns.<sup>10</sup> To increase production, particularly to make new olive trees yield as old ones, takes a long time. This expansion would produce the opposite of increasing returns, that is, diminishing returns which cause the cost of production per unit to rise rather than fall. The result of the increased demand was consequently a sharp increase in the price of agricultural products. At the same time, nobility owning land were exempt from paying most taxes, so the tax burden fell increasingly on the artisans and manufacturers. Their competitiveness was, on the other hand, already being squeezed by the rapid rise of prices of agricultural goods in Spain. This undid the synergies and division of labour in Spanish cities, causing a de-industrialization from which Spain only finally recovered in the nineteenth century. Successful states protected manufacturing industry, unsuccessful Spain protected agriculture to the extent that it killed manufacturing.

Politically, the 'civil war' between modern urban and traditional rural activities had already been partly lost in Spain during and after the so-called Guerra de los Comuneros of 1520–21. This prototype of a modern European revolution had the long-term

effect of seriously damaging Spanish manufacturing cities like Segovia. The strong political power of the sheep-owners' organization, La Mesta – to which the Spanish throne owed money – added to Spain's pro-raw material and anti-modernizing economic policies at the time. The Mesta in fact managed to wield its power in such a way that their sheep were even allowed to invade agricultural land, and some agricultural land in Spain was converted back to grazing. A comparison of Spain and England in the 1500s provides us with a useful and early example of the importance of where political power lies: in the hands of those who have a vested interest in producing raw materials (as in Spain) or with those who have vested interests in manufacturing (as in England). This is not to imply that those who have their vested interest in manufacturing are better or less greedy individuals than those whose vested interests lie in the production of raw materials. As always, capitalism must essentially be understood as a system of unintended consequences, and the unintended consequences of making profits from manufacturing are different from those found in nations where everybody makes their profits from raw materials. Once these mechanisms are understood it is possible – as it was for Henry VII – to produce the desired effects through wise economic policies. Such policies are now outlawed by the Washington Consensus.

Just as Venice and Holland were regarded as examples to be copied, in the sixteenth century Spain gradually came to be seen as an example of the type of economic policy and economic effects a nation should avoid at all costs. It became clear that the riches from the colonies had in fact impoverished rather than enriched Spain's own capacity to produce goods and services. In contrast to England – which ever since Henry VII came to power in 1485 had actively protected and encouraged her industry – Spain protected her agricultural production, like oil and wine, against foreign competition. By the end of the sixteenth century, Spain, who had had a considerable industrial production, was severely de-industrialized.

It was clear to the observers at the time that the enormous wealth, all the gold and silver flowing into Spain, just flowed out again and ended up in a couple of places – Venice and Holland. Like a slow-moving tsunami, it is possible to study the giant wave



of inflation that spread through Europe with its epicentre in southern Spain. But why did this flow of gold and silver finally end up in very limited geographical areas? What distinguished Venice and Holland, where so much of the flow of Spanish gold and silver came to a halt, from the rest of Europe? The answer was that they had extensive and diversified industry, and at the same time hardly any agriculture. The realization spread through Europe that the real gold mines of the world were not the physical gold mines, but *manufacturing industry*. We find the following observation in Giovanni Botero's work on what causes the wealth of cities: 'Such is the power of industry that no mine of silver or gold in New Spain or Peru can compare with it, and the duties from the merchandise of Milan are worth more to the Catholic King than the mines of Potosi and Jalisco.<sup>11</sup> Italy is a country in which ... there is no important gold or silver mine, and so is France: yet both countries are rich in money and treasure thanks to industry.'<sup>12</sup>

In various forms, the statement that manufacturing was the *real* gold mine is found all over Europe from the late 1500s through the 1700s. After Botero we find this expressed by Tommaso Campanella (1602) and Antonio Genovesi (in the 1750s) in Italy, by Geronimo de Uztáriz in Spain (1724/1751) and by Anders Berch (1747), the first economics professor outside Germany, in Sweden: 'The real gold mines are the manufacturing industries'.<sup>13</sup>

In pre-Smithian economics the establishment of manufacturing came to be seen as part of a wider mission of civilizing society. Capitalism was advanced as an argument for repressing and harnessing the passions of humankind, for channelling the energies of human beings into something creative.<sup>14</sup> Italian economist Ferdinando Galiani (1728–87) stated that 'from manufacturing you may expect the two greatest ills of humanity, superstition and slavery, to be healed'.<sup>15</sup> This became the principle on which European economic policy was founded, and which industrialized European nations one by one over a long period. Building 'civilization', building a manufacturing sector, and later building democracy, were seen as inseparable parts of the same process. This conventional wisdom was also quoted by French statesman and political writer Alexis de Tocqueville (1805–59) in 1855: 'I do

not know if one can cite a single manufacturing and commercial nation from the Tyrians to the Florentines and the English, that has not also been free. Therefore a close tie and a necessary relation exists between those two things: freedom and industry.'<sup>16</sup>

Around 1550, many Spanish economists began to realize what was happening in their country, and produced both good analysis and sound advice. As American historian Earl Hamilton, an expert on Spanish economy and economics of this period, points out: 'History records few instances of either such able diagnosis of fatal social ills by any group of moral philosophers or of such utter disregard by statesmen of sound advice.'<sup>17</sup> In 1558, Spain's Minister of Finance, Luis Ortiz, describes the situation in a memorandum to King Philip II:

From the raw materials from Spain and the West Indies – particularly silk, iron and cochinilla (a red dye) – which cost them only 1 florin, the foreigners produce finished goods which they sell back to Spain for between 10 and 100 florins. Spain is in this way subject to greater humiliations from the rest of Europe than those they themselves impose on the Indians. In exchange for gold and silver the Spaniards offer trinkets of greater or lesser value; but by buying back their own raw materials at an exorbitant price, the Spaniards are made the laughing stock of all Europe.<sup>18</sup>

The fundamental idea here – that a finished product might cost from ten to a hundred times the price of the raw material needed for the product – would recur for centuries in European literature on economic policy. Between raw materials and the finished product lies a multiplier: an industrial process demanding and creating knowledge, mechanization, technology, division of labour, increasing returns and – above all – employment for the masses of underemployed and unemployed that always characterizes poor countries. Today, the economic models of the World Bank assume full employment in developing countries, even though in some places no more than 20–30 per cent of the workforce has what we would call a 'job'. Those who were involved in economic policy in earlier times recognized the extent of the unemployment, the

underemployment and the vagrancy, and understood that the labour involved in transforming raw materials into finished products in and of itself would increase the wealth of cities and of nations. The main point, however, was that the economic activities coming into existence when the raw materials were refined into finished products followed different economic laws than did raw material production. The 'manufacturing multiplier' was the key both to progress and political freedom.

From the end of the fifteenth century until after the Second World War the main theme in economic policy – if not in economic theory – was therefore what we can call 'the cult of manufacturing industry'. This involved talking about 'planting' industry in the same way one would 'plant' useful species from foreign lands. Two different institutions serving similar purposes were both established in the late 1400s: the protection of new knowledge through *patents* and the transfer of the same knowledge into new geographical areas through *tariff protection*. Both were based on the very same type of economic understanding: the creation and geographic spread of new knowledge through the instigation of imperfect competition. An indispensable part of this process of development were the institutions that 'got the prices wrong' compared to what the market would have done if left alone: the patents that created a temporary monopoly for new inventions and the tariffs that distorted the prices for manufactured goods and enabled new technologies and new industries to be established away from the place they were first invented.

These inventions and innovations were created in a way that markets, left to themselves, would never be able to reproduce. Today's economic policy and the Washington institutions vigorously defend only one of these institutions – the patents that create ever-increasing income flows to very few and very rich countries – while the very same Washington institutions vehemently prohibit the tools that allow the geographical spread of imperfect competition in the form of new industries to other countries. Protecting imperfect competition in the rich countries is accepted, but not in the poor. This is what I have referred to as the 'assumption-juggling' of economic theory: other theories are used

at home than those that are allowed in the Third World, following the old colonial pattern. The economic power game always results in the same Golden Rule principle: the one who has the gold makes the rules.

In the early 1700s a rule of thumb developed for economic policy in bilateral trade, a rule that rapidly spread throughout Europe. When a country exported raw materials and imported industrial goods, this was considered *bad trade*. When the same country imported raw materials and exported industrial goods, this was considered *good trade*.<sup>19</sup> It is particularly interesting to observe that when a country exported industrial goods in exchange for other industrial goods, this was considered good trade for both parties. To use a term once employed by UNCTAD: *symmetrical trade* is good for all parties, *asymmetrical trade* does not benefit the poor countries.

This was why the most eager advocates of industrialization – for tariff protection – like Friedrich List, were also the most eager advocates of free trade and globalization after all countries had industrialized. As early as the 1840s Friedrich List had a recipe for 'good globalization':<sup>20</sup> if free trade developed after all countries of the world had industrialized, free trade would be the best for everyone. The only thing we disagree about is the timing for adopting free trade, and the geographical and structural sequence in which the development towards free trade takes place.

As late as during the reconstruction of Europe after the Second World War, we find that this type of economic understanding was still present. After the war, US industry was vastly superior to the industry of Europe. Yet nobody suggested that Europe should follow its own comparative advantage in agriculture – on the contrary, everything was done to re-industrialize Europe through the Marshall Plan. This was essentially a plan to re-industrialize Europe using the traditional policy toolbox, including heavy protection of manufacturing industries. One difference from previous centuries was that in post-Second World War Europe farming also had to be protected. It is, however, of crucial importance to understand that twentieth-century protection of agriculture was for entirely different reasons from the protection of

manufacturing. Developing a manufacturing base was aggressive protection aimed towards industrialization and higher real wages, whereas the protection of agriculture was defensive protectionism aimed at preventing the income of the agricultural sector from falling too far behind, as successful aggressive protectionism forced up the wages in the non-agricultural sectors of the economy. In other words, protecting manufacturing industry that allows the creation of new jobs and makes national wages rise is based on a very different logic from the protection of employment in agriculture from its competitors in poorer countries. The first type of protectionism is to increase the wage level in the whole country by means of the synergies that are created, the second type helps farmers and the regions where farming dominates. The need for these two different kinds of protectionism will only be fully understood when the qualitative differences between manufacturing and agriculture are explained in the next chapter.

#### *Germany follows in England's footsteps (1648)*

France and other countries were soon imitating the English strategies that had been so successful under the Tudors. These strategies became nation-building projects at a time when the small city-states had irretrievably lost their power to nations that had managed to consolidate and enlarge 'the common weal' to larger geographical areas with larger markets. In France, the famous statesman Jean Baptiste Colbert (1619–83) developed the industry and the infrastructure which united the country. The goal was to unite the country with 'perfect competition' inside and protect its increasing returns and labour intensive industries from foreign competition. Throughout the eighteenth century, in Europe, Colbert was generally referred to as 'the great Colbert'.

Now we shall take a closer look at Europe's 'delayed nation', Germany. Veit Ludwig von Seckendorff (1626–92) was the founder of German economics. His times were characterized by war and misery. The Thirty Years War (1618–48) had wiped out as much as 70 per cent of the civilian population in some parts of Germany. The war had started as an internal religious war, but

gradually involved many of the great powers of Europe at the time, including Spain, France, Denmark and Sweden. The war had no winners, but it became clear to many Germans that the real loser was civilization itself. When Seckendorff was sixteen, his father – a German serving in the Swedish army – was beheaded as a presumed spy in a North German town. When Seckendorff died at the age of sixty-six, the army of Louis XIV of France had just laid waste the German state of the Rhineland-Palatinate. In the meantime Germany had had a war with the Turks, who besieged and almost managed to conquer Vienna, and two more wars with France. This had led to Strasbourg, where Seckendorff had studied, being lost to France. The Peace of Westphalia (1648) – at the end of the Thirty Years War – left a Germany fragmented into more than 300 small states. I mention this because in my view Germany's way out of this war-torn barbarism also contains important lessons for today's failed and failing states. Germany's way out was based on a *production strategy*, a building up of trade and industry consciously diversified from agriculture and raw material production. The key to success was to emulate the economic structure of a country where peace and prosperity reigned – and the example to follow was the Dutch one.<sup>21</sup>

With help from his father's colleagues Seckendorff found employment with another ex-officer of the Swedish army, Duke Ernest of Saxe-Gotha, called Ernest the Pious. Among other duties, Seckendorff's responsibility was the enormous library that Duke Ernest had acquired, originally from the spoils of war.<sup>22</sup> This library can still be visited in the impressive castle and administrative building established by Duke Ernest in Gotha. Thus the young Seckendorff had access to all the most important writings in economics and political science of his times, and one of his tasks was to present summaries of many of them to his Duke. In 1656, at thirty years old, Seckendorff published his most important work, *Der Teutsche Fürstenstaat* (The German principality), whose thesis was based around two old traditions: a detailed description of a country, its history, people, administration, institutions and resources that had been customary ever since thirteenth-century Italy, and secondly the old German *Fürstenspiegel* (literally the

'king's mirror') textbooks or 'owner's manuals' for kings and princes on how to rule their countries. Seckendorff's book remained in print for the next ninety-eight years – a very long life for a textbook.

Some years later Seckendorff travelled to the Dutch Republic with Duke Ernest. As was the case with so many other observers of the time, the affluence, peace, freedom and tolerance he experienced in Holland made a deep and lasting impression on Seckendorff. When he returned home, he felt the need to elaborate on his advice for German princes with a supplement, *Additiones*, which was published in 1664, and subsequently always printed with the main book. In this supplement we get Seckendorff's most important economic insights. His experiences in Holland confirmed the theory he had formulated in the Gotha library, about the importance of cities and industry in the creation of wealth. The works of Italian economist Giovanni Botero, whose most famous work, *On the Greatness of Cities*, was originally published in 1588, are today found in the Gotha library in thirty different editions all published before 1655. We can assume that most of them were already there in Seckendorff's time.

Seckendorff understood the importance of having many different trades and crafts represented in the cities, and that craftsmen move from the countryside to the cities, where they can earn more. At the same time he is modern in his worry over the lack of competition among the craftsmen. Duke Ernest invested in infrastructure, and a relatively unsuccessful attempt was made to make the rivers of the principality as navigable as Dutch canals. The policies of Seckendorff enabled people to move more freely, by removing duties and taxes, and in them we find the beginnings of a welfare state, with the state taking on responsibility for helping the old and the sick.

What did Seckendorff and other economists of the time see in the Netherlands that made such a deep impression? We know quite a lot about industry and trade in the Dutch city of Delft at the time Seckendorff visited the country, and without knowing whether he ever visited Delft, we can use this city as an example. German economist Werner Sombart's theories about war<sup>23</sup> and luxury<sup>24</sup> can in

Delft be seen represented by the Navy and by the art of painting as strong incentives in the development of capitalism. But with its microscope-makers-turned-scientists the city also confirmed the Norwegian-American economist Thorstein Veblen's view that idle curiosity – also independent of profit motives – is another strong moving force of capitalism. Delft in the seventeenth century exemplified how maritime warfare, art as a luxury product, and scientific curiosity can create innovations and affluence in the same, very widely diversified clusters of production. The importance of diversity per se – another factor lost in today's standard economics – is stressed by virtually all foreign observers of the Netherlands at the time. Centrally in the Delft cluster we find the manufacturers of glass lenses – magnifying lenses – that were used for quality control in the textile industry.

By the fifteenth century Flemish and Dutch painters were pioneers in the use of oil-based paint on canvas, where Italian painters painted al fresco with water-based paint on freshly plastered walls. The Dutch painters obtained their linseed oil and their linen and hemp canvas from the Navy and merchant marine, where these materials were used in the treatment of wood and in the production of sails. In the 1600s Delft took over from Florence as Europe's foremost manufacturer of glass for scientific uses. As mentioned, handheld lenses were used in the textile industry, but the lens manufacturers also found other fields of use. The Navy needed binoculars and telescopes, and some of the glass lens manufacturers started producing microscopes. Sometimes these microscope producers themselves became scientists, describing the new world revealed by the microscopes. Delft's great microscope manufacturer and scientist, Antoni van Leeuwenhoek (1632–1723), created a synergy between textile industry, microscope production and natural science, focused around the glass lenses. To register his findings, he employed artists as illustrators. The painter Jan Vermeer (1632–75), who lived right around the corner from van Leeuwenhoek, started using a sort of primitive camera with glass lenses, a camera obscura, in his painting. A recent movie about Vermeer shows this.<sup>25</sup> The links between art and science are strengthened when Vermeer, before his death, named van Leeuwenhoek as executor of his will.

Another result of the Navy's operations was the need for maps. These maps have a conspicuous place in many of Vermeer's paintings; indeed, one of his biographers comments on his 'map mania'. In Italy, maps had generally been produced as woodcuts. Now the Dutch started producing copperplate engravings. Copper and brass were materials used both to produce the Navy binoculars and the scientific microscopes, thus creating one more link between science, art and naval warfare. Another Dutchman, also born in 1632, who also started his career as a glass lens producer was Baruch Spinoza, the philosopher. Figure 5 illustrates the 'national innovation system' that people could observe when visiting Holland in the period immediately following the Thirty Years War. Knowledge developed in one sector would 'jump' to apparently unconnected sectors, proving the point that new knowledge is created by linking previously unconnected facts or events. Diversity per se came to be understood as a key ingredient in economic growth, and this diversity was not to be found in agricultural communities where people tended to produce the same things.<sup>26</sup> This has been recognized as one of the problems of areas producing raw materials: they have little to trade between them.

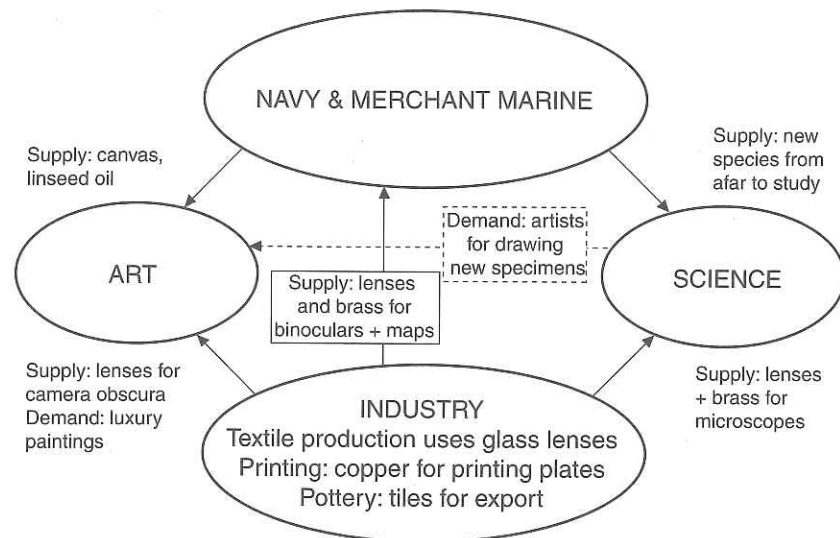


Figure 5 Delft, Holland, 1650s: an innovation system based on diversity

The Netherlands at this time was a laboratory where it was possible to observe the mechanics of economic development. To the contemporary observers it seemed clear that innovations and affluence were the results of the many windows of opportunities for invention outside agriculture, the falling unit costs of production and the increasing returns found in urban city activities, the extent of division of labour and the many different professions creating affluence as a product of synergies. Based on observation of the same phenomena in Venice, Serra describes these three principles clearly in his work of 1613, adding that 'one factor gives strength to the other'; in other words he describes a self-catalysing system of economic growth. Serra also includes a chapter on the kind of economic policy a state needs to create wealth based on this type of system. It is as if these theorists said: if you wish to estimate the wealth of a city, count the number of professions found within its walls. The larger the number of professions, the wealthier the city. The diversity of economic activities was a goal in itself that made it possible for new knowledge to 'jump' from one sector to the other as we have observed in Figure 5. These theoretical developments continued the tradition of Brunetto Latini's thirteenth-century *ben commune*, or common weal.

The goal for economic policy thus became the emulation of the economic structure found in Venice and in Holland, the bringing together of as many diverse professions as possible, all subject to increasing returns and technological change. Copying the economic policies of Venice and the Dutch Republic was never an issue. Economists at the time understood that their economic structures had come into being as a result of a strategic geographic position for maritime purposes, and the scarcity of arable land. In other words, the development strategy of Europe became one of benchmarking and emulation. Appendix V sets out the nine-point strategy of another German economist of the same century as Seckendorff, Philipp Wilhelm von Hörnigk (1638–1712), the principles that had to be followed by the laggard German-speaking states in order to emulate the economic structures of rich European countries. It is worth noticing that this strategy was directed primarily at Austria and first published in 1684, only one year after the last siege of

Vienna by the Turks. Hörnigk's book went through sixteen editions and remained in print for more than a hundred years. The edition published on the hundredth anniversary of the book, in 1784, reiterated its importance in creating the economic success of Austria. Typically, this is not a book mentioned in standard histories of economic thought.

Very early on we find the observation that a proximity to cities also improves agricultural practices. According to Botero: 'The Dutch sheep produce three or four lambs at a time, and the cows often two calves; the cows produce so much milk that one who has not seen it would not believe it.'<sup>27</sup> However, the key importance of the synergies between cities and countryside – the argument that only farmers sharing a labour market with a manufacturing city could ever achieve wealth – only rose to real prominence during the Enlightenment.

Josiah Child (1630–99), a governor of the British East India Company, encapsulates the attitude to worlds emulating economic policy by arguing, 'If we intend to have the Trade of the World, we must imitate the Dutch, who make the worst as well as the best of all manufactures, that we may be in a capacity of serving all Markets, and all Humours'. Similarly, Child opens his 1668 book, *Brief Observations Concerning Trade and Interest of Money*, with a comment on 'the prodigious increase of the Netherlanders' which is 'the envy of the present and may be the wonder of all future generations'. 'And yet,' he adds, 'the means whereby they have thus advanced themselves, are sufficiently obvious, and in a great measure imitable by most other nations ... , which I shall endeavour to demonstrate in the following discourse'. What was obvious to Josiah Child, however, has been lost to standard textbook economics.

The Germans were also aware that, at least in the short term, they could not emulate the more democratic political system of the Netherlands or Venice. There was a clear connection between the economic structure of a state and its political structure.<sup>29</sup> In the short term Germany had to live with the rulers it had. The way to develop the country was to convince the rulers to change their economic policy, which in turn – in the long term – would change the form of government in a more democratic direction. The despotism of the

rulers was to develop into what Wilhelm Roscher later called an enlightened despotism (1868) and philosophers and economists, from around 1648, slowly worked to change the perception of the rulers as to what constituted a successful kingdom.

Seckendorff was an early proponent of this school of economists and political writers who were to dominate Europe in the next century, writers who convinced the kings and rulers that their right to rule a country also entailed a duty to develop the state. These were the first developmental states, predecessors of Korea and Taiwan in the late twentieth century. The enlightened ruler – the 'philosopher-king' in Christian Wolff's terms – was in charge of this 'developmental dictatorship', and the role of the economists following Seckendorff was to advise, assist, guide, correct, flatter and cajole the rulers into doing their jobs properly. Many economists also acted as one-man research councils and entrepreneurs of last resort for the kings, activities that frequently got them into financial trouble. The logic that emerged was 'the better the ruler, the wealthier the people'. Instead of judging his success by his own wealth, the ruler's success was to be based on the wealth and happiness of his people.

The first professor of economics in the world was Simon Peter Gasser, who received his chair of 'Economics, Policy and Cameral Sciences' at the University of Halle, Germany, in 1727. Almost one hundred years would pass before England got her first professorship in economics (Adam Smith was a professor of moral philosophy). The first economics textbook written by the world's first professor of economics, *Introduction to the Economic, Political and Cameral Sciences*, starts out with a poem written by Seckendorff, which describes the old ideals of a king to be an able hunter, horseman and fencer, and then goes on to describe the modern king whose success is measured by the welfare and justice found in his realm.<sup>30</sup>

### *Ireland learning from the past*

In July 1980 Wilhelm Roscher's 'enlightened despotism' came to my mind. After finishing my Ph.D. I had landed my first job in an American consulting firm, Telesis. At the start of my first

assignment I found myself, in the company of Telesis's managing director, in Irish Prime Minister Charles Haughey's office. Just the three of us. The assignment was to evaluate Irish industrial policy after the Second World War and to make recommendations for the future, and we were to report directly to the Prime Minister's office.

Haughey, who was an accountant by profession, had made the following statement to the Irish nation on 9 January of the same year:

I wish to talk to you this evening about the state of the nation's affairs and the picture I have to paint is not, unfortunately, a very cheerful one. The figures which are just now becoming available to us show one thing very clearly. As a community we are living way beyond our means ... we have been living at a rate which is simply not justifiable by the amount of goods and services we are producing. To make up the difference we have been borrowing enormous amounts of money, borrowing at a rate which just cannot continue. A few simple figures will make this very clear ... we will just have to reorganize government spending so that we can only undertake those things we can afford.

Ireland had joined the European Community in 1973, and massive EC funds had floated into its agricultural sector. However, this had created over-capacity and highly indebted farmers in a very difficult market. My recollection of the meeting is that Haughey had a vision: 'Out there is a new technology coming, and I want you to help Ireland be number one in that technology'. Haughey was referring to information technology and his vision was one of emulating the rich countries, of catching up with them and forging ahead with the new technology. I was the only economist on the team in Ireland, and our advice was later made along the lines of business analysis.<sup>31</sup>

Today, Haughey is credited with the extremely successful transformation of the Irish economy from the 1980s onwards, based on an early move into information technology. After a while real wages in Ireland surpassed the real wages in England, the old colonial master. With his vision and leadership, Haughey had played the same role as the enlightened despots of eighteenth-century Europe.

Much of the year following my initial meeting with Haughey was spent in Dublin. From my Irish colleagues and from Trinity College Library I learned of Ireland's industrial past. In the late 1600s, Ireland – a British colony – was about to take the lead in the most important industry of the time, the production of woollen cloth. A flow of skilled Catholic immigrants from the Continent had contributed to this development. English producers of woollen cloth – who in their turn were fighting a winning battle with the wool industry of Florence – could not afford to lose her competitive edge to the Irish. They successfully petitioned the English king to prohibit all exports of woollen cloth from Ireland from 1699.

This was before Ricardo's trade theory, so everyone knew that killing the manufacturing sector and forcing the Irish to send their raw wool to England was tantamount to reducing the country to poverty. Such practices were normally defended by reference to the fact that all European powers did the same to their colonies. We have already referred to the English economist John Cary who discussed the wisdom of 'free trade and the death penalty for the export of raw materials'. The same John Cary was engaged in stopping the Irish export of woollen products. His argument was based on the economic metaphor in use at the time, that of the human body. Cary argued that England was the head of the body of the Commonwealth, while Ireland was a peripheral limb. When conflicts arose within the body of the common weal, the interests of the head had to prevail. This of course caused bitter resentment in Ireland, where the Dean of Trinity College, John Hely-Hutchinson (1724–94), wrote a book on how the commercial restraints of Ireland from 1699 had reduced her to poverty (*The Commercial Restraints of Ireland Considered in a Series of Letters to a Noble Lord*). The book, published anonymously, was condemned to be burned by the common hangman for its seditious doctrines. It was the last book in England to suffer this fate.

In nineteenth-century America, Irish immigrant workers were keenly supporting the 'American System of Manufactures', the protective system that allowed the country to industrialize. They remembered that Ireland had had her industry stolen from her, and did not want their new country to be subject to the same

treatment by England (who vehemently protested against American industrialization for more than a hundred years). The situation was a bit like prohibiting Silicon Valley from exporting electronics during the 1990s. In 1699 Ireland had been prevented from emulating; in 1980 the country had its revenge when it embarked on a strategy to conquer what would become the dominating world technology for future decades – information technology. This would produce a productivity explosion that was to catapult national wage levels above that of the former colonial power. Maybe I am attributing too much importance to this, but there is almost an epic quality in the contrast between colonial Ireland in 1699 being prohibited from using the most important technology of that time – for the production of woollen cloth – for export, and its vindictive success 300 years later in the technology of our own time – information technology.

## 4

## Globalization: the Arguments in Favour are also the Arguments Against

It is known that primitive nations do not improve their customs and habits, later to find useful industries, but the other way around.

Johann Jacob Meyen, German economist, 1769

The bourgeoisie, by the rapid improvement of all instruments of production, by the immensely facilitated means of communication, draws all, even the most barbarian, nations into civilization.

Karl Marx and Friedrich Engels,  
*The Communist Manifesto*, 1848

Globalization – as it is interpreted by the Washington institutions, the World Bank and the IMF – is in practice a very rapid economic integration of rich and poor countries both as regards trade and investments. There are many arguments for such free trade and integration; some of them are cultural, such as the observation that free trade creates contacts and understanding among different