Competitiveness and its predecessors - a 500-year cross-national perspective

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Competitiveness - ’corporate grafitti’ invades economic theory

Even a casual observer of the practice and science of management will not fail to notice how a continuous flow of new concepts are born, become fashionable, and then disappear from management jargon. A recent article in Financial Times (1, p. 10) suggests the term ’corporate grafitti’ - or ’management grafitti’ - to describe the unthinking use of buzz-words. Management language is 'opaque, ugly, and cliché-ridden', FT claims. 'Management grafitti' is intended as the catch-phrase to end all catch-phrases.

Clearly these 'corporate grafitti' are important not only to the world of business, but also to the rest of society - largely due to the influence wielded by the people who employ them. Michael Porter, himself a contributor to corporate grafitti, has issued a warning to managers against paying too much attentions to the fads - against what he calls *single-issue management.* Luckily, most management grafitti live and die without ever leaving the spheres of management. Exceptionally, however, the term *competitiveness* has taken the leap from management theory to the field of economics and public policy. Does this mean that public policy theory is starting to be subject to the same fads as management theory? Apparently, some mainstream economists are of this opinion. However - although most of the time ill-defined - the term *competitiveness* seems to fill a need in public discourse. Does the need for such a concept reflect a new situation in the world economy? Do we need the term *competitiveness* in order to come to grips with increasing globalization (another grafitti term), or is this a new term for a set of problems which have been around for a long time?

In this paper I shall argue that, although often misused and mostly ill-defined, the term *competitiveness* properly used does describe an important feature in the world economy. This concept scratches the surface of important issues which are central for understanding the distribution of wealth, both nationally and globally. In spite of its fairly recent appearance on the scene, the term *competitiveness* in my view addresses issues which have been central in public policy at least during the last 500 years, albeit under different headings. I shall also argue that *competitiveness* - properly used - exposes important weaknesses in the neo-classical economic paradigm. This could then account for the vehemence with which some mainstream economists attack the use of the term.

If *competitiveness* is almost universally regarded as a formula for growth, another related term - *picking winners* - carries with it basically negative connotations. I shall attempt to show that both the above *terms* may be new, but that the underlying issues and the practice behind them are older than economic theory - perhaps as old as international trade itself. I shall also try to show that the discredited idea of *picking winners* is closely connected to the highly fashionable term *competitiveness.*

In the parlance of today's economic policy-making *competitiveness* is like motherhood and apple-pie - few people in their right mind would argue against it.

Opposition to the term *competitiveness* seems to fall in 2 categories: The first group questions competitiveness as the basis for the world economic system. The second questions the validity of the concept as such. The first category is represented by the 'Group of Lisbon' - 19 scientists who have put together an interesting document entitled 'Limits to Competition' (2). The Group of Lisbon raises several questions on the long-term feasibility of a planet governed by what one of them calls 'The Gospel of Competitiveness' (3). The second category group consists mostly of neo-classical economists who see the term as meaningless.

The use of the word *competitiveness* flourishes on both sides of the Atlantic. The term also starts to shows up in the Third World - it is in the process of being 'globalized'. The overall strategy of the European Union (EU) seems to be centered around three buzz-words: *Competitiveness* - conveying a notion of continued wealth creation, *cohesion* - the EU term for income distribution, and *subsidiarity* - the democratic dimension, implying that decisions should be taken at the lowest possible level in the hierarchy. Also in the US, *competitiveness* is decidedly 'in'. In the US, however, opposition to the use of the term brings together unexpected allies. The Clinton administration brought with it what to an outsider looks like the first non-neoclassical economic advisors to the Presidency for several decades. Predictably - friction between the neo-classical camp and the 'newcomers' appeared. Robert Reich's 'high quality jobs' and 'low quality jobs' are not exactly meaningful terms to neo-classical economists. In a paper presented at the 1993 Annual Meeting of The American Economic Association, MIT's Paul Krugman twice refers to Robert Reich as a 'pop internationalist', and somewhat unacademically condemns his Harvard colleague's notion of 'high-value sectors' as *a silly concept.* (4) Faced with such an unusual degree of academic animosity, it is surprising to find that Krugman and Reich share the same negative view on the term *competitiveness* - a term everybody else seems to love. In his review of Michael Porter's *The Competitive Advantage of Nations* (5) Robert Reich opens with a broadside: '*National competitiveness* is one of those rare terms of public discourse to have gone directly from obscurity to meaninglessness without any intervening period of coherence' (6). In Krugman's article quoted above, he concludes that in international economics 'the essential things to teach students are still the insights of Hume and Ricardo', and 'if we can teach undergrads to wince when they hear someone talk about "competitiveness", we will have done our nation a great service'. The 'pop internationalist' and the defender of neo-classical economics have found a rare common ground in their shared dislike of the term *competitiveness.*

Competitiveness as a term in international economics

The macro-economic use of the word *competitiveness* is often not properly defined. In a *micro* world, the term is fairly straightforward. A standard definition would be that *competitiveness* refers to the capacity of a firm to compete, grow, and be profitable in the marketplace. At the *macro* level, however, the concept becomes more elusive. Porter (5, p. xii) comments that there is no accepted definition of *competitiveness*, and later says that 'The only meaningful concept of competitiveness at the national level is national productivity' (5, p. 6). This is hardly an operational definition, since - as we shall see later - there is sometimes little relationship between absolute level of productivity and national wealth. A recent book carrying the title *European Competitiveness* (7, p. 1) sees two distinct uses of the word: one the one

hand it refers to relative efficiency (dynamically or statically), on the other to relative international trade performance (market shares, revealed comparative advantage). Also these definitions seem unsatisfactory . In a 1985 book on *US Competitiveness and in the World Economy*, Bruce Scott provides the following definition: 'National competitiveness refers to a nation state's ability to produce, distribute, and service goods in the international economy in competition with goods and services produced in other countries, *and to do so in a way that earns a rising standard of living* (8, p. 15, italics added). The OECD Programme on 'Technology and the Economy' provides the following definition: '(Competitiveness) may be defined as the degree to which, under open market conditions, a country can produce goods and services that meet the test of foreign competition *while simultaneously maintaining and expanding domestic real income'*. (9, p. 237, my italics)

In this paper I shall use the Scott/OECD definition of *competitiveness.* By this definition, national competitiveness is limited to activities where 'being competitive' in the micro sense simultaneously increases the national standard of living. This is in my view the core of the argument. We may thus say that 'competitiveness' is achieved only when the neo-classical 'law' of factor-price equalization (10, 11) is being defied. *Competitiveness* is in my view divorced from the issues of *productivity* or *efficiency* as such. Although it is difficult to be competitive if you are not efficient and have a high productivity, it is by no means obvious that being the most efficient producer of an internationally traded product makes a country *competitive* - i.e. enables it to raise the standard of living. Some very efficient producers and nations are desperately poor - they are efficient in products which do not provide *competitiveness* in the income-raising meaning of the word. Taking an example: The most productive manufacturers of base-balls in the world are Haitians. They earn 30 cents an hour. Although the US firms which have their base-balls produced in Haiti are competitive in the micro-economic sense, base-ball production does not make the Haitian economy more *competitive* in our macro-economic use of the word. In spite of its absolute efficiency and large market share in producing base-balls with the state-of-the-art technology (needle and thread), Haiti's standard of living does not increase.

We can observe that high *relative or absolute productivity* levels do not *necessarily* lead to competitiveness. However, fast *changes in the level of productivity* do tend to lead to *competitiveness.* Behind *competitiveness* there is a key element of imperfect competition, and it is of course this imperfect competition which prevents factor-price equalization. That a firm is competitive in the micro-economic sense, does not mean that all its activities make the nations where it operates more *competitive* in the income-raising macro-economic sense of the term. Being the most efficient in the 'wrong' activities - the opposite of *national competitiveness* - leads to 'negative development'.

The conflict between 'competitiveness' and neo-classical theory - or: How the world got rich in the 'wrong' way

Why does a prominent mainstream international economist like Paul Krugman want all US undergraduates to wince at the mention of the term *competitiveness?* The term seems to provoke in him something more than indifference. Why this strong visceral reaction? One explanation could be the frequently uncritical and ill-defined use of *competitiveness* in public discourse. However, I think there are more profound reasons. The very idea of a nation lifting itself to higher levels of living standards through *competitiveness* - being engaged in activities that raise the national living standards more than other activities - goes directly against the assumptions and beliefs which form the foundations of the neo-classical economic edifice. This is not the way economic growth is supposed to take place in the neo-classical model. The strong reaction against the term seems to be there because the implicit assumptions behind *competitiveness* contradict the very core of neo-classical economic thought. In a world inhabited by 'representative firms' operating under perfect information and with no scale effects - the classical assumptions of neo-classical theory - the term *competitiveness* is absolutely meaningless. Thus Krugman's view of a 'high value sector' as being silly. *Competitiveness* is caused by factors which neo-classical economics traditionally has assumed away - the term must therefore seem meaningless.

Both *high value sectors* and *competitiveness* come alive, however, in a world where imperfect information and huge economies of scale create cumulative causations, path-dependent development and lock-in effects. Economies of scale are at the core of globalized competition. Indeed, under the standard assumptions of neo-classical economic theory it is difficult to find reasons why firms exist at all, even more so for globalized firms. So, in spite of the often vague and cliché-like use of the term *competitiveness*, the word carries with it a core of intuitive understanding which challenges the very paradigm on which the world economic order rests.

An important problem facing the standard economic theory of today, is that the countries which grew rich did so *in the wrong way*. In the neo-classical world, additional created wealth is supposed to spread through lowered prices. In a world with perfect information and no economies of scale, there is no room for wealth to be taken out in any other way. New technology in the form of added capital per worker increases the output of the economy, and - under the standard assumptions - this spreads through the world economy in the form of lowered prices. Both Adam Smith (12, p. 269) and David Ricardo (13, pp. 46-47) explicitly state that this would be the effect of improved techniques - prices would fall.

However, as technology progresses a nation can get rich in two very different ways. One is the mechanism suggested by Smith and Ricardo: technological change only causes prices to fall. The other way, which is not discussed outside the field of labour economics, is that an important portion of the benefits from technological change is being distributed *inside the producing nations* through higher profits, higher wages, and higher taxable income overall. I call the first mechanism *The Classical Mode* of distribution of economic growth, and the second *The Collusive Mode* of distribution. When the first mechanism operates the benefits of technical change are spread

exclusively to the *consumers* of goods produced. When the second mechanism operates, the *producer* (company and nation) of goods retains an important part of the benefits of improved productivity. (See 14, for a discussion of this). Only when the second system is at work - when there is a collusive spread of economic growth - there is a possibility for discussing *competitiveness*. Competitiveness in this way can be seen as the consequences on a national level of what labour economists refer to as 'industry rent'. The core of the competitiveness strategy is to locate industries where high industry rents exists - where there is a collusive spread of economic growth in my terminology. *Competitiveness* - the income-rising effect - is essentially achieved through appropriation of this rent.

In the static system of neo-classical economics, rent-seeking is seen as a negative term. In a world where increasing returns to scale, imperfect information, and huge barriers to entry dominate all industries of any importance, dynamic rent-seeking seems to be a key factor for economic growth and *competitiveness.* Being micro-economically competitive in an industry with perfect information, perfect divisibility of factors of production, and no scale effects leads to poverty - regardless of the level of productivity - as we have shown in the Haitian example. High-tech protectionism is a part of this rent-seeking. The existence and national appropriation of this rent is the core of *competitiveness.* This 'industry rent' is also a central feature of the mechanisms which prevents factor-price equalization to take place in the world, and it gives us a hint at why increased globalization seems to be accompanied by larger income inequalities. Inside the EU this tendency is confirmed, at present more than 60 per cent of EU territory receives subsidies due to their 'underdevelopment'. This amount comes in addition to the huge redistributional effects of national economic budgets. The quest for *competitiveness* seems to necessitate increasing flows of funds for *social cohesion.* Originally one main argument for the internal European market was the reaping of economies of scale. Not unexpectedly, this seems to lead to a concentration of production - creating fewer centers and more peripheries, thus increasing the need for redistribution.

If the increased wealth produced with new technology is, even to a small extent, kept in the producing country in the form of higher wages and profits, the logical foundation of our world economic system today would seem to face a serious challenge. Given that technological progress at any point in time is very unevenly distributed among different economic activities, the logical result of this is the *high-tech protectionism* that we see in practice. Nations attempt to pick winners, i.e. those activities with the highest potential for an increase in productivity and sales[*], assuming that increasing returns and imperfect information will cause the 'industry rent' to stick. Probably the static Ricardian type benefits from trade are more than outweighed by dynamic 'industry rent' effects, caused e.g. by increasing returns. On the other hand, if both trading partners work under increasing returns, this would again make an even stronger argument for free trade. It is, however, quite easy to envision situations where free trade would no longer would be the preferred solution.

Recent developments of mainstream economic theory - 'New Growth Theory' and 'New Trade Theory' - are approaching an understanding of the very same factors we discuss here, but from a different angle. As the father of the 'New Trade Theory'

[*] I assume that Verdorn's law will very often be at work.

Krugman himself has resurrected a key concept from 19th Century national economic policy [¤] - economies of scale (15). In my view the findings of these 'new' schools are absolutely compatible both with 'high value sectors' and 'competitiveness'. If Krugman were to see the quest for *competitiveness* and for *high value sectors* as being the result of the **uneven spread across industries** of economies of scale, endogenous technical change, and consequently of positive hysterisis effects, he would, in my opinion, find that both Robert Reich, the reasoned *competitiveness* school, and 'New growth theory' and 'New Trade Theory' are indeed addressing the same issues. One barrier to this theoretical convergence and mutual understanding is that in spite of the resurrection of economies of scale as an important factor determining the distribution of world income, Krugman and other 'new trade theorists' so far seemingly avoid facing the practical consequences of their own theories. It is easy to have an understanding for their reluctance. Incorporating the conclusions of 'new trade theory' would require a complete overhaul of the world trading system, and make painfully clear the imperfections of what one US writer refers to as GATTism. (16). With a view to the problems of the Third World, and now also the fast erosion of the living standards of the Second World, it still seems pressing to make this overhaul.

[¤] Although Krugman seems unaware of its former importance. He only tracks the term back to a 1924 article.

Grafitti from the past - historical equivalents of competitiveness

Competitiveness in a Schumpeterian framework

Between the Anglo-Saxon economic theory which presently rules the world and its predecessors - the theories which in turn built the industrial powers of England, USA, Germany and Japan - there is very fundamental difference: the desirability of perfect vs. imperfect competition.

In the Anglo-Saxon neo-classical theory *perfect competition* is - at the same time - a core assumption of the system and a prerequisite for the system to deliver what it promises: factor price equalization under a system of world free trade. In neo-classical theory economic activities are 'alike' - all equally good as carriers of economic development from a nation's point of view. This is a logical consequence of the key assumptions of perfect information and constant returns to scale, and a condition for general equilibrium. The stated goal is that of *perfect competition.* The Anglo-Saxon paradigm is neo-classical economics, whereas the alternative Schumpeterian or evolutionary economics has its roots in the German Historical Tradition.

One economist - Joseph Alois Schumpeter - provides a bridge from the German historical school to the world of Anglo-Saxon economic theory. In Anglo-Saxon economics Schumpeter stands out as being much more original than he is to someone who has a knowledge of the German historical school of economics. Today Schumpeterian or evolutionary economics challenges neo-classical economics as an alternative basis for economic policy-making. Its breakthrough on the policy-making level was the Technology and Economy Programme (TEP) recently carried out by the OECD, where the aim was to create a better understanding of the relationship between technological change and economic growth. In Schumpeter's process of 'creative destruction' waves of innovation hit different industries at different points in time - providing widely differing entrepreneurial profit across industries. The industries where high degrees of entrepreneurial profits exist, will also be the activities which provide *competitiveness* as this entrepreneurial profit is spread in a *collusive mode* and 'trickles down' in the producing nation. In this way a reasoned use of the term *competitiveness* is perfectly compatible with a Schumpeterian world view.

In the empire-building economic paradigms of the past, economic development was seen as 'activity specific' - some economic activities were seen to bring economic development, others not. (see 14) Economic development in this system was - stated in today's terms - caused by engaging in the economic activities which provided *dynamic imperfect competition.* The Schumpeterian creative destruction which caused growth were historically clustered around few activities at any point in time - in stone working activities in the stone age and in bronze working activities in the bronze age. Since the 1500's the implicit or explicit assumption in economic thinking was that if a country engaged in the activities experiencing technical change, the

technological advances would *not* all have to be given away to customers abroad, much of it could be kept in the producing nations as profits and higher real wages which gave a higher standard of living. This reasoning is evident in the *realökonomisch*-oriented mercantilists both in England and France, in the philosophy behind the arguments used by the German cameralists, in the 'American System' starting around 1820, and in the German historical school. In a Kaldorian sense, the development economics in the growth period of all the presently industrialised countries was 'economics without equilibrium' - a system where shifting clusters of disequilibrium-producing technical change provided growth. The goal of economic policy - mostly implicit - was a search for dynamic *imperfect competition.* In this connection various concepts or buzz-words - of the likes of *competitiveness* - were in use. We shall return to this later in this section, where English, US, German, and Japanese experiences are treated separately.

The historical economic growth of nations is hardly a history of free trade or perfect markets. Even though historically natural protection in the form of very high transportation costs have served as natural deterrents to trade, no doubt tariffs and import and export prohibitions have been the most used tools of economic policy in history. Tariffs were clearly important sources of revenue, but they were also tools for a wider economic policy.

Using the word 'strategy' for economic policies of past Centuries is perhaps an overly ambitious term, but for hundreds of years nations have possessed beliefs and ideologies on what promoted national welfare. Based on these beliefs economic policy, heavy interventions in the working of the market were carried out. Just as the ideology of free trade has been seen as the key mechanism in promoting universal economic welfare since the second world war, other concepts have dominated earlier. Often the expression of the policies to follow were as nebulous as today's *competitiveness* - often they were more specifically targeted. Our understanding of these past policies tends to be built on stereotypes. Hundreds of years of economic history and economic thought is usually lumped together under the - mostly derogatory - term 'mercantilism'. Unfortunately - following the example set by Adam Smith - we tend to discuss only the monetary aspects of mercantilism and other pre-classical schools of economic thought. The teaching of history of economic thought seems to lose out in Western countries - unlike in Japan - and what is left of the subject tends to become the history of neo-classical economics. The economists who were actually important for policy-making in the past are mostly lost to us in the pursuit of the genealogy of neo-classical thought. In the following section we shall look at the *realökonomisch* (non-monetary) aspects of pre-classical - and later 'anti-classical' - economic thought in some of the largest and most successful economies

England and the theories of 'good' and 'bad' trade

Towards the end of the 15th Century England was a poor nation, heavily indebted to her Italian bankers. Her main produce was wool. Over a relatively short period, England went from being a poor periphery of Europe to being 100 years ago what we today would call the world's superpower - from being a poor farming country to possessing a world empire where the sun never set. England's *competitiveness* increased enormously - she increased production and exports and raised the standard of living considerably, although unevenly.

This development was not result of macroeconomic 'laissez faire'. It was seemingly based on a perception of the economic growth process very different from today's, I would even venture to call it a strategy. Seemingly, economic growth was seen as being *activity-specific*, it happened in some activities and not in others. It was a world where 'good' activities caused national wealth - not a world where an abstract 'economy' grows by percentage points. In a less complex environment - without the bewildering array of new products and new technologies facing us today - I find this view plausible. Merchants and workers in some activities where wealthier than others, and pre-Ricardian common sense seems to have reasoned that if lawyers make more money than lettuce-pickers, a nation of lawyers will be richer than a nation of lettuce-pickers. Increasing national wealth - *competitiveness* - was tied to being active in the 'good' activities. Exporting certain goods was 'good trade' - a term which recalls Robert Reich's 'high quality jobs'. The economy consisted of activities which were potentially different - good, bad, so-so. The economy was far from being a black box inhabited by 'representative firms'.

The core of the English strategy is well captured by German economist Friedrich List: 'The principle 'sell manufactured goods, buy raw materials' has during centuries been the substitute for a whole theory'. (17, my translation) Manufacturing was seen as bringing *competitiveness* - raw materials not. From a neo-classical point of view this is of course nonsense, but it is difficult to refuse the results of this strategy - the industrial revolution. Looking at the English cult of manufacturing and the concepts of 'good' and 'bad' trade in the light of modern innovation theory, the strategy seems to make sense. The industrial revolution can be visualized as a process where, following woollen textiles, more and more processes, one by one in a sequence, were being mechanized, and more and more differentiated products appeared. The English seems to have picked up the new industries during the period of transition from being a handicraft into being a manufacturing industry. In this way they would run down the learning curves faster than their later-starting competitors, achieve important economies of scale, learning-by-doing, and would build important barriers to entry for foreign competitors. By concentrating on manufacturing early in the industrial age the English created an unrivalled *national innovation system* (18, 19). As a result, pockets of activities working under imperfect competition clustered in different parts of England as 'growth poles' or Marshallian industrial districts.

Daniel Defoe - who is normally seen as a reliable source in English history - gives us his account of the origins of England's *take-off* in his 'Plan of English Commerce' of 1728. By his account, the Tudors - especially Henry VII and Elizabeth I - are to be credited for England's ascent. Defoe describes how Henry VII - who came to power in 1485 - had spent his childhood in Burgundy. The wealth he observed there contrasted sharply with the poverty he later found in England. But, the Prince observed, the wealth in Burgundy depended totally on the import of English raw materials: wool and Fuller's earth.[*] When he came to the throne of England, Henry employed the pre-Ricardian logic which during later centuries seems to have dominated, not only in England, but also on the Continent: (Woollen) manufacturers are rich, producers of raw materials (wool) are poor. Therefore, to get rich and develop the country, we must promote the production of (woollen) manufactures. Selling manufactures is 'good' trade - in today's lingo: it makes us *competitive.* The

[*] Silicate of alumina, used in cleansing cloth.

methods used to start the production of woollen textiles in England starting in 1489 are the same which later became standard features in all presently industrialized countries: The king 'secretly procured a great many Foreigners, who were perfectly skill'd in the Manufacture, to come over and instruct his own People here in their Beginnings', bounties were paid to entrepreneurs, import duties were raised for textiles, export duties for raw wool were kept high, and finally, when the English production capacity was sufficient, the export of raw wool was prohibited.

The theories of 'good' and 'bad' trade probably reached its perfection in the 18th century. Three volumes published in 1721 by Charles King under the title 'The British Merchant; or, Commerce Preserv'd' (21) were extremely influential in the 18th Century. King gives an elaborate list of 'good' and 'bad' trade - of what makes a country *competitive.* The list is long and detailed, but a basic message is that selling manufactures is 'good' trade, importing them is 'bad' trade. (21, Vol. 1, pp. 1-14) Selling raw materials - commodities - to import manufactures is 'bad' trade. 'Bad' trade today finds its counterpart in Boston Consulting Group's and Michael Porter's 'dog industries', activities characterized by fragmented market shares and no growth, i.e. where there is perfect competition. Here Marx, Schumpeter and Porter meet: perfect competition does not lead to wealth.

Interestingly in Charles King's scheme, exchanging manufactures for other manufactures is specifically seen as being beneficial to both trading countries. In a world where commodities are produced under conditions of diminishing returns, and where manufactured goods are produced under conditions of increasing returns, King's recommendation would make sense. During the last 10 years 'The New Trade Theory' has - indirectly and without referring to it - reconfirmed the validity of this old 'unscientific' and 'superstitious' economic policy. We should also note that an Italian economist - Antonio Serra - already in 1613 had identified the existence of increasing returns as an important source of the Venetian wealth.(22, 14)

The English emphasis on manufacturing consisted not only of promoting own manufacturing, it was important to stop other nations from manufacturing when this was feasible. In most cases the manufacturing-centered strategy involved preventing the birth of manufacturing industries in the colonies, which could be done without causing to much political uproar. However, on some occasions it was seen as necessary actively to destroy foreign manufacturing in order to promote important English interests. Prohibiting the prosperous woollen textile manufacturing in Ireland starting in 1699 and the destruction of the Bengali weaving industry in the early 19th century are particularly dramatic examples - both with very serious social consequences - of this side of the strategy. In the terms of today - getting rid of the Irish woollen industry and the Indian cotton weavers made English industry more *competitive.* This aim was also achieved by prohibiting the emigration of skilled workers - a practice already used by the Venetians under threat of death penalty - and through prohibiting the export of machinery from England until the 1830's.

It may be said that the English policies on economic growth truly created a 'national innovation system'. In a period of time when innovation materialized as a sequence of mechanizations of manufacturing processes, one very efficient way of maximizing innovation was to pay bounties to the producers of goods which production was *in the process of being mechanized,* and to raise the duties of these goods. We often

also find a high-tech bias in tariff schedules, even today. In the US of the 1920's German dolls with heads made from modern synthetic material were subject to much higher duties than traditional dolls. Similar patterns are frequently found both in Japan and elsewhere, but this phenomenon needs to be studied more. Today the EU external tariff still maintains the basic characteristics of the English mercantilists: raw material can be imported free of duty, manufactured goods often not. Fish as a raw material can be imported duty free to the EC, however once breaded, cured or smoked, it has to pay duty.

'The American System' - productive capacity and competitiveness

By the time the early economic policies of the United States were being formed, the English policy had shifted away from previous strategies. Alexander Hamilton - in his 1791 'Report on Manufactures' - has clearly read Adam Smith and knows the free trade arguments, but comes down on the side of the previous English strategy: manufactures are to be encouraged. Hamilton was clearly much more influenced by the late English mercantilist Malachy Postlethwaith than by Adam Smith. Although Hamilton provided a favourable attitude towards the protection of manufactures, tariffs as a permanent 'American System' only started in 1819. Seemingly the 'involuntary protection' experienced by the United States by being largely cut off from trade with Europe during the blockades during the War of 1812 encouraged enough manufacturing activity to achieve a critical mass of political pressure for tariffs. This 'involuntary protection' seems to have a parallel in Latin America during the Second World War.

In this 'American System of Manufactures' Daniel Raymond's 'Thoughts on Political Economy' provided the first theory. (23) Here tariffs were a permanent part of the system, not an incidental temporary aid to infant industry. Raymond elaborated much around the concept of 'productive capacity'. Productive capacity seems to have been the buzz-word of the day, a parallel to the concept of National Productive Power which was used in Germany during the same period. Some activities provided more 'productive capacity' and 'productive power' than others - like *competitiveness* it is not present to the same degree in all activities. Raymond specifically complains that 'In the *Wealth of Nations* agriculture, commerce and manufactures are all jumbled together' (23, p. 132) Just as Serra did in 1613, Raymond implies that different natural laws apply to different activities.

Raymond points out that England did not get rich by following Adam Smith's prescriptions, but that it would be in their interest to have other nations following them: 'That policy which Adam Smith reprobates, and which England has adopted, must then be considered the cause which has produced the unexampled wealth and power of England' (23, p. 136) 'It might answer a very good purpose for them, to cry up his (Adam Smith's) system, that other nations might be gulled by it, but they never choose to be gulled by it themselves' (23, p. 134).

Responding to the argument that tariffs would raise prices, Raymond claimed that this was no argument for the nation as a whole. The high prices and favourable profits would both stimulate businessmen and increase the demand for labour far beyond the difference in price. We here encounter an important argument which became part of the 18th Century reasoning: The increase in prices caused by tariffs

on manufactures is more than compensated by the increase in profits and wages in the protecting country. Man's two economic roles - as consumers and producers - are weighed against one another, in a circular-flow type of reasoning. If man- the-wage-earner is compensated more as a result of the tariff than what man-the-consumer has to spend additionally on the protected goods, the net effect to him of the tariff is positive. This argument would be valid if technological developments spreads *collusively* - see above - as the result of imperfect competition, externalities, and/or scale effects. Typically, present economic thinking - having internalized the standard assumptions of neo-classical theory - focuses exclusively on the interests of man-the-consumer, which only under perfect competition are identical to those of man-the-wage-earner.

The literature around the issues of protection of manufactures in the US is enormous. Many economists deserve to be mentioned, Matthew and Henry Carey, John Rae - perhaps the first author to emphasize invention and technical change - and Friedrich List, the German political refugee who later was to export 'The American System' so successfully to Germany. The result of the debates was a considerable fluctuation in the level of tariffs during the 19th Century, in the US as in Europe. This lack of consistency in the tariff level may be seen as a weakness, but in fact Friedrich List came to recommend this strategy. Turning protection on and off would keep the local manufacturers 'on their toes', under constant pressure to improve both their products and their methods of production. We would say that such a system insured a continuos flow of process and product innovations. List's argument recalls Porter's emphasis on the need for competition and demanding customers.

Tariffs and protection were by some - including Friedrich List both during his period in the US and later - seen as a *temporary measure*, a measure needed in order to catch up with England and later forge ahead. Dorfman expresses this vision particularly well, partly using quotes from List and partly using his own words as follows:

"...free trade is the ideal, and United States will proclaim the true cosmopolitan principles when the time is ripe. This will be when the United States has a hundred million people[*] and the seas are covered with her ships; when American industry attains the greatest perfection, and New York is the greatest commercial emporium and Philadelphia the greatest manufacturing city in the world; and 'when no earthly power can longer resist the American Stars, then our children's children will proclaim freedom of trade throughout the world, by land and sea'. (24, p. 581)

In this prophetic statement, the English strategy for growth is recreated. If the United States had the courage to follow the strategy that England had followed, and not the one she preached at the moment, in the end the United States would surpass the old master, England.

[*] The population of the United States passed the 100 Million mark around 1915.

Germany: Cosmo-political economic theory vs. 'National productive power'

Whereas early recruitment to the economics profession in England came from the merchants, the ranks of economists were filled from the public sector in Germany. German Cameralists - the equivalent of mercantilists - were generally employed as keepers of the treasury or Schatz*kammer* - therefore the term *cameralists.*

The German cameralist literature is huge, but largely unknown outside Germany. Like the English mercantilists, the cameralists favoured the protection of manufacturing. An early book recommending the protection of manufacture - a contemporary of Mun's and Child's tracts in England - was Phillipp von Hornick's *Österreich über alles wann es nur will,* first published in 1684. This book went through 16 editions, more than both Mun and Child. In contrast to England, however, it is important to notice that Germany consisted of many states, some of them very small. By the early 19th Century, Germany consisted of about 32 states, each one extremely protectionist.

Already from the 17th Century we find that English economics books are translated to many languages including German, but the German books are hardly ever translated to foreign languages. This means that German economists have access to - and comment extensively on - both English and French economists, but not vice versa. There were 7 German editions of *Wealth of Nations* before 1850, but in spite of this large diffusion, Smith's influence on trade and manufacturing policy was, as in the US, limited.

Friedrich List was the man to provide the theory which lead to the economic unification of Germany, carried out under the leadership of the Prussian bureaucrats. Originally a preacher of the doctrines of Adam Smith and J.B. Say, List had witnessed first hand both the 'admirable' effect of Napoleon's 'Continental System' and of the 'American System of Manufactures'. He had also seen the destructive effects of free trade in France after the fall of Napoleon. (The 'herbicide effect' of free trade, see 14) To List, Smith was not altogether wrong, but to him the English economists failed to distinguish between national and universal interests. Their *political economy* was a *cosmo-political economy,* but nations needed to build a *national* system of political economy. To this very day, macro-economics is called *Volkswirtshaft* or *Nationaløkonomi* in Germany and Scandinavia as a result of this reaction to English cosmo-political economics.

List's version of *competitiveness* was the term 'National Productive Power', originating from the German economist Adam Müller (25). Nations must build Productive Power, and List give examples on how manufacturing creates these powers and agriculture does not, but he essentially fails to explain why. Using today's buzz-words, List clearly explains that 'manufacturing matters', but he fails to explain *why* this is so. According to List, to free the national productive powers the internal tariffs in Germany had to be abolished and an external tariff established. In Germany, List is therefore seen as a free-trader, in the Anglo-Saxon world he is seen as the incarnation of protectionism. Lists argument for free trade in a larger geographical area suggests an understanding of the importance of scale in manufacturing. In order to create national productive power, List insisted on the

importance of building railways, using much of the same reasoning now used in United States in arguments for an electronic superhighway. Thus, in Germany, List is seen as the ‘father of the national railway system’.

German political economy continued its 'one-way mirror' relationship with the rest of the world, virtually until the end of the Second World War. Exceptions were provided by the international spread of List's ideas, by a number of American teachers of economics who had studied in Germany, but above all by the very strong influence of German political economy in Japan.

Japan: *Doitsugaki* economics beats *Eigaku* economics - twice!

There are two crucial points in the history of Japanese economic policy, two points in time where a choice of economic strategy has decided the quality of her future: The Meiji restoration in 1868 and the end of the Second World War in 1945. In both cases the country has faced a strategic choice between following the recommendations of one of two schools of economic thought - between what the Japanese used to call the *Eigaku* (English) School - or the German - or *Doitsugaki* School. Remarkably, in both cases the German school of thought won the day. On the first occasion the most influential German economist was Friedrich List, on the second occasion it was the Austrian Joseph Alois Schumpeter.

Also in Japan the cosmopolitan universality of the English political economists came under criticism. British economists looked for economic laws that were as universal as those of the physical sciences, the German historical school accepted that social and economic sciences were specific to a given time and place. At the time, List's Japanese translator, Oshima Sadamasu, put it this way:

'If all apples fall to the ground in England, we can presume that all apples will fall towards the ground in every country of the world. But in the case of politics, law, or economics, what is suitable to England may not be applicable to France, for nations may be old or new, strong or weak, and their position, climate, customs and etiquette are also interconnected' ..... (quoted in 26)

In the founding manifesto of the Japanese National Economic Association from 1890 we again find expressed the importance of building 'national productive power', recalling the German and American strategies. Oshima saw the logical extension of Ricardian trade theory that 'agricultural nations must stay agricultural, and industrial nations must stay industrial' (26, p. 61) However, no fundamentally agricultural nation had ever managed to build 'productive power'. In the end, productive power was seen as closely tied to that of national independence. The conclusion was that manufacturing had to be encouraged.

It was 55 years later, at the end of the Second World War, that Japan again entered into an intense debate as to her future economic strategy. The officials of The Bank of Japan were of the opinion that Japan should cultivate low-technology industries and seek competitive advantage through her low labour costs, following the standard recommendations of neo-classical economics. The officials of The Ministry of Industry and Trade (MITI) - armed with the writings of Schumpeter - argued that Japan should build high technology industries. Again German economic theory -

with its model of imperfect competition as the engine of economic growth at its core - won the day. Schumpeterian economics and *competitiveness* converge around this core of imperfect competition. In the way *competitiveness* visualizes growth the imperfect competition element is implicit, in Schumpeterian economics it is explicit.

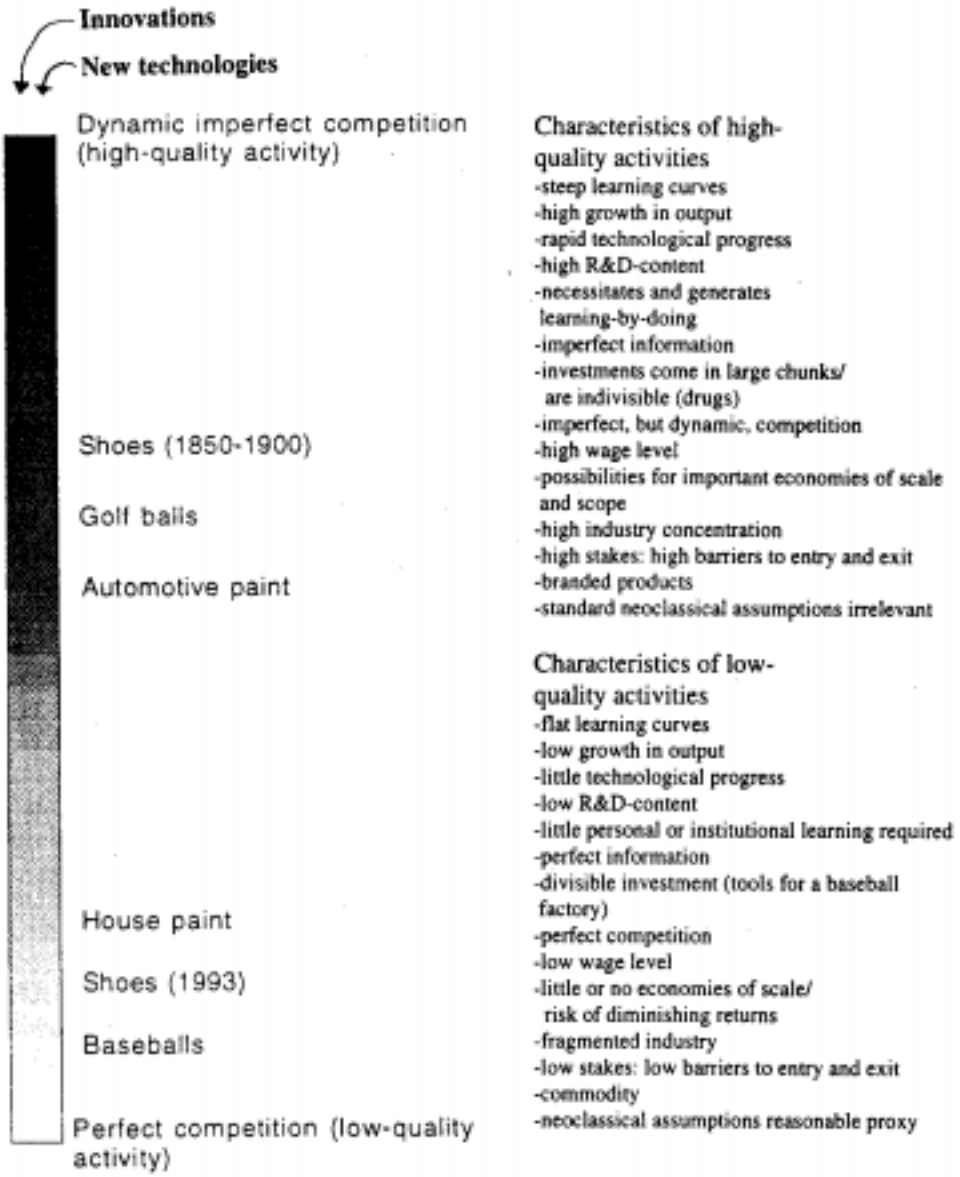
No country has embraced Schumpeter like the Japanese have. Schumpeter's first book - *Wesen und Haupteinhalt der theoretischen Nationalökonomie* (27) from 1908 - has appeared in three Japanese editions, the first in 1936. There is still no English translation, and the only other translation is a recent Italian one. When Schumpeter was unable to find a job in Europe in the early 1930's, he was offered a job in Japan. Before leaving for Japan, however, he was offered another job at the University of Bonn, which he accepted. But he never forgot the Japanese job offer. Schumpeter's own library is now housed in the Hitotsubashi University in Tokyo - formerly Tokyo School of Commerce - which was established towards the end of the last century with the Hochschule für Welthandel in Schumpeter's Vienna as a model. Thus, today the two periods of *doitsugaki* economic influence in Japan meet in Schumpeter's library.

Measuring potential for competitiveness - The Quality Index of Economic Activities

Historically the presently developed nations have built their *competitiveness* above all on manufacturing. In the past, as we have seen, this was achieved by protecting and aiding manufacturing activities in various ways, thus building a 'national innovation system' where industry rent could be appropriated by the nation-state. There is, of course, of course nothing which makes manufacturing *per se* valuable. The key lies in the dynamic imperfect competition which sustains growth, which historically has been more present in manufacturing than in other economic activities. Today, many manufacturing industries fail to build *competitiveness.* On the other hand, many services - such as engineering and banking - can build competitiveness, as well as some agricultural products. In the United States rice seems to be one example. Historically, however, the superior economic activities - those providing 'national productive power', 'productive capacity', and *competitiveness* - have overwhelmingly come from the manufacturing sector.

In neo-classical economic theory - as a result of its core assumptions - all economic activities become 'alike'. The world is inhabited by 'representative firms'. From the individual entrepreneur's point of view, his firm is unique, at the very least through its geographical location. There is in my view a challenge to the find an intermediary level of abstraction between these two extremes - that economic activities are either 'all equal' or 'all unique' - where economic activities may be grouped or categorized by common characteristics. The 'Quality Index' of economic activities in Table 1 is an attempt at achieving this goal. The 'Quality Index' ranks economic activities by their ability to provide *competitiveness*: their ability to increase a nation's standard of living while being micro-economically competitive in an open economy. The higher the score on the quality index, the higher the ability of an activity to raise a nations standard of living. In Robert Reich's terms, the index ranks jobs from 'low quality' at the bottom to 'high quality' on top.

Table 1. The Quality Index.



The workings of an economic system under perfect competition is described well by current economic theory. There are also reasonably good theories of monopoly behaviour. However, in the real world, these two situations hardly ever exist. Economic theory has little meaningful to say about varying degrees of oligopoly, although this is clearly an important issue. In my view, this is like having defined well two extremes, black and white, whereas we have no way to define the intermediary tones of gray. Most economic activities operate under varying degrees of imperfect competition, varying degrees of gray to use my analogy. The Quality Index attempts to establish shades of gray - degrees of ability to raise national standards of living. Robert Reich's high quality jobs are clustered towards the top. The 'dog' industries in Michael Porter's and Boston Consulting Group's portofolio concepts are found at the bottom. This low-quality area is inhabited by what Tom McCraw calls peripheral firms, 'labor intensive, managerially thin, and bereft of scale economies' (28, p.73). These low-score industries are often important employment-

creating industries, but they the top-score industries are the wealth-creating industries from the nation's point of view. For a further discussion of the index, see (14).

The system must be visualized as a closed one where new activities enter at the top through new technologies or other forms of innovation. These innovations then fall towards perfect competition with varying speeds - as a result of variable gravitational pull. The gravity is also determined by purely static effects, like static economies of scale, which may make an activity 'stick' at a high level of quality even in the absence of new technology. Using an example: From 1850 to 1900 the US shoe industry experienced a very high productivity increase: man-hours employed per pair of medium-grade welt oxford shoes fell from 15.5 in 1850 to 1.7 in 1900 (29, p. 271). At this point in time the shoe industry gets a high score on the Quality Index. As a result of this steep learning curve, the shoe industry provided *competitiveness* to the US economy: Real wages rose considerably, but the country was still able to compete. The nation's labour-hour terms of trade improved - more hours of labour from abroad could be exchanged for a smaller number of hours worked at home. Later, the score of the shoe industry on the Quality Index falls markedly. From 1900 to 1923, man-hours employed per pair fall only from 1.7 to 1.1, and from 1923 to 1936 further from 1.1 to 0.9. This is clearly a very meagre productivity increase compared to the development from 1850 to 1900. Even though the commodity shoes slowly ceased to be a high quality activity after 1900, there are still today high quality niches in the shoe industry. The high scores on the quality index of the niches in the shoe industry are based on factors like style, fashion, brand, design, or innovations like in golf shoes or ski boots. 'Shoes the *commodity'*, however, is now a low quality activity which has been farmed out to poorer countries. This analysis has of course much in common with Vernon's product life cycle model.

The Quality Index represents an attempt to measure, though imperfectly, *how economic activities differ,* and to be able to outline the macro-economic consequences of these differences. At the same time the Index highlights the factors and mechanisms which cause *competitiveness* to exist; the factors which enables some nations to increase their standard of living markedly compared to others under a system of free trade, contrary to the predictions of mainstream economic theory. Said simply, the Quality Index measures the degree of imperfect competition - the degree to which an 'industry rent' may be achieved and temporarily appropriated by a nation-state.

Conclusion - Competitiveness as a proxy for the pursuit of dynamic imperfect competition

The roots to the *competitiveness* controversy is already present in Adam Smith. On the one hand Smith's ideal was agriculture - only there did he see markets working nearly perfectly. On the other hand he saw in his age more technical change in manufacturing, and he speculates that the cause of this may be 'the impossibility of making so complete and entire a separation of all the different branches of labour employed in agriculture' (12, p. 10). Unfortunately Smith fails to see the organisational and distributional implications of this difference in the potential for division of labour. The very division of labour seems to be a key factor in causing economies of scale, barriers to entry, imperfect competition, and consequently variations in the 'quality' of economic activities. A high degree of 'division of labour' causes imperfect competition - the very foundation for *competitiveness* the way the term is used today.

In contrast to Anglo-Saxon mainstream economics, German economics generally allowed for economic activities to be different. Because some activities provided 'National Productive Power' or 'Competitiveness' more than others, 19th century economists both in Germany, the United States, and Japan saw the need for a *'National* System of Political Economy' as opposed to the English system which they labelled '*Cosmo*-Political Economy'. The underlying reasoning for this distinction is the same as the reasoning underlying the contemporary use of the term *competitiveness,* i.e. the quest for the imperfect-competition activities - present in some economic activities and not in others - which raise the standard of living *collusively* (not only through falling prices). In a world where economic activities are qualitatively different, seeking *competitiveness* is an optimization process for the nation state.

All presently industrialized countries, starting with England, seems to have grown with a specific ideology or strategy where the activities providing imperfect competition has been singled out and protected. These 'good' activities provided wealth which trickled down to the rest of the nation - they provided 'national productive power', 'productive capacity' or - as we call it today: 'competitiveness'. The successful colonies also embarked on the same strategy, often in sharp contrasts to the official policies of the mother countries. All nations tended to prohibit manufacturing in the colonies, maximizing the *competitiveness* of the metropolis in its trading relations. In the 19th Century, England, who came to dominate all the 'high-quality activities', gradually converted to free trade. A New Zealand colonist remarks in 1897 that 'The British colonist is scarcely seated in the saddle (before he) discards all theories of free trade with the outer world and levies high import duties on every product which his colony is capable of supplying in adequate quantity for his own needs. He levies these duties even on the products of the country under whose flag he lives. He believes that only in this way can his new land be made ..prosperous.., and that prosperity so large as this aim implies will not be attainable while subject to unrestricted competition with the great Capital...' (30, pp. 41-42)

Up until after WW II nations tended to secure *competitiveness* - access to the high quality activities - through the protection of manufactures. The success of the theories of free trade in the economics profession was not matched in business and political circles until then. In today's world with managed free trade, the goals are the same, but the means more subtle, at least among the triadic countries: Europe, Japan, and the United States. Typically, however, the industrialized countries have mechanisms both to protect activities with a high score on the Quality Index *and* some of those with a low score, particularly agriculture and fisheries, but for opposite reasons. In the name of *competitiveness* - raising national incomes through imperfect competition - the European Union (EU) supports the Airbus project. In the name of *cohesion* (income distribution) the same EU supports its farmers who are engaged in activities operating closer to perfect competition, unshielded by 'industry rents' the way their compatriots in the manufacturing industry are. I have previously referred to this as 'aggressive' and 'protective' protectionism - apparently the same type of economic policy which in fact are carried out as the result of two entirely different types of economic and political pressures. (31)

Although the term *competitiveness* is a fairly new one, it is basically only a new term for a long-standing 'winner-picking' exercise, a quest for activities operating under imperfect competition which can be traced at least as far back as England in the late 15th Century. The tariff policies and other economic measures taken by the Republic of Venice show the same characteristics even in earlier Centuries. Until fairly recently the basic mechanism used to climb the Quality Index was tariffs. However, once nations have achieved competitiveness in activities with high scores on the Quality Index, they have (sensibly) turned to free trade. Due to economies of scale, free trade is clearly beneficial to both parties when products from 'high quality activities' are exchanged for others with the same score on the Quality Index, just as Charles King was claiming in 1721.

The Quality Index attempts to illustrate *why* manufacturing matters. The whole process of economic development can be pictured as an ascent towards dynamic imperfect competition and 'rents' on the Quality Index. A similar view is imbedded in the theories of such diverse authors as Michael Porter, Karl Marx, and Joseph Schumpeter. Recently we have seen how some nations have achieved high growth by climbing very fast up the Quality Index with export-oriented production - Korea and Taiwan would be examples of this. These Asian countries have climbed towards increased wealth emphasizing exports, to a large extent based on the electronics industry. If we are to consider the present acute situation of the de-industrializing Eastern block and the increasing poverty in much of the Third World, what would be the policy implications of the historical strategies for *competitiveness?* The successful export-oriented high growth countries of South East Asia only represent about 2 per cent of the Third World population. It seems doubtful that the remaining 98 % - Billions of people - in the Third World will be able to climb the Quality Index by exporting electronics or other high-tech products to the industrialized world. The historical growth strategies of the presently industrialized countries - how they climbed the Quality Index and achieved *national productive power - competitiveness* - are clearly also worth studying as an alternative strategy.

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STEP group

STEP-gruppen ble etablert i 1991 for å forsyne beslutningstakere med forskning knyttet til alle sider ved innovasjon og teknologisk endring, med særlig vekt på forholdet mellom innovasjon, økonomisk vekst og de samfunnsmessige omgivelser. Basis for gruppens arbeid er erkjennelsen av at utviklingen innen vitenskap og teknologi er fundamental for økonomisk vekst. Det gjenstår likevel mange uløste problemer omkring hvordan prosessen med vitenskapelig og teknologisk endring forløper, og hvordan denne prosessen får samfunnsmessige og økonomiske konsekvenser. Forståelse av denne prosessen er av stor betydning for utformingen og iverksettelsen av forsknings-, teknologi- og innovasjonspolitikken. Forskningen i STEP-gruppen er derfor sentrert omkring historiske, økonomiske, sosiologiske og organisatoriske spørsmål som er relevante for de brede feltene innovasjonspolitikk og økonomisk vekst.

The STEP-group was established in 1991 to support policy-makers with research on all aspects of innovation and technological change, with particular emphasis on the relationships between innovation, economic growth and the social context. The basis of the group's work is the recognition that science, technology and innovation are fundamental to economic growth; yet there remain many unresolved problems about how the processes of scientific and technological change actually occur, and about how they have social and economic impacts. Resolving such problems is central to the formation and implementation of science, technology and innovation policy. The research of the STEP group centres on historical, economic, social and organisational issues relevant for broad fields of innovation policy and economic growth.