Brief for GSDR 2015

Fostering sustainable economic growth by redefining competitiveness and industrial policy: *Towards a systemic policy approach aligned with beyond-GDP goals*

Policy Brief

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Abstract

Industrial policy is back on the agenda and the consensus is that it must be different 'this time' from the past. Following Aiginger et al. (2013) we redefine industrial policy for industrialised countries as a strategy to promote 'high-road competitiveness', understood as the ability of an economy to achieve 'Beyond-GDP' Goals. 'High-road strategies' are based on advanced skills, innovation, supporting institutions, ecological ambition and an activating social policy. This 'new industrial policy' is systemic, working in alignment with other policy strands and supporting social and environmental goals; it affects the structure of the economy as the whole not only the manufacturing sector. Short-term actions, such as protecting employment in unviable companies, low prices for fossil fuels, or reducing wages in high-income economies are counterproductive. To pursue an industrial policy that targets society's ultimate goals without public micromanagement will be challenging. It could be achieved (i) by setting incentives, particularly those impacting on technical progress (e.g. to make it less labour-saving and more energy-saving), (ii) by the use of the important role governments have in the education and research sectors, (iii) by greater public awareness and (iv) if consumer preferences will call for socio-ecological transition.

Ten Theses for a "new" industrial policy fostering sustainable growth[1]

(1) Industrial policy is back on the political agenda, driven by fear (globalisation, deindustrialisation) and hope (increasing employment, sustainability). Bubbles in non-manufacturing sectors (finance, construction, housing) have fuelled the financial crisis, and recovery is especially difficult in countries with a small manufacturing sector, particularly when it is combined with a current account deficit.

(2) Academia suggests that a new industrial policy must be different from the past. It should promote competition and be a discovery process in a cooperative climate between government and companies. It should align industrial policy with the long-term interests of the society. It has to be systemic and driven by a wider vision, instead of a standalone policy in conflict with other strands of government policy. It should stop extending the life of non-viable industries or artificially creating national champions requiring shelter from global competitors.

(3) A new industrial policy requires three new yardsticks leading to a redefinition of industrial policy.

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[1] The 10 theses are essentially based on the work by Aiginger (2014, 2013, 2012).

- **First, economic performance should be measured by a broader set of goals** or a more comprehensive indicator, instead of GDP (or GDP growth). This could be the 'beyond-GDP goals' or some overall indicator of wellbeing like life satisfaction, happiness or life expectation.
- **Second, it should downgrade or abandon the concept of price competitiveness,** which emphasises low costs (or in its enlightened version low unit labour costs). Competitiveness should be defined as 'ability to achieve beyond-GDP goals'.
- **Third, in trying to increase welfare (beyond-GDP goals) countries may pursue a low-road strategy** (emphasising low costs, taxes, social and ecological standards) **or a high-road strategy** based on research, skills, ecological ambition, an empowering employment policy and excellent institutions. While Industrialised countries have to pursue a high-road strategy, if they want to maintain their frontier position, developing countries can start with a low-road strategy taking into account their current status of development, but also keeping in mind that a sustainable growth path should be the long-term goal.
- **Industrial policy for high-income countries should be defined as the sum of policy measures to achieve 'high-road competitiveness'.** By targeting high-road competitiveness and achieving society's wider aims (including social and ecological goals), industrial policy thus merges into a systemic socio-economic strategy.

(4) Policy documents developed by international organisations have already defined new goals for industrial policy that partially follow the ideas of academia. All proposals directly or indirectly focus on the structure of the economies as a whole, not only on a narrowly defined manufacturing sector since the borders between manufacturing and services are ever more blurred. The OECD's 'New Perspectives Program' promotes the inclusion of social and ecological goals into economic models and thinking.

(5) The European Commission puts sustainability 'at the centre stage' of industrial policy (unfortunately jointly with a rather conventional defined competitiveness). Its Energy Roadmap 2050 sets the goal to reduce greenhouse gas emissions by as much as '80 to 95%'. Radical innovation projects – e.g. on ultra-low carbon steel - have been started. Recently, the European Commission set a goal to increase manufacturing's share of nominal value-added GDP to 20% by 2020 (from 16% currently) which is realistic only if quality of production is significantly upgraded and service components are added.

(6) The renewed interest in industrial policy in the U.S. was motivated by the current account deficit. Reducing energy imports and becoming a net exporter for energy seem to be the overarching policy priorities. But a large share of the U.S. deficit - 180 billion euro - stems from an U.S. trade deficit in technology-driven industries (where energy costs are about 1% of total costs). Reducing energy prices will not boost the U.S.'s share of manufacturing in global trade, as keeping the median wage constant for 50 years did not help.

(7) The new intentions of industrial policy are still on trial. Europe's fear of losing cost competitiveness relative to the U.S. is reducing its determination to put sustainability at the 'centre stage'. On the positive side the share of renewable energy has increased strongly, with some countries producing 50% of electric energy from 'green' sources. But new energy sources need complementary fossil fuels and investment in the power-grid infrastructure. Coal use in Europe increased after the collapse of the European emissions trading scheme. Increasing U.S. coal exports made coal cheaper in Europe than gas. At the same time China is undertaking a deep transformation, trying to increase resource and energy efficiency – albeit from a very low initial level. It has set goals to increase R&D investment to 2% of GDP (the current EU share)

and makes advances in electric vehicles and alternative energies.

(8) Europe has in principle two choices to cope with high energy prices: to go for lower energy prices itself (by exploiting shale gas or by reducing taxes on energy) or to further its lead in energy efficiency *plus* to increase investment in innovation and top education. Given a vision of a system encompassing social and ecological goals, the only viable choice is to pursue an industrial policy to encourage energy efficiency, social and ecological innovation.

(9) Going for a socio-ecological transition can make Europe a 'role model' for other countries, even if different preferences and circumstances will always call for some heterogeneity. Industrial policy should foster the long-run transition, not decelerate structural change. This is a demanding challenge, given vested interests and the traditional role of governments to preserve the status quo and national champions.

(10) Refocusing on the economy's industrial base makes sense, particularly after the experience of bubbles in financial and real-estate markets. New industrial policy should support the transition of traditional narrowly defined manufacturing to a sector producing greater consumer value, supporting the economy's long-term goals. We therefore define an industrial policy for high-wage countries as strategy to promote high-road competitiveness where competitiveness is defined as the ability of an economy to provide 'beyond-GDP goals'.

Background material

Resurging interest in manufacturing

The importance of the manufacturing sector for industrialized countries has been re-appraised, in particular, in the wake of the financial crisis. Countries with a smaller manufacturing base and with a large trade deficit recovered less quickly (*Aiginger,* 2013). Interest was further ignited by decreasing shares of manufacturing in industrialized countries and by China´s rise to world no1 in manufacturing. Some academic papers develop ideas how Industrial policy, which had previously been of mixed success, should be different this time (see *Aghion et al,* 2011, *Rodrik*, 2004, *Aiginger*, 2012): the "new industrial policy" should be forward looking, pro competitive, supporting long term societal needs. Above all, it should not be an isolated policy strand in conflict with regional policy or energy policy, but it should be an integrated or systemic policy.

The European Commission developed just such a new industrial policy in "Communications" first calling for an "integrated industrial policy with sustainability at centre stage" (*European Commission,* 2010), and then for a "stronger European Industry" setting the target to raise the manufacturing share in GDP from 16% to 20% (*European Commission*, 2012).

The interface with climate policy

The systemic character of industrial policy can be illustrated by the interface between industrial policy and energy policy. Placing sustainability on the centre stage suggests that environmental standards are no longer seen as an obstacle for a competitive manufacturing sector, but as potential drivers of growth. And the European targets are ambitious: shifting away from fossil energy to renewable energy, increasing energy efficiency and lowering emissions are formulated in the so called "20/20/20" strategy for 2020. Even more demanding is the climate strategy for 2050, namely, of reducing greenhouse gas emissions by 80-90%. The energy system model PRIMES shows that this very ambitious target is in principle feasible without reducing economic growth, but would need radical technological innovations (energy efficiency improvement way above the historical trends) and de-carbonisation initiated by a carbon price of 250 €/t (*European Commission*, 2011; *Kupers,* 2012; *Schleicher - Köppl*, 2013).

Carbon leakage as counter argument

The ideal solution would be to install an ambitious climate policy in all regions of the

globalized world. Industrialized countries should go ahead because they are the largest emitters and they possess or can at least develop technologies emitting less greenhouse gases. The strongest and most popular argument against an ambitious lead by industrialized countries and specifically by Europe is the carbon leakage argument. If Europe sets high standards, production of emission intensive industries would relocate to countries with less resource efficiency, thus increasing the overall emissions. This argument is used specifically by the energy intensive industries to oppose any higher energy prices or emissions standards in Europe. The argument has been accepted by policy makers insofar as emission intensive industries receive permits for free until 2020.

The carbon leakage argument has some merits in the decision of a firm, where to locate a new plant at a given point of time, but it is questionable in the long run. The long run dynamics of emissions depends first on the technological progress in the frontier countries and secondly on the speed of global diffusion of clean technologies. High prices and standards in the frontier countries will determine the technological path, and trade and investment policies (and political, legal and moral pressure) will determine the speed of diffusion of optimal technologies to developing countries together with incentives provided by "climate funds". Remember that total subsidies for fossil energy are estimated to be 300bn €[2], and at least a part of these subsidies could be used to boost technology transfer. A strategy to decelerate technological progress via lower energy and emission prices in the countries with leading technology will very probably increase worldwide emissions in the long run[3].

The enticement of cheap energy prices

Currently emissions permits are extremely cheap, and energy prices are decreasing. The former is due to the breakdown of European emission trading, the latter to the new resources of gas found in the US and as a result of new exploitation techniques (shale gas; extraction by fracking or horizontal drilling). Gas prices in the US have fallen to one third of their peak. The tendency of falling energy prices spills over into Europe. Coal prices decline as a consequence and the US starts to export coal to Europe.

While cheap energy prices in industrialized countries can be seen as a short-term reprieve for industries under competitive pressure from new low cost countries, they have negative consequences in the long run. Innovation efforts for increasing resource efficiency will be dampened, and investment into clean energy will prove to be less profitable. Gas is a welcomed "transitional" energy up to the point of time when renewable energy is available at a large scale. It can reduce greenhouse gases if it is substituted for coal (the climate impact is half that of coal), but nevertheless it is a fossil energy contributing to global warming. If it decelerates the transition to alternative energy or current investments into renewable break down, cheap gas will have a long run negative effect on the climate.

Europe has a competitive advantage in clean technology. Energy efficiency is high, and Europe has a trade surplus in technology driven industries. The new industrial policy strategy of the European Commission intentionally builds on these strengths.

The alternative response

The optimal answer of Europe to the lower energy costs in the US should be in general to increase investment into innovation and education and specifically to increase energy efficiency and innovations in ultra low carbon technology. The European Commission has initiated research programs e.g. for ultra low

[2] This is six times as much as the subsidies for renewable energy sources, a large share of it the subsidies are spent in developing countries (IEA 2012)

[3] Carbon leakage element is restricted to a few industries. Only four industries have energy costs of 10% of total costs, for the majority of industries the energy costs are between 1% and 2% of total costs (*Aiginger*, 2013).

carbon technology in steel, the research looks promising, but the partners could not agree on a pilot plant. In general, Europe still lags behind the US in R&D expenditure, has never reached its Lisbon goal of 3% of GDP; and it trails in the efficiency of universities. Closing this gap will lower the unit labour costs by increasing productivity. Any cost difference in energy prices can be more than compensated by reducing the costs of skilled labour or innovation.

Industrial countries in the long run can compete only in skill intensive products. Competitive advantage is created by innovation; specialization occurs in skilled technology intensive products. A forward looking industrial policy boost Europe`s competitive advantage and resists the temptation to be set off course by a short run decline in energy prices.

Integrated or isolated again?

A new industrial policy should support long run societal goals; it will make synergies out of conflicting policy strands and prevent energy policy to turn back from green goals (renewables, energy efficiency) to grey goals (cheap and reliable supply). Industrial policy should promote a competitive advantage of Europe by fostering new, clean energy technologies, ultra low carbon technologies and higher energy efficiency. This is the superior strategy in the long run. A new industrial policy has to be integrated, i.e. solve problems jointly. If, on the one hand there was an industrial policy calling for innovation and skills, and on the other hand an energy policy calling for cheap and reliable energy, there would in short be no cross over between the policy strands, and we would be witnessing old style industrial policy. In a systemic industrial policy the synergies between policies are developed in order to make the individual policy strands more efficient and furthermore, societal goals can be attained.

In short, it makes sense for Europe to base higher growth on a strong manufacturing sector, and Europe should try to become the technology leader in sustainability. It makes sense for the US to close its current account deficit by "re inventing manufacturing". But it may even be problematic for a resource-rich country like the US to base the rejuvenating of its industry on low energy costs. For resource scarce Europe this holds even more: if industrial policy and climate policy have different goals, neither will reach its objective and we will be back to square one of the old, isolated industrial policy decelerating structural change and reducing economic growth.

Industrial policy redefined

Following Aiginger et al. (2013) we re-define competitiveness as the "ability of a country (region, location) to deliver the beyond-GDP goals for its citizens". With this definition, competitiveness has arrived at the country level, and the term is now closely connected to welfare assessments in the tradition of the beyond-GDP literature. It combines an evaluation of inputs or processes on the one hand with an assessment of output and goals on the other. This approach has the advantage over welfare functions derived in social welfare theory that it connects outcomes with measures that can be influenced by economic policy. This new definition should help to avoid the misuse of the term by media and politicians in the narrow sense of price (cost) competitiveness, which has lead to the foregone conclusion that wages, taxes or energy costs should be reduced (“low road” to competitiveness). For high-income countries, growth and strategic management theory predict that productivity and capabilities determine long-term economic success. A productivity enhancing social system and technology-based ecological ambition can support transition to a new path of development ("high road" to competitiveness).

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