



## **Competitiveness and Clusters: Implications for a New European Growth Strategy**

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# ***Competitiveness and Clusters: Implications for a New European Growth Strategy***

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# **Competitiveness and Clusters: Implications for a New European Growth Strategy**

**Christian Ketels (IVO)**

## **Abstract**

This paper develops policy recommendations on the use of cluster-based economic policies and the adoption of a new concept of competitiveness in the context of the new growth path that WWWforEurope aims to outline.

A first section discusses summarizes key findings from the previous research papers on the role of clusters in the New Growth Path (MS47) and on a new concept of competitiveness that embeds beyond-GDP objectives (MS46). It then extends this work by deriving an initial set of policy implications from this research. For clusters, these implications address both general practices of cluster-based economic development and specific issues related to the use of cluster-based concepts in a transition to a New Growth path. For competitiveness, it specifically discusses the new concept of competitiveness proposed in MS46 and the notion of trade-offs among different dimensions of performance in this new concept.

The second section of the paper explores the ways in which beyond-GDP objectives have been integrated into the current practice of cluster-based economic development efforts across Europe. It is based on interviews with policy makers and cluster initiatives as well as the review of relevant policy documents. For cluster programmes, i.e. the policy actions implemented by government, the paper organizes the existing efforts into three categories, differentiated by the extent to which beyond-GDP categories drive the activities supported. For cluster initiatives, i.e. the collaborative efforts by private-public groups focused on enhancing the competitiveness of a specific regional cluster, the existence of a market and the need for systemic changes are identified as key factors that drive the adoption of beyond-GDP objectives. There is also a discussion of the relevant scope of the activities in beyond-GDP related efforts relative to existing cluster categories.

The third section analysis the Europe 2020 Strategy, including its objectives, quantitative performance indicators, and the European Semester as a policy review process, from the perspective of the new definition of competitiveness proposed in MS46. After exploring whether the objectives of the strategy and the new definition of competitiveness are compatible it looks at their ability to drive an effective and transparent policy process towards policies consistent with a New Growth Path.

The final section then develops five policy conclusions from the prior analysis. Three are focused on the use of cluster-based economic development tools as instruments to achieve beyond-GDP objectives. The recommendations deal both with the way cluster-based tools can be used and with how they should be structured. Two of the conclusions are focused on the Europe 2020 strategy process. They deal with the need for a shared, explicit definition of competitiveness, proposing the definition developed in MS46 as a candidate. And they deal with



creating a more transparent policy process that more clearly separates political decisions from analytical evaluations.

**Keywords:**

Beyond GDP, Clusters, Competitiveness, Ecological innovation, Economic strategy, European economic policy, European governance, Industrial policy, Innovation policy

**Jel codes:**

D04, I31, O25, O44, O52, Q58

# Competitiveness and Clusters: Implications for a New European Growth Strategy

By Christian Ketels<sup>1</sup>

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# **Competitiveness and Clusters: Implications for a New European Growth Strategy**

By Christian Ketels

## **1. Introduction**

The WWW for Europe-project aims to develop a set of policy recommendations that can put Europe on a growth path that is more economically sustainable, more socially inclusive, and more environmentally sound than in the past. The project engages in a broad range of research efforts to ground these policy recommendations in the analysis of current economic dynamics and policies across Europe.

The present chapter develops in this context policy implications based on two specific prior research papers: One paper analyzed different concepts of competitiveness, tracked the performance of European countries based on these concepts, and then proposed a new definition of competitiveness that reflects the objectives outlined in the new growth path envisioned by the WWW for Europe-project (Aiginger et al, 2013). The other paper analyzed the role of clusters, defined as geographic concentrations of economic activity in related industries, in relation to both standard economic performance and broader beyond-GDP measures (Ketels/Protsiv, 2013).

The chapter captures the main findings from this earlier work, and develops their key implications for economic policy. These implications are then contrasted with current practices in the application of competitiveness in European Union economic policy processes and in cluster programs and cluster initiatives across Europe. Based on this analysis conclusions are drawn for how current policy practices could be changed in order to more effectively support the new growth path for Europe.

## **2. Research on clusters and competitiveness: key findings and emerging policy implications**

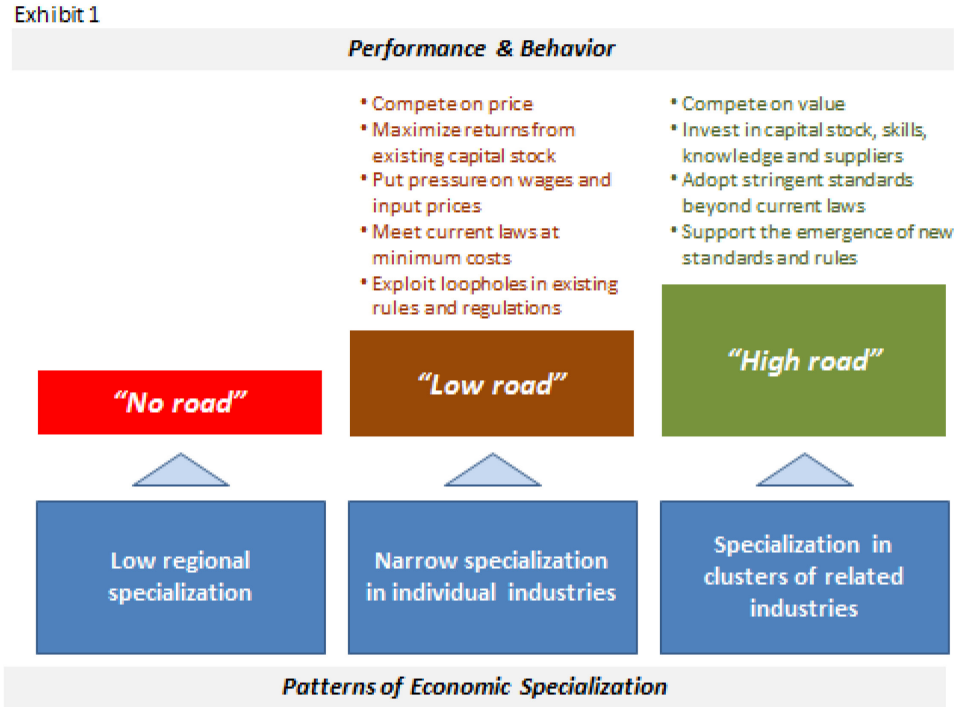
Clusters and competitiveness are conceptual frameworks used to analyze the differences in economic performance across locations. Clusters, understood as co-located activities in related industries connected through different types of linkages and externalities, are a naturally emerging feature of market economies. Porter's "Competitive Advantage of Nations" (Porter, 1990) translated earlier ideas from Marshall and others into the realities of the modern economy, and put them into the wider context of competitiveness. Dynamic clusters contribute to a location's competitiveness, understood as the economic performance a location can sustain given its qualities as a place to do business (Ketels, 2013). Clusters thus provide an important analytical perspective to understand and diagnose the drivers of a location's economic performance. They are also, as policy practice has shown since then, a useful category to organize public-private policy dialogue and policy delivery to improve competitiveness.

In the context of the WWW for Europe-project, this motivated two separate research efforts that form the basis of the policy discussion at the heart of this chapter. We are going to document the key findings of the two previous papers, and then move further to develop implications for policy.

**a. Clusters and the New Growth Path for Europe**

Clusters, regional concentrations of economic activities in a set of industries related through different types of linkages and spill-overs, emerge in response to the benefits they provide to companies: Companies already located there have a higher likelihood to grow, and companies that are looking for a location are more likely to pick a cluster as their base.

These direct effects on companies benefit regions through higher job creation and higher wage levels. In equilibrium, competition among firms distributes all benefits to the region, i.e. the provider of factor inputs, and consumers. From the perspective of the New Growth Path for Europe these economic benefits for the region are a core motivation for looking at clusters in more detail.



In addition, however, clusters might also be associated with a specific type of competitive behavior by companies that can be summarized as a 'high road'-strategy. In facing customers, high-road strategies are characterized by a focus on value through high quality and unique features. In production, high-road

strategies are characterized by investments in internal assets such as the capital stock, skills and technology. They often also have an external dimension as companies work with their suppliers and service providers in upgrading their respective capabilities, and in jointly developing innovations. These investments are likely to generate positive spillovers that reinforce the cluster through deepening the local supply of specialized skills and adding to the available knowledge stock. In parallel, the presence of the cluster is likely to provide an environment in which companies will find the external inputs that make opting for high-road strategies more likely; they will be able to access the advanced skills and supplies needed. Regions with a strong presence of clusters are those more likely to settle in an equilibrium where a sufficient majority of companies chooses 'high-road' strategies. Regions without clusters are conversely more likely to end up with companies choosing 'low-road' strategies where few if any companies make investments that contribute to the common business environment.

High-road strategies are likely to create more than just economic or "GDP" benefits. Investments in the workforce are in many cases going to create social benefits, both directly through the higher earning power that the employees gain and indirectly through the positive impact of higher skill levels on social capital (Rodríguez-Pose, 1998). And competition based on quality and unique value in products also tends to trigger production processes that are more focused on efficiency, including the efficient use of energy and natural resources.

### **Key findings of the prior research**

Over the last few years the data available for systematic analyses of the relationship between cluster presence and economy outcomes have significantly improved. For the purposes of the analysis reported here, the main source of data was the European Cluster Observatory.<sup>2</sup> The Observatory integrates comprehensive data on cluster presence with a list of more than 2000 cluster initiatives as well as data on regional economic performance and business environment quality across all European NUTS-2 regions.

The available data made it possible to test whether cluster presence, measured as a high concentration of economic activity in a defined set of related industries in a given regional economy, was significantly correlated with several matters of economic and beyond-GDP performance. This analysis was conducted both at the level of cluster categories and at the level of regional economies and their overall cluster portfolios.

The results that emerged can be organized into three different categories (Ketels/Protsiv, 2013). First, the cluster-level results essentially confirmed findings from the existing, largely US-based literature that shows higher levels of agglomeration within a cluster category to be associated with higher economic performance. Specifically, the European data reveals a positive relationship between cluster-specific

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<sup>2</sup> The data used in the original analysis is available at [www.clusterobservatory.eu](http://www.clusterobservatory.eu); the core data has recently been moved to [http://ec.europa.eu/enterprise/initiatives/cluster/observatory/cluster-mapping-services/cluster-mapping/index\\_en.htm](http://ec.europa.eu/enterprise/initiatives/cluster/observatory/cluster-mapping-services/cluster-mapping/index_en.htm)



agglomeration measured by location quotients at the level of NUTS 2 regions and regional wage levels in these clusters. Including data on the overall quality of the business environment provides further insights: Clusters do exist in regions of all levels of business environment quality – their presence is not simply a reflection of broader upgrading of the economy. Business environment quality in turn is an important separate driver of wages. And there is a positive interaction between the two, i.e. the benefits of cluster presence on wages are higher in regions with stronger business environment conditions.

Second, the available regional data allows extending the view both to beyond-GDP type performance and to the impact of the overall strength of the regional cluster portfolio, moving beyond individual clusters. As for GDP-focused prosperity measures, the data shows also for the broader types of regional performance measures huge degrees of variation in outcomes, both within and across countries. There is no simple relation between regions' performance on GDP per capita and on the beyond-GDP measures of social and ecological performance. Both business environment quality and the strength of the cluster portfolio – measured as the share of the wage bill generated in clusters that reach critical mass in terms of their employment location quotient – are correlated with higher levels of GDP per capita. The correlation with beyond-GDP performance measures of performance is inconclusive.

Third, the data on cluster initiative presence and activities (as indicated by their name and information on their websites) allows for an initial perspective on how such efforts relate to performance outcomes. A meaningful share of cluster initiatives is active in areas that are relevant for environmental sustainability. Some are active in cluster categories that are generally aligned with these objectives, e.g. clean tech or environmental services. A larger number is active in pursuing market opportunities in other cluster categories related to making the relevant products or services more environmentally friendly. At the level of individual clusters, the presence of cluster initiatives is associated with higher wages if the underlying cluster reaches critical mass in terms of employment location quotient.

## Implications for policy

The findings reported above provide the background to develop an initial set of implications for policy. These implications will then be contrasted with current policy practice to arrive at final recommendations for European policy practice.

For cluster-based economic development practice three implications stand out:

- First, given the meaningful role of cluster presence in relation to regional economic performance, an analysis of the existing cluster portfolio should be a natural part of the regional economic diagnostics that inform evidence-based policy making. This is particularly relevant in Europe as regions are focusing on their respective strengths and opportunities in the context of smart specialization strategies (Ketels et al., 2013; Foray, 2015).

- Second, cluster-based policies should be a process tool to upgrade the business environment, not just a way to enhance collaboration within a cluster. Their potential impact depends on the quality of business environment conditions. And they are likely to provide a useful platform for an effective public-private dialogue about specific business environment weaknesses and ways to address them.
- Third, cluster initiatives as a particular way to organize a cluster-based economic development strategy are as a tool most effective when the underlying cluster has already reached critical mass. Other ways, in particular the organization of existing government policies around clusters, can be an alternative when the underlying cluster is still weak or emerging.

For the transition to a New Growth Path, characterized by high performance also in beyond-GDP categories, the limited quality of the data poses a significant problem. The measures available for especially environmental performance but to some degree also social conditions measure outcomes that seem more strongly driven by particular contextual conditions of the locations, not by the impact of cluster presence, business environment quality, or other factors that drive economic behavior. Nevertheless, two tentative policy implications can be drawn:

- First, for any given level of regional GDP per capita, different levels of beyond-GDP performances seem possible. This would suggest that there is no principle trade-off between improving economic and beyond-GDP performance. It is also consistent with the notion of multiple equilibria, i.e. a ‘high-road’ scenario where prosperity is supported by investments and behavior that also generate beneficial environmental and social outcomes and a ‘low-road’ scenario where prosperity is based on asset sweating and cost control with much more negative implications for beyond-GDP performance. However, this is a notion that needs to be further tested, not the least because of the measurement issues mentioned above.
- Second, cluster organizations are available as channels for specific policy actions on sustainability. The potential seems to be particularly high when there is a latent or already existing market potential.

## **b. Competitiveness and the New Growth Path for Europe**

Competitiveness is one of the most widely used terms in the policy debate. But it is also a term that is clouded by a significant lack of consensus on what it means. Arguably this has made the research community hesitant to engage with the concept of competitiveness, leaving the field open for different politicians and public officials to use the term in ways that fits their specific interests.

These dynamics have been particularly visible in the recent discussions about European competitiveness and the European sovereign debt crisis. The lack of competitiveness in some parts of Europe has been suggested as a key underlying driver of their problems. Calls for the consolidation of public budgets but also economy-wide wage adjustments and structural reforms, especially on labor markets, have been motivated by their alleged potential to raise competitiveness.

Given these discussions alone, it is important to clarify the concept and empirical measurement of competitiveness. But competitiveness is also relevant in relation to the objectives of the New Growth Path. A critical issue in this debate is whether there is a trade-off between prosperity and growth on the one hand and environmental sustainability and social inclusion on the other hand. If competitiveness is seen a short-hand for prosperity, measures to achieve beyond-GDP objectives might have real costs in terms of lower competitiveness.

### **Key findings of the prior research**

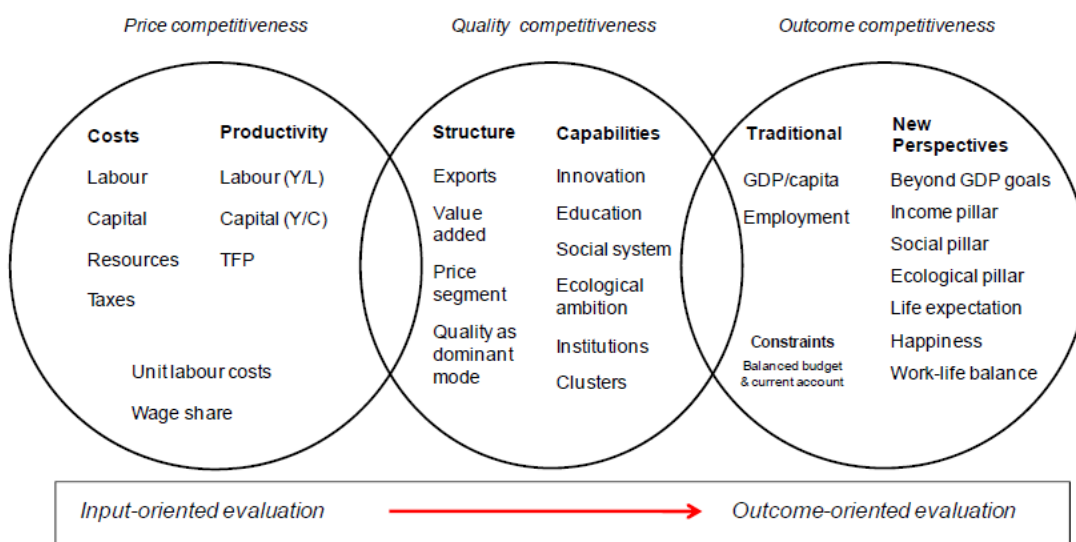
Competitiveness has been a contentious term in the academic debate about economic policy, visibly when it was called a 'dangerous obsession' in response to how then EC Commission President Jacques Delors was characterizing another difficult period for European economies (Krugman, 1994). But that has not reduced the relevance of competitiveness for a broader policy public – ranking countries by competitiveness remains popular (e.g. World Economic Forum, 2014), the European Commission has its own annual competitiveness report (EC, 2014), and a number of countries have produced their own competitiveness reports.

As a first step, the different ways the term competitiveness is being used can be catalogued and organized. The prior research paper suggests an organization in three groups, following a perspective from inputs to outputs (Aiginger et al., 2013; see also Delgado et al., 2012). The first category includes measures of either costs or costs in relation to productivity. It is imbedded in a view of perfect competition where price is the only relevant measure of competitive success. It is largely focused on the relative scarcity of factors of production: The higher their costs, either absolute or in relation to productivity, the lower the competitiveness of the location.

The second category includes measures of capabilities and the type of products and services that an economy successfully offers on world markets. It is motivated by a view of imperfect competition, where the value that products and services offer through quality and unique features drives competitive success. Specific capabilities resident in the business environment of the location are identified as critical to compete in such ways. Specific measures of positioning in export markets are seen as revealed evidence of such behavior. The stronger a location rates on the relevant capabilities, and the more its economic footprint is biased towards markets that have the desired features, the higher the competitiveness of the location.

The third and final category includes measures of outcomes. Traditionally these have been focused on GDP per capita and other strictly economic measures of success. One adjustment made in Europe has been the focus on the sustainability of macroeconomic balances, in particular of public deficits and current account balances. Only when these measures are at sustainable levels, current GDP per capita is a useful measure of competitiveness. In the US, the proposal was made to define competitiveness as an outcome where simultaneously firms located in a location can successfully compete in world markets and their activities generate high and rising standards of living for the communities in which they are based (Porter/Rifkin, 2014). Within the context of the New Growth Path for Europe analysis it makes sense to broaden these economic measures and included aspects of beyond-GDP performance. A range of international studies have recently suggested candidates to cover both ecological and social aspects (e.g., OECD, 2014; Porter/Stern/Green, 2014).

Figure 1 **Towards a concept of competitiveness under new perspectives**



Source: Aiginger et al. (2013)

As definitions, these different uses of the term competitiveness are never right or wrong in any absolute sense. However, it is possible to test whether they are appropriate given the issue or policy question they are designed to address. And they can be tested with regards to their compatibility, i.e. do these different definitions track the same underlying phenomena in different ways, or do they measure inherently different issues. The previous research has conducted these types of tests, operationalizing the conceptual definitions through specific empirical indicators and then measuring the performance of European countries and some of their international peers along these measures.

The findings of the empirical analysis can be summarized in three blocks: First, the data clearly reveals that the different concepts of competitiveness used in the literature are incompatible; they are not just

measuring different aspects of the same underlying concept. The most obvious conflict is between measures of wage costs and of prosperity – the lower the wage levels in a location, the lower the level of GDP per capita. But also some of the other measures, including those on macroeconomic balances that are prominent in the European debate, are not systematically related to the prosperity-related output measures.

Second, if high performance on the dimensions set out in the New Growth Path for Europe (which are in turn driven by the Europe 2020 strategy) is the ultimate policy objective that the way competitiveness is defined and measured should be compatible with, it is important to identify those definitions of the term that empirically correlate with these outcomes. Here the empirical data shows that apart from the outcome measures that directly track New Growth Path-related performance it is the set of indicators capturing capabilities that seem to perform best. Direct measures of cost perform the worst, with other measures of cost relative to productivity, macroeconomic balances, and structural indicators providing mixed results.

Third, the data shows that in international comparison European countries tend to do better on the broader output measures associated with the New Growth Path-objectives rather than the more narrow economic measures tied to GDP per capita. Within Europe, there is huge variation in outcomes across all dimensions. Similar to the data on subnational regions discussed in the previous section, high performance on economic measures, specifically GDP per capita, does not automatically imply high performance on non-GDP measures.

## Implications for policy

The analysis of the way the term competitiveness is used and how these different approaches relate to each other empirically suggest a number of implications for policy:

- First, to make competitiveness a useful category for the policy dialogue, there needs to be a shared definition of the term. Without such a definition, the debate becomes unproductive and puts incompatible concepts alongside each other. This definition needs to be able to shed light on the core objective that policy makers are targeting. In the current context, this objective is given by the Europe 2020 strategy, covering economic prosperity as well as social inclusion and environmental sustainability. Measuring the indicators that operationalize these goals is thus one important aspect of an appropriate definition of competitiveness. The other aspect is to measure those underlying factors that enable a location to achieve these outcomes. Here the analysis suggests that different aspects of capacity are the most critical factors to take into consideration.

In line with these considerations, the prior research paper proposes to define competitiveness as the "ability of a country (region, location) to deliver the beyond-GDP goals for its citizens" (Aiginger et al., 2013). While traditional approaches measure output competitiveness just by

GDP per capita, (un)employment, public debt and current account positions, this new definition operationalizes outcomes in three pillars: first, the *income pillar* starts traditionally with GDP but moves beyond it towards disposable household income and consumption expenditure; second, the *social pillar* summarizes indicators that reflect outcomes of a country's socio-economic system (poverty risk, inequality, youth unemployment) and finally third, the *ecological pillar* sheds light on the environmental dimension (resource productivity, greenhouse gas emissions intensity, energy intensity and the share of electricity produced from renewable energy sources).

- Second, there needs to be a framework that clearly communicates the role that other indicators play, in particular those related to costs and macroeconomic imbalances. They are clearly relevant aspects of a broader competitiveness diagnostic to inform policy action. One possible approach is to distinguish between foundational competitiveness, i.e. those factors that over the medium- to long-run determine which levels of outcome performance are sustainable, and cyclical deviations, i.e. those factors that in the short- to medium turn can allow outcomes to deviate from their sustainable level (see Delgado et al., 2012, a the related discussion of 'global attractiveness'). Cyclical deviations can, as the recent crisis has shown, require very costly adjustments that can undermine foundational competitiveness. Importantly, however, the absence of such cyclical deviations is not enough to support high and rising outcomes, whether on GDP or beyond-GDP measures.
- Third, the empirical data is at least consistent with the view that for the observed range of indicators there is no simple trade-off between the GDP and beyond-GDP aspects of the broader set of performance indicators that the Europe 2020/New Growth Path-approach suggests. This is consistent with the notion of multiple equilibria or of these different dimensions of performance driven by at least in part different and independent policies.

The research paper on competitiveness was focused on understanding the different ways in which the term competitiveness is being used and how the empirical evidence relates to them. It was not designed to address the more comprehensive question of what explains high performance on the New Growth Path-goals.

### 3. Contrasting theory with practice: do current cluster activities in Europe support a New Growth Path?

Europe has over the last decade become home to a rich community of cluster-based economic development efforts. The EU provides support to clusters in a number of ways and integrates them in some of their key policies, most EU member countries and many EU subnational regions have dedicated cluster programs, and the European Cluster Observatory lists more than 2000 cluster organizations.

Previous research on these cluster activities has focused on their direct economic impact. In fact, there is a growing literature applying different types of methodologies to assess whether cluster programs and individual cluster initiatives have a positive impact on the firms that participate in their activities and more broadly on the clusters and regions in which they are active.<sup>3</sup> The majority of these studies find a positive impact on firms that participate in projects initiated by cluster organizations, comparing these firms to a peer group of otherwise similar firms outside. But there are also studies that show no or negative correlation between participation and performance, and there is no substantial evidence on meaningful broader benefits accruing to the wider cluster or regional economies. While no general consensus has emerged among researchers, the tendency to advocate at least experimentation with these approaches has increased.<sup>4</sup>

The focus of this section is somewhat different, extending the objective function against which cluster activities are measured: based on interviews and reviews of other materials we want to explore whether or not cluster activities pursue the broader objectives of the New Growth Path for Europe, i.e. including not only direct economic goals in terms of productivity, exports, jobs, and wages, but also ambitions to contribute to environmental sustainability and social inclusion. In this analysis we differentiate between cluster programs, i.e. government activities at the national or regional level that provide financial and other support to a range of cluster initiatives or similar networks, and cluster initiatives, i.e. public-private collaborative entities that aim to support the competitiveness and economic performance of a specific regional cluster.

#### Cluster programs: Inclusion of New Growth Path-objectives

Cluster programs provide financial and sometimes also technical support to cluster initiatives, i.e. public-private collaborative efforts focused on developing the competitiveness of a specific regional cluster. The exact nature of these programs varies significantly across Europe, from what they fund to how the funding is awarded (see for an overview Müller et al., 2012):

- Some programs fund only network management activities; this is particularly the case in some of the Northern European countries and in subnational regions. Specific activities of these

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<sup>3</sup> E.g. RWI, 2014, Pirez et al., 2013, Solvell/Williams (2013), Demiralp et al. (2013); Martin et al. (2011), DAMVAD (2011).

<sup>4</sup> See, for example, Chatterji et al. (2013)

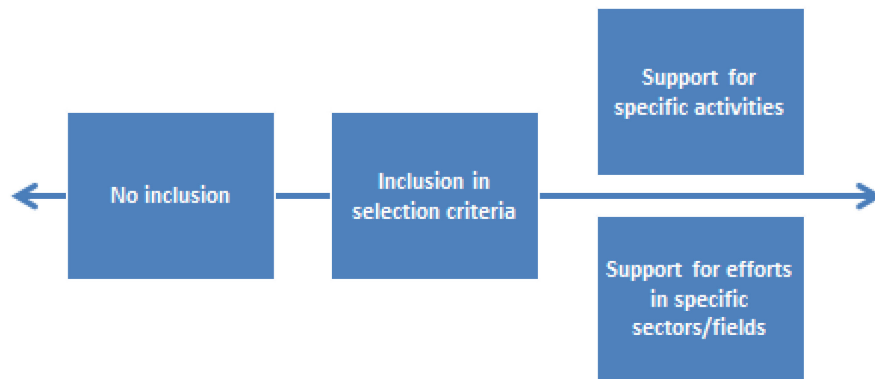
cluster initiatives/networks can then be funded through other programs with a respective functional focus. Other programs fund specific collaborative activities, for example in the field of innovation, and then make a smaller share of the awarded funding available for secretariat functions; this is the case in some of the larger national programs in countries like France and Germany.

- Some programs are open to all sectors, while others target specific fields of the economy. The prior is typical for overarching programs focused on the entire economy or a cross-cutting function (e.g., innovation) or type of company (e.g., SMEs). The latter can be found in programs that have emerged from either traditional industry-specific sector policies or industry-focused research programs.
- Competitions have become the most popular allocation mechanism for awarding funding to specific groups. This is especially true for national programs. At the regional level the selection of specific fields tends to be more part of a strategy process that then identifies the strongest or most promising areas.

Given this variety of different approaches, countries and regions across Europe have developed a number of ways to integrate the beyond-GDP objectives of the New Growth Path with their cluster programs. We organize these approaches into groups, defined by the extent to which they include beyond-GDP objectives. While there is no systematic evaluation of the different models available, there are a number of emerging observations on the respective benefits and challenges that they face.

Exhibit 3

**Cluster Programs and New Growth Path-Objectives**  
Extent of Integration





The *first group* includes those programs that make no specific reference to goals related to environmental sustainability and social inclusion. A large number of cluster programs, including some considered very well structured like the Norwegian or the German program, fall into this category. Their focus is squarely on economic objectives, ranging from jobs to wages to productivity, innovation, and international competitiveness. Beyond GDP-outcomes are a possible side effect but they are not taken up in the operational management or impact assessment of these programs.

There are different possible explanations for why these broader goals are not integrated into the design of the cluster programs. It might have been driven by the view that a program should be focused on one clear objective rather than a mix of different and potentially conflicting ones. It could also be the unintentional consequence of organizational structures within government agencies: cluster programs are run by ministries of economy or ministries of innovation and science, neither of which tend to have a strong mandate to pursue broader beyond-GDP objectives in their economic development programs. What seems least likely is that the countries have no interest in these broader objectives and therefore do not include them in their cluster programs; they tend to have instead separate efforts focused on ecological and social goals.

The *second group* includes programs that make beyond-GDP impact part of the evaluation criteria for awarding funding. At the national level is the Swedish SIO (the Swedish acronym for 'Strategic Innovation Areas') program, where the selection criteria for funding explicitly mention the impact on Swedish competitiveness and the ability to provide sustainable solutions to global challenges. Less pronounced has been the approach in the macroregional program BSR Stars<sup>5</sup>, where the objective has been defined as 'strengthening competitiveness and economic growth in the Baltic Sea Region' which the vision then links to 'identifying market potentials in "grand challenges"'. Similar combinations are likely to emerge at the level of many smart specialization strategies that subnational regions are developing. Because the funding for these strategies available through the structural funds is linked to the Europe 2020 strategy, the objectives for the specific action programs will in many cases make reference to the broader beyond-GDP goals that the strategy outlines.

The inclusion of social and environmental goals in the selection criteria raises the question of how they should be weighed relative to the traditional economic objectives of these programs. Ultimately this is a political decision, which makes moving it into the evaluations done by government agencies and their external advisors problematic. Likely reactions are going to be either paying lip-service to these broader goals while leaving decisions unaffected, or selecting at least a few efforts focused on environmental or social objectives that would otherwise have been rated lower than other proposals.

The *third group* includes beyond GDP-objectives by designed specific programs with a more narrow scope, either in terms of the sectors/industries or the activities supported. Most of these programs are focused on specific sectors that are seen as critical for the ecological transformation of the economy, in particular clean tech and renewable energies. In these broader programs, which include a broad range of instruments from regulation to innovation support, cluster programs are one of the process tools

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<sup>5</sup> <http://www.bsrstars.se/>

deployed. There is significant variation across Europe in terms of the extent to which countries connect their cluster efforts with ambitions in eco-industries (Greenovate, 2011). Many other countries focus on clean tech industries while using cluster-based concepts to some degree, aiming to generate both economic and environmental benefits (e.g., NGA, 2014). There are also a few examples, for example in the Basque region of Spain, where specific funding programs have been launched for cluster initiatives that support activities directly related to environmental sustainability or social inclusion.

Using cluster-based approaches as an instrument within government programs targeted at specific fields considered politically important separates the political decisions about the relative weight of economic and beyond-GDP objectives from the market-driven decisions about which cluster, location, or technology is best suited to achieve these objectives. There is a case for such approaches, especially given the high-risk, high-capital needs nature of many of these investments that tend to require and empirically draw on large investments by the public sector (Mazzucato, 2015). They also might be at an echnological disadvantage that requires initial research investments just to catch-up to established approaches that fare lower on the broader objectives (Acemoglu et al., 2014). But they are exposed to the same challenges of market and government failure as industrial policies more generally (Hallegatte et al., 2013). One of the key benefits is the competition between different groupings that look for public funding to provide their solution to the environmental or social problem identified. But such competition can be organized independently of whether or not clusters, networks, or individual firms, research organizations, or entrepreneurs are the unit for support. Maybe more important is the opportunity to enable systemic changes that are very difficult for any narrow organization to achieve on its own.

Overall, the field is still in an experimentation phase where different models are being applied across Europe. Much of that experimentation seems not to be the result of an explicit choice but rather the consequence of location-specific circumstances. The key task now is to learn systematically from these experiments and move towards better practices.

### **Cluster initiatives: Activities related to New Growth Path-objectives**

Cluster initiatives are organized and operate in a wide range of different ways. Some of these characteristics are reflections of the location-specific context in which they have been launched and are active. Others are likely to have a significant impact on what they do, and how effective they are in these activities:

- The respective role of the public and the private-sector in cluster initiatives is one of the key differentiators across different models. The dominant model combines a private sector-logic and organizational model with public sector financial support, often covering a significant share of the operational budget (Lindqvist et al., 2013). Many of these private-sector led entities have been created in response to public funding programs. Some regions have organized cluster activities within the public sector, where they operate as quasi-independent agencies that serve

the needs of the companies in the private sector. An example widely considered as successful is Clusterland Upper Austria, where cluster activities are organized within the regional economic development agency. Some countries and regions have also created/financed support structures through which the government provides technical support to private-sector led cluster initiatives. Examples are go-cluster in Germany, Netmatch in Denmark, and the cluster secretariats in the German federal states of Baden-Württemberg and North Rhine-Westphalia.

- One important factor driving the behavior and impact of cluster initiatives is the quality of internal structures and procedures. The research on cluster initiatives indicated significant differences across cluster initiatives in terms of their operational sophistication. Sometimes this was also related to the skills and experience of the cluster initiative manager. In response to these observations the European Commission launched the European Cluster Excellence-initiative,<sup>6</sup> which includes activities to benchmark cluster organizations' operational practices and to train cluster initiative managers. The data from the benchmark confirms the wide variation in practices, even though there is only limited evidence to show a simple causal relationship between specific practices and impact (Müller et al., 2012).
- Another equally important influence is the nature of the external context in which cluster organizations operate. One of the most important factors, also revealed by the research reviewed earlier, is the strength of the underlying cluster, i.e. the presence and critical mass of economic activities in a set of related industries. Other factors that matter are the quality of the business environment, which has a significant impact on how companies compete and thus on what their needs are with respect to collaborative activities in a cluster initiative, and the nature of collaboration more broadly, including the level of trust among firms and in government, the powers and capabilities of regional government agencies, and the overall direction of economic policy in the location.

Against the background of this high degree of heterogeneity we have identified two key issues as particularly important to understand whether cluster initiatives are active in beyond-GDP related fields and what approach they take in these efforts: the presence of a relevant (but maybe dormant) market, and the need for systemic changes across many different actors to unlock its potential.

The first critical factor is the *presence of a market opportunity*: Many cluster initiatives are active in fields that are related to beyond-GDP objectives (Ketels/Protsiv, 2013). A closer look at these initiatives reveals that either the entire set of industries that define the cluster are relevant for these objectives (clean tech, environmental technologies) or because there are beyond-GDP related market needs in other clusters (i.e. energy efficiency in IT, e-Mobility, etc.). It is this market opportunity – sometimes already present, sometimes viewed as a potential – attracts companies, and their needs draw cluster initiatives into these fields.

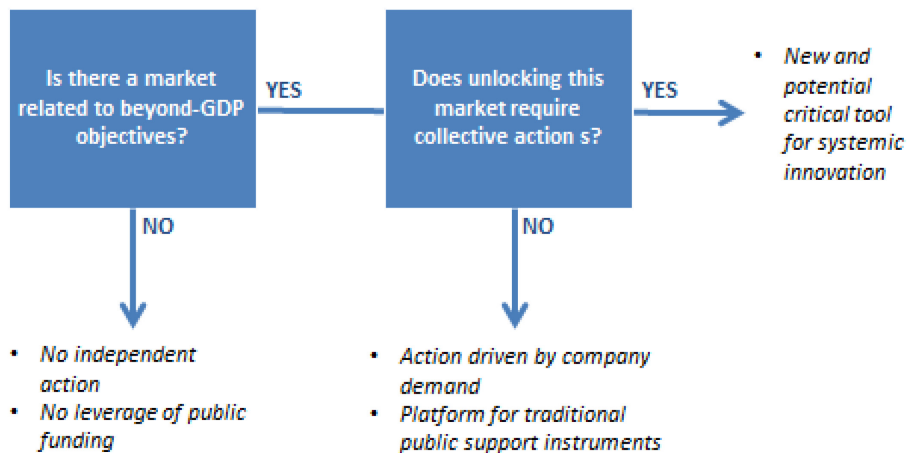
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<sup>6</sup> <http://www.cluster-excellence.eu/>

If there is a perceived market opportunity, political incentives for cluster initiatives to get engaged in beyond-GDP related activities falls on fertile grounds: Private sector members of cluster initiatives will be open to such activities, and the public funding can trigger complementary investments by private sector firms. If there is no perceived market opportunity, cluster initiatives will still respond to the financial incentives given by government program. But their ability to mobilize private sector engagement and sustained private investment beyond the public subsidies is likely to be very limited. Many public sector-initiated programs to develop new solutions that address ‘grand challenges’ suffer from this problem: as long as companies see no viable market, these initiatives often fail to get traction, remain unsustainable, and create no leverage.

Exhibit 4

### Cluster Initiatives and New Growth Path-Activities



In most cases the market opportunity exists in terms of unmet demand. This is especially the case in industries related to environmental sustainability. As public regulation and consumers demand is changing, companies need to offer new products and services that meet these emerging needs. But market opportunities can also exist in investments in a company’s local business environment or supplier base. Such activities have traditionally motivated companies to engage in cluster initiatives, for example in Magna’s efforts related to the automotive cluster initiative in Styria. Outside of Europe they are now getting renewed interest in the context of ‘shared value’, where cluster initiatives are seen as one of three strategic avenues for progress (Porter/Kramer, 2011).<sup>7</sup> Indeed, what both approaches –

<sup>7</sup> See also <http://www.sharedvalue.org/>.

servicing a beyond-GDP related market demand and developing local clusters and business environments in ways that create beyond-GDP benefits – share, is that they happen where private and societal interest overlap: Companies get engaged in this activities because they promise private benefits. These private benefits are in turn generated by serving societal needs, either as their primary purpose or as a side-effect.

For policy makers this argument points to the importance of embedding supply-side measures such as support for cluster initiatives with demand side measures that create market pull. The key is to create an environment in which market forces, i.e. the private profit interests, are aligned with societal interests. Policy makers often think about this in terms of subsidies/regulations focused at the supply that compensate/punish companies for the externalities they create. The creation of markets provides an at least supplementary approach where public procurement but also regulations and subsidies focused at the demand can be used.

The second critical factor is the way in which cluster initiatives can help unlocking the market. Depending on the specific context, there is a range of models suggested by the existing practice:

- Cluster organizations can play an important role in helping to organize value chains to serve new markets. Even when the necessary technologies already exist, serving an emerging new market demand often requires a range of companies to change what they do and to find new ways to connect with each other. This is a search and coordination task that ultimately the market can solve. But cluster initiatives can speed up the process, overcoming traditional market failures such as collective action- and fragmented information-problems. The Copenhagen Cleantech Cluster<sup>8</sup>, recently merged in the Danish CLEAN cluster, defined the enabling of market-driven value chains as one of its critical tasks.
- Cluster organizations can play a role when the success and adoption of new solutions depends on the availability of a broader set of related products and services. In e-Mobility, for example, the core focus has for a long time been on the technical innovations required to develop a much more energy efficient car. But increasingly companies realize that the market potential of these products depends also on a supporting set of market offerings related to charging, servicing, and replacing batteries and engines. And all of these market offerings need to be based on business models that are economically sustainable. The Cluster Initiative Electric Mobility South West<sup>9</sup> has made such efforts a core part of its activities. Similar situations are likely to characterize other new products and services as well, not just those serving markets related to beyond-GDP objectives. But they do are particular relevant for the type of systemic changes that a low-carbon economy requires
- Cluster organizations can be an effective policy tool when the innovations required are likely to rest on the interaction of different actors. Innovation policy has seen a shift towards programs

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<sup>8</sup> <http://www.cphcleantech.com/>

<sup>9</sup> <http://www.e-mobilbw.de/en//cluster-electric-mobility-south-west.html>

that encourage collaborative research, instead of focusing on compensating individual researchers for the positive externalities that they generate in knowledge creation. As innovation processes are getting more fragmented, and reaching beyond-GDP objectives relies on innovation, cluster organizations are an important partner for policy makers.

Apart from these different models related to the role that a cluster initiative plays there are also issues related to the scope of the collaboration required to trigger the necessary innovations or develop new value chains. It is likely that many challenges related to environmental sustainability require the collaboration between industries that have traditionally not have had strong linkages. This has so far triggered two types of responses:

- Existing cluster initiatives have focused much more on cross-cluster linkages. This trend is likely to be influenced by a number of drivers, including the speed of technological change in many markets, not just those related to an environmental transformation, and the public support that has been available for such cross-cluster activities. As a consequence, cluster initiatives in many fields have started to offer services related to facilitating cross-cluster match making and collaboration (Lammer-Gamp et al., 2014).
- Some initiatives focused specifically on environmental issues have defined their role as a cross-cutting platform serving and connecting many clusters. Examples are the Eco Cluster Styria, Austria or the Umweltcluster Augsburg, Germany. The underlying motivation for this approach is the view that environmental considerations will have to influence all types of economic activities; they are not a specifically defined set of industries as traditional clusters.

Overall, cluster initiatives, too, are in a phase of experimentation, driven both by the demands from the firms that they serve and the public sector that tries to create incentives for them to provide solutions in these areas.

#### **4. Contrasting theory with practice: Is the implementation of the EU 2020 strategy aligned with a new competitiveness?**

As was discussed above, the prior research paper proposes to define competitiveness as the "ability of a country (region, location) to deliver the beyond-GDP goals for its citizens" (Aiginger et al., 2013). The outcomes reported in that research should significant heterogeneity across European countries. While the definition does not define an absolute benchmark as to when success has been achieved, the recent crisis has clearly put Europe's ability to deliver beyond –GDP goals to the test.

In this section, we will look at specific parts of the European policy system to analyze whether they are structured in a way that supports beyond-GDP goal oriented policies. Ultimately a wide range of policies have an impact on these goals, and there is significant debate as to which specific policies should be adopted. These issues are beyond the scope of our discussion – instead, our objective is to explore whether the process, i.e. the goals, the metrics, and the process of policy planning, is consistent with the suggested definition of competitiveness and the policy-relevant implications of the related research as discussed earlier.

For this analysis, we focus on specific elements of policy making at the European level. At the center is a review of the European semester process, part of the overall engagement between the EU and its member countries to align policies with the overarching goals of the Europe 2020 strategy. We also provide a shorter discussion of other relevant policies, in particular the European industrial policies and the EU Sustainable Development Strategy.

### **a. The Europe 2020 Strategy**

The Europe 2020 strategy (European Commission 2010a) provides the context in which European policies for competitiveness are designed. It was launched as a European exit strategy from the global economic and financial crisis that started in 2008. Its central goal is the reinforcement of economic policy cooperation with a view to promoting sustainable growth in the EU. It succeeds the Lisbon Agenda (2000-2010) and builds on the objectives and toolbox of the revised Lisbon Strategy of 2005 (focused on growth and jobs), making use of the same basic governance framework (Bongardt and Torres 2010).

### **Goals and their operationalization**

The Europe 2020 Strategy sets out the vision of a social market economy for Europe in the 21st century. It aims at transforming the EU into a smart<sup>10</sup>, sustainable<sup>11</sup> and inclusive<sup>12</sup> economy with high levels of employment, productivity and social cohesion, and at reinforcing the EU's role as a leading actor in global governance. Performance is tracked on five EU headline targets, with progress measured along ten headline indicators. The EU-wide targets are then broken down into country-specific targets that are part of the national reform programs or, for energy, given by the Effort Sharing Decision on

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<sup>10</sup> i.e. developing an economy based on knowledge and innovation based on three initiatives: i.) innovation, ii.) education and iii.) digital society);

<sup>11</sup> i.e. promoting a more efficient economy in terms of resource utilisation that is more ecological and more competitive based on two initiatives: i.) climate, energy and mobility and ii.) competitiveness;

<sup>12</sup> ; i.e. fostering an economy with high employment levels and which ensures social and territorial cohesion based on two initiatives: i.) employment and qualifications and ii.) fight against poverty.

Greenhouse Gas reduction, the Renewable Energy Directive, and the Energy Efficiency Directive.<sup>13</sup> Eurostat regularly reports performance on all these targets and indicators both for the EU aggregate and individual member countries.<sup>14</sup>

Exhibit 6

### The Europe 2020 Targets

75% of the population aged 20-64 should be employed
3% of the EU's GDP should be invested in R&D
Greenhouse gas emissions should be reduced by 20% compared to 1990 The share of renewable energy sources in final energy consumption should be increased to 20% Energy efficiency should improve by 20%
The share of early school leavers should be under 10% and at least 40% of 30-34 years old should have completed a tertiary or equivalent education
Poverty should be reduced by lifting at least 20 million people out of the risk of poverty or social exclusion

According to the latest data available, Europe remains below the targets set for 2020 but has since 2009 made progress in most categories. The areas where the crisis has moved the trajectory in the wrong direction are related to social inclusion: the employment rate has dropped from 69% to 68.4%, and the number of people at risk of poverty or social inclusion has gone up by almost 4.5million.

### Policy process

The policy process for achieving the Europe 2020 Strategy goals is based on the Europe 2020 Integrated Guidelines (European Commission 2010b), setting out policy principles that EU member countries and the Commission should follow. The guidelines cover a total of ten content areas.<sup>15</sup>

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[http://epp.eurostat.ec.europa.eu/portal/page/portal/europe\\_2020\\_indicators/documents/Europe\\_2020\\_Targets.pdf](http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/documents/Europe_2020_Targets.pdf)

<sup>14</sup> [http://epp.eurostat.ec.europa.eu/portal/page/portal/europe\\_2020\\_indicators/headline\\_indicators](http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators)



The first group of Integrated Guidelines (1 to 6) concerns economic policies. Guidelines 1 to 3 cover macroeconomic issues, namely

- ensuring the quality and the sustainability of public finances (G1)
- addressing macroeconomic imbalances (G2)
- and reducing imbalances in the euro area (G3)

Guidelines 4 to 6 are concerned with specific improvements in the microeconomic business environment related to the ongoing transitions to

- optimising support for R&D and innovation, strengthening the knowledge triangle and unleashing the potential of the digital economy (G4)
- Improving resource efficiency and reducing greenhouse gases (G5)
- Improving the business and consumer environment and modernising the industrial base (G6)

The second group, on employment and social policies, is composed of four guidelines related to

- increasing labour market participation and reducing structural unemployment (G7)
- developing a skilled workforce responding to labour market needs, promoting job quality and lifelong learning (G8)
- improving the performance of education and training systems at all levels and increasing participation in tertiary education (G9)
- promoting social inclusion and combating poverty (G10)

Against the background of these Integrated Guidelines the European Commission and the member states then engage in a review process called ‘the European Semester’. In this process, the European Commission reviews member countries’ budget plans and reform programs to make country-specific recommendations (see figure below). The implementation of the finally agreed budget plans and reform programs is then the focus of the so-called “Member State Semester”.

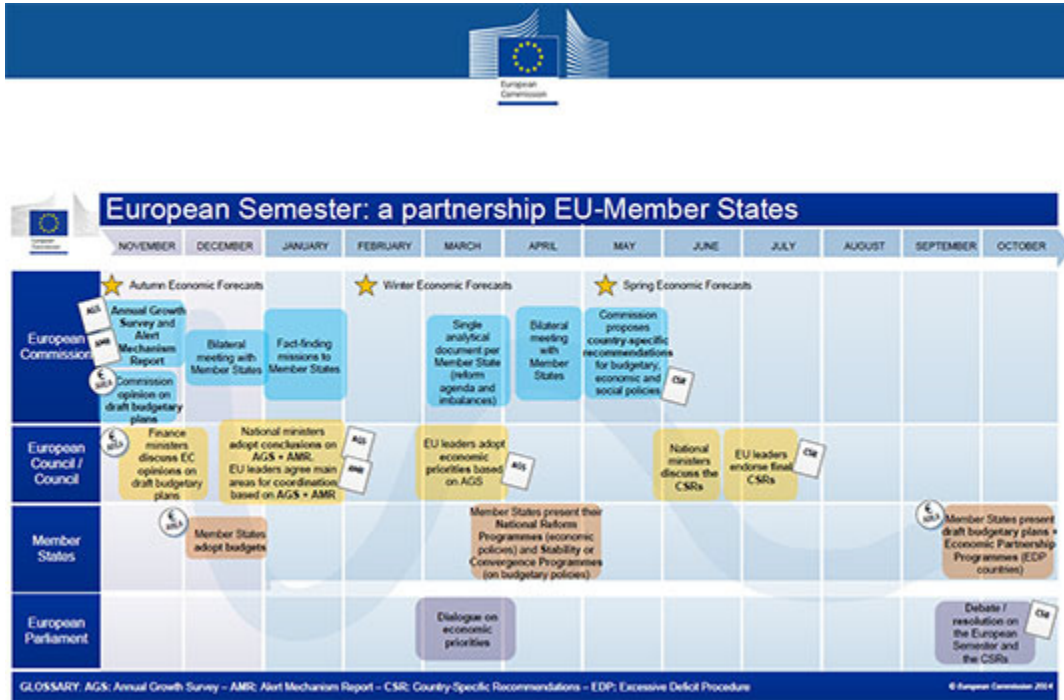
Actual implementation has traditionally been weak; the most recent assessment reports an uptick from low levels to currently a rate of about 40% of all recommendations being acted upon (Deroose/Griesse, 2014). Importantly, there are significant differences across the policy areas in terms of the legal powers that the European Commission has relative to member countries. In many parts of labor market policies,

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<sup>15</sup> The Treaty on the Functioning of the EU provides that the Council is to adopt broad economic policy guidelines (Article 121) and employment guidelines (Article 148), specifying that the latter must be consistent with the former. The guidelines for employment and economic policies are therefore presented as two distinct (but intrinsically interconnected) legal instruments: a Council Recommendation on broad guidelines for the economic policies of the member states and of the Union (Part I of the Europe 2020 Integrated Guidelines) and a Council Decision on guidelines for the employment policies of the member states (Part II of the Europe 2020 Integrated Guidelines). Together these guidelines, implemented by the above-mentioned legal instruments, form the integrated guidelines for implementing the Europe 2020 Strategy.

for example, ultimate authority rests with member countries, with the Commission providing a platform for advice and policy dialogue.

Exhibit 7



Retrieved from [http://ec.europa.eu/economy\\_finance/economic\\_governance/the\\_european\\_semester/index\\_en.htm](http://ec.europa.eu/economy_finance/economic_governance/the_european_semester/index_en.htm), 28/11/2014

## b. The Europe 2020 strategy and the new competitiveness framework

The comparison of the Europe 2020 strategy process and the new definition of competitiveness proposed is organized around two core questions:

- Are the goals set by the Europe 2020 strategy compatible with the suggested definition of competitiveness, and is their operationalization into quantitative indicators appropriate?
- Does the policy process associated with the Europe 2020 strategy lead to effective policy choices towards achieving the goals?

## Goals and their operationalization

Conceptually, the Europe 2020 strategy and its operationalization are well aligned with the objectives laid out by New Growth Path for Europe. Both move away from a traditional model focused entirely on headline GDP growth. Both instead focus on a combination of economic, social, and environmental goals.

A key challenge faced by both concepts is their tendency to list several dimensions of target outcomes, while making no statements about their relative weight, potential trade-offs or linkages across these different goals. There are clear reasons for this: the weights are ultimately a reflection of value statements, not an absolute fact that can be revealed through analysis. And there is an on-going debate in the academic and policy community about the actual nature of trade-offs and linkages.

Both concepts also focus on outcome competitiveness, while providing less clarity on the drivers of these outcomes. In particular, the Europe 2020 indicators position targets on macroeconomic stability as equivalent to what in the literature has been called ‘capabilities’ (Aiginger et al., 2013) or ‘microeconomic competitiveness’ (Delgado et al., 2012). That does not reflect their potentially quite different nature: macroeconomic issues are highly relevant to avoid crises as the recent experience has shown, while capabilities or microeconomic factors are much more critical for the medium-term level and growth of performance on all three dimensions of the Europe 2020 strategy.

The Europe 2020 strategy goals are underpinned by quantitative targets. This stronger focus on evidence-based policies through a public process of performance reviews is fully in line with the new definition proposed for competitiveness and the empirical assessments that have been done of this definition (Aiginger et al., 2013). It is however, also important to understand the role of these metrics as diagnostics to assess broader underlying concepts. They are in themselves not a comprehensive definition of ultimate policy goals.

## Policy process

The ultimate value of the Europe 2020 strategy as well as a new definition of competitiveness depends on its effectiveness in driving the design and implementation of more effective policies across Europe. The outcomes tracked on the Europe 2020 indicators provide a mixed picture: the direction of change is generally right, but whether speed is sufficient is questionable. And the outcomes might be driven by general changes in the economic climate rather than specific policies adopted as a consequence of the Europe 2020 process.

The public views on whether or not Europe is deploying the right policies, and whether the Europe 2020 process is helpful in this respect are mixed but improving (European Commission, 2014c): Since 2011 the share of Europeans that Europe is going in the right direction to exit the crisis and face new global challenges has gone from 38% to 45%. The share of those seeing Europe going in the wrong direction has over the same period dropped from 31% to 25%. Roughly 50% of Europeans agree with the specific

targets set in the Europe 2020 strategy, with roughly equal shares of around 20% viewing them as either too ambitious or too modest. Overall, the European Union is seen as the key actor in responding to the crisis, ahead of national governments. But this result is driven by the views in the EURO-zone member countries; outside of this group the view is the opposite with a much stronger belief in the role of the national government.

Further analysis suggests that critical challenges exist in the following areas:

- *Outcome goals versus policy advice*

The goals set in the Europe 2020 strategy are focused on outcome targets, which are often not that contentious. What is contentious, are the policy choices needed to get there. And here neither the overall objectives of the strategy, the operationalization in outcome targets, or the integrated guidelines provide clear support. The new definition of competitiveness also provides only limited support. It does indicate capabilities and other aspects that are correlated with strong performance. But it is far from an overall model linking policy choices to outcomes.

In reality, there is no agreement on the right ‘model’ of the economy and on what the right policies are to achieve the goals that have been set. This is, of course, a normal feature of the political process – different views are put forward, and the political system provides a framework in which choices can be made and reviewed. The challenge of the Europe 2020 process is that it can be perceived to translate these political decisions into administrative acts that require no political decisions and have no political entity that can be held accountable.

The proposed definition of competitiveness does little to address this challenge directly. But its research can help to create more transparency around the areas where there is disagreement that requires political decisions to address.

- *Balancing different objectives*

Another critical issue is the challenge to manage the relations between the different policy goals in the absence of any clear guidance on potential trade-offs or linkages in neither the objectives nor the guidelines. As a consequence, attention is focused on policy areas seen as most pressing at a particular moment and in which the EU policy process has the most influence.

More concretely, the Europe 2020 strategy has given the EU and its member countries little guidance on how to simultaneously address the economic, social, and environmental challenges that exist in an economic environment of weak dynamism and severe macroeconomic imbalances. Some analysts have argued that Commission’s view that green taxation should contribute to the reduction of public debt and the reduction of taxes on labour and not to accelerate change by devoting these new resources to

medium and long-term investments in environmental measures (transport networks, intelligent energy grids etc.) is a sign of an implicit 'consolidation-first' strategy (Pochet, 2010). While such a strategy would not be in conflict with the Europe 2020 strategy, the lack of transparency around this choice on how to value different objectives that are part of the strategy is a concern.

Again, the proposed definition of competitiveness does little to address this challenge directly. But it does provide a conceptual framework to analyze the necessary policy choices in a more transparent and evidence-driven way. In particular, the notion of different equilibria across the objectives offers a new way to identify policies that can simultaneously achieve more multiple goals. This will require more research into the specific policies that can support the desired equilibrium (see above).

- *Roles and responsibilities*

A third challenge is the alignment of the EU-wide ambitions with national goals and action plans that reflect the specific locational context. The process is conceptually sufficiently flexible to allow countries to set their strategies in line with their specific circumstances. In practice, however, there is a tendency of a more mechanical translation of EU to national targets. The more this happens, the less effective the national implementation of policies agreed at the EU level tends to be. There is also little explicit provision in the strategy process for a clear allocation and coordination of responsibilities; i.e. focusing the national reform programs on those areas in which the national governments have most authority, and ensuring that the European Commission provides in its area of responsibility the instruments that most effectively support these national actions.

The empirical implementation of the new competitiveness framework has shown how much circumstances differ across Europe. Arguably, this will require strongly location-specific policies to make progress on the overall goals as they have been defined. More research on the role different levels of government have in influencing key location-specific drivers of outcomes will be necessary.

## 5. Policy implications

The overarching motivation for the WWWforEurope project is to provide analysis, insights, and policy recommendations that can help European countries to enter a New Growth Path combining rising levels of prosperity with social inclusion and environmental sustainability. This particular paper explores the policy implications that can be drawn from two previous research papers on clusters and on competitiveness, and a review of the existing policy practices related to those findings.

A first issue that emerges from the discussion in this paper is the question of *how the three dimensions of performance – economic, social, and environmental - are related to each other*. If there is a hard trade-off, i.e. more of one requires less of another, the task for the researcher is to identify the combinations of outcomes that are feasible and the task of the politicians is then to choose one of these combinations. If there is no such trade-off, we can set goals and policies for each of the relevant areas independently.

The available evidence, confirmed by the research on clusters and competitiveness that is the basis of this policy report, provides a nuanced picture of the relationship between the different objectives. The empirical data shows no automatic trade-off across the different dimensions of performance – some countries are able to achieve strong performance across all dimensions while others lag behind across the board. Among the positive examples, Denmark has reduced its energy consumption despite increasing GDP (Aiginger et al., 2013), and U.S. manufacturing has reduced its pollution levels significantly despite raising output (Levinson, 2015). But it is also not the case the progress in one dimensions necessarily leads to progress in other areas as well – some countries achieve high performance in one area but lag behind in others.

Conceptually, such outcomes are consistent with two different scenarios: First, it could be the case that the different dimensions of performance are not related in a meaningful way. In particular, they could be the result of different sets of policy choices. This scenario would be most aligned with the typical organization of the public administration, where economic, social, and environmental issues are the responsibility of different agencies or ministries. Second, however, it is possible that there is a set of related policy choices that together drive performance along these three dimensions in systematic ways. The notion of a ‘high’ and a ‘low’ road, with externalities driving economies to end up in either the one or the other mode is the dominant model, is consistent with such a scenario. For policy makers this creates the challenge of having to design interventions with a perspective on a range of objectives.

The available research suggests that the latter is a more realistic description of the way economic, social, and environmental issues are related to each other.

- Higher rates of innovation, a key driver of prosperity growth, do not automatically lead to environmental sustainability or inclusive development (OECD, 2013a; Lee/Rodriguez-Pose, 2013). The impact depends on the direction that innovation is taking, driven by available assets and market signals in a particular location. As far as, for example, cluster efforts focus on areas

that are characterized by high productivity and innovation-intensity, this might increase headline prosperity but also raise the gap between different skill groups in society.

- Policy reforms towards sustainable development – a low-carbon economy – will drive significant structural change and could dampen GDP; both factors that depending on labor market structures could create pressure for some employees (OECD, 2012). The political economy challenges that arise are critically linked to these short-term economic costs that are only over time compensated for by the longer-term environmental and economic benefits of reforms (OECD, 2013b).

The extent to which a trade-off exists across different objectives depends on the specific policy intervention; this is what the research indicates. Well-designed efforts on competitiveness and clusters might be able to fully overcome any potential trade-off between economic growth and beyond-GDP goals, especially environmental sustainability and social inclusion (GCEC, 2014).

A classic example of this idea is the so-called Porter-hypothesis (Porter/van der Linde, 1995) that suggests that stricter environmental regulation can induce behavior that is both profitable and more sustainable. First, it argues that inefficient resource use or pollution is often a sign of lacking efficiency even in mere GDP terms. Firms are not at the efficiency frontier, because being there requires effort and they might be subject to X-inefficiency. Regulations can then push managers to exert that effort. Second, innovation to meet regulatory demands can help companies create competitive advantages if these demands are over time becoming a standard in other markets as well. The empirical evidence on whether environmental regulation has supported competitiveness upgrading has been mixed (Ambec et al., 2010). This is not surprising: many of the conditions that Porter laid out for both the market environment and especially the nature of the regulations have not been systematically present.

If it is not possible to overcome trade-offs entirely, economists tend to look at pareto-improvements, i.e. is it possible to raise performance in at least one dimension without decreasing performance elsewhere. Environmentalists, however, often think about absolute resource constraints (for a popular version see Jackson, 2009). In such a scenario pareto-efficient improvements might not be enough, even if they are tilted towards sustainability. Instead, the level and nature of economic activity first has to be aligned with the boundary conditions set by the environmental system, despite the possible negative impact this might have on overall prosperity as well as social inclusion. Only once these conditions are met, the other dimensions become relevant for policy choices.

The conceptual situation is thus complex: we cannot rule out that trade-offs exist across the three performance categories, and it might even be the case that on at least one of them there are binding constraints that first have to be satisfied.

The empirical situation, however, is likely to be more tractable: the evidence suggests that most economies in Europe are in a situation where it should be possible to make progress across the different

objectives in parallel. Whether or not that succeeds depends on the policy tools chosen, not on any logical limitations. These choices on policy tools are going to require more than a ‘technical’ comparison of tools’ different benefits and costs. They require policy choices about a specific direction that go beyond fixing market failures in an abstract sense (Mazzucato, 2015). These choices will also involve more than a general commitment to the goals of the Europe 2020 strategy. They have to outline specific outcomes as goals to be achieved, for example the closing down of nuclear energy and the reduction of carbon-based energy in the German “Energiewende”. These choices can be, as the example indicates, highly controversial. While these policy choices are subject to the political process, their implementation should draw on the best available knowledge about how specific tools might be used. The second issue, then, is to be specific about the *concrete lessons for policy practice* that emerge from the review of cluster policies related to beyond-GDP objectives and to the proposed definition of competitiveness as a tool to enhance the Europe 2020 strategy process. A number of key findings are suggested by the analysis in this paper:<sup>16</sup>

#### **a. Use cluster-based economic development approaches as a policy instrument to achieve beyond-GDP objectives**

Making progress on improving economic, social, and environmental conditions in parallel will require innovations. And many of these innovations are in their impact dependent on systemic changes across a broader set of actors. Fundamental progress of this kind requires the investment in an innovation system that brings together key factor inputs (skills, research funding), demand, and a connective ecosystem of clusters and other networks (Cockburn et al., 2011). Clusters are an important way to organize the investments in factor inputs in locations that are they most likely to be able to use them effectively. And cluster organizations are part of the ‘connective tissue’ that can facilitate the necessary co-operations, spill-overs, and other linkages that create a dynamic innovation system.

Cluster efforts are then most usefully seen as an instrument to improve the efficiency of public interventions in areas like innovation where externalities are the key reason for public policy. Innovation in clean technologies, for example, might provide additional economic benefits through strong knowledge spillovers, driven by their more fundamental novelty compared to incremental innovation in other fields (Dechezleprêtre et al., 2014). Other externalities are created by the path-dependency of innovation, with a higher stock of existing patents in a field like clean technology enabling further innovation in the same area (Aghion et al. 2011).

In this context, cluster-based approaches could become a core tool for a ‘new industrial policy’ (Aiginger, 2006; Aghion et al. 2011; Rodrik, 2004; Stiglitz et al., 2013; Warwick, 2013). Both old and new industrial policies focus activities on specific sectors of the economy. But they differ in their conceptual motivation and practical implementation: The old approach identified industries that were across all

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<sup>16</sup> A range of other papers written in the context of the WWWforEurope project make recommendations on specific policy areas like labor market policies, regional policies, and innovation policies. We focus here only on those aspects that are directly related to the previous research on clusters and the definition of competitiveness..



locations seen as attractive, for example because of high economies of scale, and tried to attract these activities by making them privately profitable in a certain location, often through subsidies or by allowing market power to generate private rents. The new approach looks instead for industries that have the highest potential in a specific location, and deploys public policies to make them more productive in that location. The literature largely focuses on addressing different types of market failures as a motivation for these policies. One of them is the possibility of high- and low-road modes of competition emerging as different equilibria, with the market process not automatically converging to the higher welfare one (Aiginger, 2006, 2007). Cluster-based economic development concepts are highly consistent with this thinking, as was outlined earlier in this paper. In Europe, industrial policies have gained attractiveness as policy makers have observed the role of manufacturing during and after the recent crisis (EU, 2012; EU, 2014). The political rhetoric, in particular the goal of achieving a specific target for the manufacturing share in GDP, puts the EU somewhere between the old and new industrial policy thinking. The more granular policy proposals motivated by these goals, however, have limited sector-specific elements and focus instead strongly on improving cross-cutting business environment conditions. This is useful as these efforts can raise overall productivity and innovation. But it fails to draw on the insights of the new industrial policy-work, that highlights that such efforts are often more effective when focused on the specific needs of individual industries and sectors. It also fails to acknowledge the linkages across industries that the cluster-approach has put into focus.

Cluster-based tools could thus be a core instrument to strengthen and modernize Europe's new take on industrial policy. This is already an important motivation for the Commission's cluster activities but has not necessarily taken hold in the broader thinking on Europe's manufacturing and growth strategies. It could then also help to transform industrial policy into competitiveness policy, deploying this new set of tools to achieve the broader set of GDP and beyond-GDP objectives that drives the WWF for Europe project (Aiginger, 2014).

#### **b. Designing specific cluster-based programs around achieving beyond-GDP objectives**

Cluster-based efforts have become a natural feature of economic policies across Europe, especially at the regional level but also in specific national policy areas like innovation and SME support. The integration of beyond-GDP objectives in these efforts is still a relatively recent phenomenon, and there is little hard data as to how effective different approaches are. The suggestions that can be provided are thus necessarily tentative; more systematic follow-up on the on-going programs will be needed to test and refine them.

With this caveat, the evidence so far suggests that it is more effective to design programs that have beyond-GDP goals as their dedicated objective and apply cluster-based platforms to achieve it. This could take the form of a cluster program for cluster initiatives in a particular field like clean tech, renewable energy, or environmental services. It could also specifically target cluster initiatives in fields that provide disproportionate employment to disadvantaged or low-wage groups in society; these are sectors that are often not the focus of innovation-oriented cluster programs. Or it could take the form of

funding for activities with a particular beyond-GDP objective, like energy conservation, the provision of services for underserved groups in society, or the development of a local supplier base. Such programs would then be open to all cluster initiatives, independent of the field in which they are active.

Both sets of approaches would require a political willingness to focus on certain sectors and activities. But they would make these choices transparent, while they otherwise are imbedded into selection criteria applied by public officials or external experts that have little specific authority to weigh different outcomes against each other.

### **c. Integrate cluster-based programs with efforts to create markets for beyond-GDP relevant products and services**

The experience of cluster initiatives suggests that they reach the highest impact in terms of mobilizing company engagement if their activities are linked to a market demand that these companies see. Cluster initiatives can be important instruments to overcome collective action or fragmented information problems that create barriers for markets to be served. But they cannot substitute these markets; if companies perceive no meaningful potential for a market to emerge, public funding for activities in cluster initiatives will create no leverage and is not sustainable.

These observations are in line with other research that shows that government investments in activities with significant positive externalities are most effective, if they are combined with two other elements (Acemoglu et al., 2014): First, the appropriate pricing of environmental resources through, for example, a carbon tax (Aghion et al., 2011). And second, an environment of intense rivalry in the product markets in which the firms receiving government R&D funding compete (Aghion et al. 2012).

### **d. Adopt a coherent definition of competitiveness as a central feature of the Europe 2020 process**

The current policy debate in Europe suffers from a lack of clarity on key conceptual terms. With competitiveness used to describe many different and, as the analysis has shown, often conflicting concepts, it is very hard to make fundamental progress even on the identification of the key challenges that the European economy is facing.

The proposed definition of competitiveness as the "ability of a country (region, location) to deliver the beyond-GDP goals for its citizens" (Aiginger et al., 2013) suggests a useful way forward. Its three outcome pillars dedicated to economic, social, and environmental issues are fully aligned with the ambitions of the Europe 2020 strategy. Its broader perspective on capabilities as key drivers and the role of macroeconomic balances as constraints opens the door towards a more comprehensive conceptual framework. Such a framework that links desired outcomes to outcome-drivers that policy can influence;

this would be a critical step to move from a discussion of ‘wish-lists’ of desired outcomes to a more practical discussion of policy alternatives (Delgado et al., 2012).

#### **e. Clarify the policy process in terms of political decisions and technocratic analysis**

The Europe 2020 strategy and its policy process organized in the European semester constitute a significant step forward relative to previous approaches. It is evidence-based, with quantitative indicators to track progress on key policy objectives, and a formal assessment of policies against performance as well as policy principles. It also enables a country-driven policy design process, where the role of the European Commission is that of a critical coach that helps countries develop better solutions. This is at least conceptually quite different from the past, where the Commission had been more often the provider of generic solutions that countries than had to apply in their specific context.

However, the discussion in this paper reveals a critical weakness that is related to the conceptual issues discussed earlier: the Europe 2020 strategy process treats the decision on policy priorities as an ultimately technocratic process, where public officials can derive decisions based on the mere application of the Europe 2020 objects and Integrated Policy Guidelines on the situation in a particular country. For this approach to be appropriate, there would need to be agreement on how the economic, social, and environmental aspects of the Europe 2020 objectives are related to each other. And there would need to be agreement on the type of policies that are best suited to address a given policy problem in a concrete situation. Neither of these two conditions is given, and it is not obvious that they could be satisfied.

A more effective policy process would clarify different types of situations:

- those, where there is agreement (likely on the list of overall goals),
- those where there is disagreement and a political decision needs to be made in a transparent and accountable way (on weighting different goals, on policy instruments),
- and those where data-driven analysis can provide the answer (impact assessment of policies, diagnostics of challenges)

Our hypothesis is that some of the concerns in the European public about the European policy process is related to a lack of clarity on where government officials can make technocratic assessments versus where elected leaders need to take the responsibility for political choices.

Beyond these specific policy recommendations there is a broader observation that emerges: At the heart of a successful New Growth Path-oriented cluster and competitiveness strategy is the focus of investing into ‘the Commons’. The Commons are critical both for overall competitiveness (Pisano/Shih, 2012; Porter/Rivkin, 2014) and for clusters (Solvell/Williams, 2012). ‘High road’-competition requires the

existence of a strong Commons, and a willingness of many organizations to contribute to it. “Low road”-competition emerges once the equilibrium in which firms make these investments trusting that others will do so as well breaks down.

High levels of economic performance at the level of both firms and communities is based on a shared set of assets, and lagging performance often at its heart driven by the failure to invest and sustain such assets. The Commons include assets that generate factor inputs, for example the education and research institutions that provide a skilled workforce and knowledge. But the Commons also include the institutional fabric that supports collaboration. It bears important overlaps with the notion of ‘capabilities’ that is at the center of the definition of economic development recently adopted by the US Department of Commerce (Feldman et al., 2014). Exploring these concepts further offers a promising future research agenda for the work on a New Growth Path.

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## **Project Information**

### **Welfare, Wealth and Work for Europe**

#### **A European research consortium is working on the analytical foundations for a socio-ecological transition**

##### **Abstract**

Europe needs change. The financial crisis has exposed long-neglected deficiencies in the present growth path, most visibly in the areas of unemployment and public debt. At the same time, Europe has to cope with new challenges, ranging from globalisation and demographic shifts to new technologies and ecological challenges. Under the title of Welfare, Wealth and Work for Europe – WWWforEurope – a European research consortium is laying the analytical foundation for a new development strategy that will enable a socio-ecological transition to high levels of employment, social inclusion, gender equity and environmental sustainability. The four-year research project within the 7<sup>th</sup> Framework Programme funded by the European Commission was launched in April 2012. The consortium brings together researchers from 34 scientific institutions in 12 European countries and is coordinated by the Austrian Institute of Economic Research (WIFO). The project coordinator is Karl Aiginger, director of WIFO.

For details on WWWforEurope see: [www.foreurope.eu](http://www.foreurope.eu)

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