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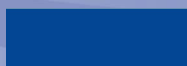
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# European Innovation Scoreboard 2018

*Exploratory Report C:  
Supplementary analyses and  
contextualisation of  
innovation performance data*

*June 2018*



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## 1. Introduction

This report explores the extent to which differences in the scores of a country in the European Innovation Scoreboard (EIS) or a region in the Regional Innovation Scoreboard (RIS) can be explained by various socio-economic, demographic, cultural, etc. factors. The term 'structural indicators' is used (e.g. by Eurostat) to refer to statistical indicators used for a quantitative comparison of performances of territories in selected fields<sup>1</sup>. Furceri and Mourougane (2010) point out that such indicators can be both 'perception-based' and 'fact-based'. Both types of indicators have specific advantages and disadvantages. For the purposes of this report, **we define structural indicators as independent variables that may influence or determine the behaviour (current values or trends) of innovation indicators** used in the EIS (or RIS). These indicators can be thought of as parameters<sup>2</sup> that may influence the medium-to-long run performance of all or parts of a national or regional innovation system.

The 2017 European Innovation Scoreboard (EIS 2017<sup>3</sup>; see list in Table 1) used a number of 'structural indicators' to support a contextual analysis of innovation performance of individual countries.

**Table 1: Structural indicators used in the EIS 2017**

European benchmarking	Global benchmarking
<b>Structure of the economy</b>	
<ul style="list-style-type: none"> <li>- Composition of employment, %-shares, average 2011-2015 <ul style="list-style-type: none"> <li>- Agriculture &amp; Mining (NACE A-B)</li> <li>- Manufacturing (NACE C)</li> <li><i>Of which High and Medium high-tech (%)</i></li> <li>- Utilities and Construction (NACE D-F)</li> <li>- Services (NACE G-N)</li> <li><i>Of which Knowledge-intensive services (%)</i></li> <li>- Public administration (NACE O-U)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Composition of employment, %-shares, average 2011-2015 <ul style="list-style-type: none"> <li>- Agriculture</li> <li>- Industry</li> <li>- Services</li> </ul> </li> <li>- Share of manufacturing in total value added (%), 2015</li> </ul>
<b>Business indicators</b>	
<ul style="list-style-type: none"> <li>- Composition of turnover, %-shares, average 2011- 2014 <ul style="list-style-type: none"> <li>- Micro enterprises (0-9 employees)</li> <li>- SMEs (10-249 employees)</li> <li>- Large enterprises (250+ employees)</li> </ul> </li> <li>- Share of foreign controlled enterprises (%), 2014</li> <li>- Top R&amp;D spending enterprises <ul style="list-style-type: none"> <li>- Average number per 10 million population, 2011- 2015</li> <li>- Average R&amp;D spending (million Euros), 2011- 2015</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Top R&amp;D spending firms per 10 million population, 2011-2015 <ul style="list-style-type: none"> <li>- Average R&amp;D spending (million Euros), 2011- 2015</li> </ul> </li> <li>- Number of Unicorns, May 2017</li> <li>- Buyer sophistication 1-7 (best), 2013-2014</li> <li>- Ease of starting a business, Doing Business 2017 (report published in 2016)</li> </ul>

<sup>1</sup> The concept was introduced in the EU's policy making cycle by a Commission Communication of 2003 proposing indicators to monitor structural reforms in the framework of the Lisbon Strategy, see <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM:g24225>. A revised set of indicators was adopted in 2010, see [http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Structural\\_indicators\\_\(SI\)](http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Structural_indicators_(SI))

<sup>2</sup> I.e. following the Merriam-Webster's definition of parameters as "a set of physical properties whose values determine the characteristics or behaviour of something: parameters of the atmosphere such as temperature, pressure, and density".

<sup>3</sup> The EIS 2017 measurement framework can be accessed online at [http://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards\\_en](http://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards_en).

European benchmarking	Global benchmarking
<ul style="list-style-type: none"> <li>- Enterprise births (10+ employees) (%), average 2012-2014</li> <li>- Buyer sophistication (1, worst - 7, best), 2013-2014</li> <li>- Ease of starting a business, Doing Business 2017 (report published in 2016)</li> </ul>	
Socio-demographic indicators	
<ul style="list-style-type: none"> <li>- GDP per capita, PPS, average 2011-2013</li> <li>- Change in GDP between 2010 and 2015 (%)</li> <li>- Population size (millions), average 2011-2015</li> <li>- Change in population between 2010 and 2015 (%)</li> <li>- Population aged 15-64 (%), average 2011-2015</li> <li>- Population density, average 2011-2015</li> <li>- Degree of urbanisation (%), average 2011-2015</li> </ul>	<ul style="list-style-type: none"> <li>- GDP per capita, PPP (current international \$), average 2011-2015</li> <li>- Change in GDP between 2010 and 2015 (%)</li> <li>- Population size (millions), average 2011-2015</li> <li>- Change in population between 2010 and 2015 (%)</li> <li>- Share of population aged 15-64 (%), average 2011-2015</li> </ul>

Source: Hollanders and Es-Sadki (2017: 43)

As a framework, we use an Open Innovation System (OIS) model that captures factors influencing innovation activities and performance occurring both in a country and externally (see Section 2). Applying this model, additional structural indicators have been selected and are listed in the Annex 1. This long list of indicators was scrutinised by a panel of selected experts with whom interviews were carried out. The influence of these structural indicators on EIS performance scores over time was tested and their explanatory power assessed. However, no cross-border effects have been tested. The results of this exercise have been used to further refine the list of additional indicators resulting in a final short list of proposed structural indicators. This shortlist was discussed and validated with a second group of experts at a workshop on 19 February 2018 in Brussels.

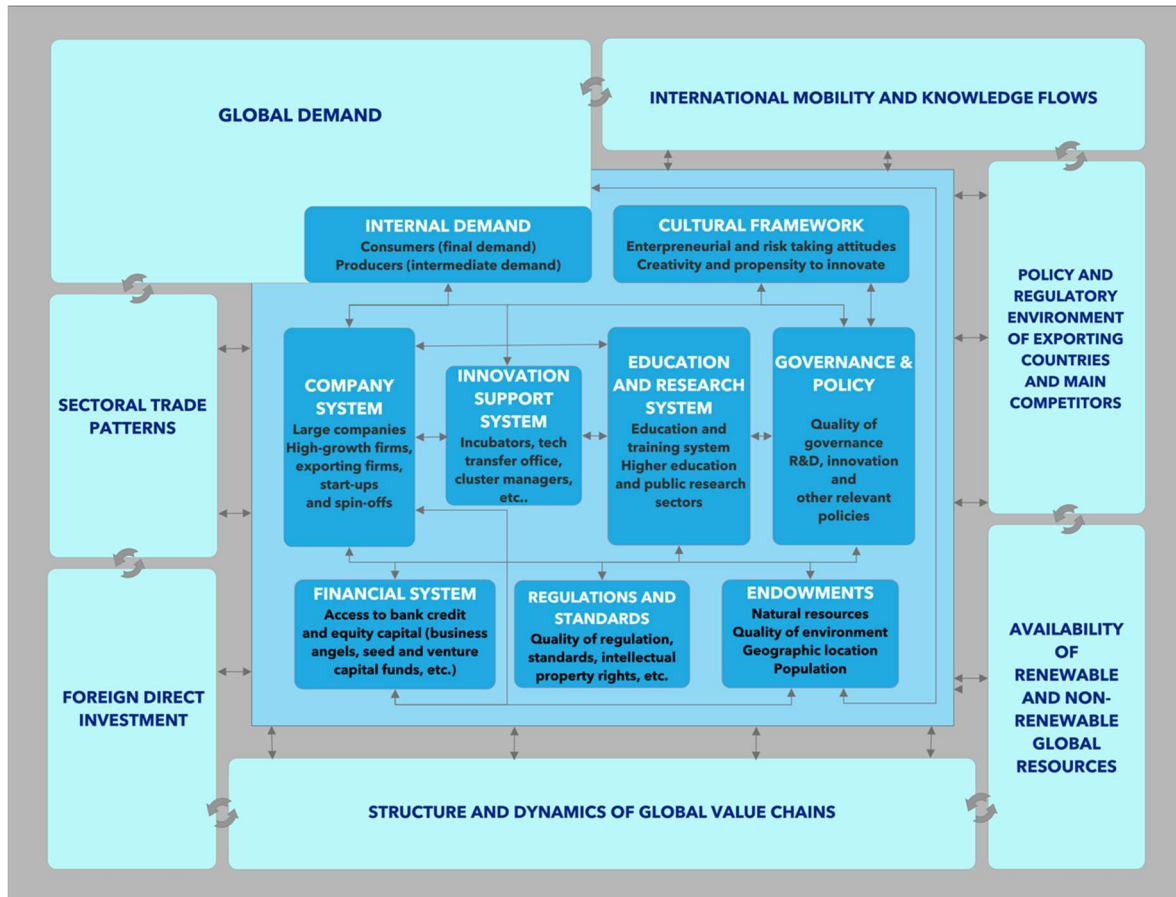
This Exploratory Report is structured as follows:

- Section 2: Introduction to the Open Innovation System model
- Section 3: Based on a literature review and consultation with experts, the section proposes a long-list of structural indicators and explains how they may influence EIS indicators and ultimately the Summary Innovation Index (SII).
- Section 4: Results of expert interviews
- Section 5: Empirical tests of the structural indicators for their correlation with EIS indicators and the SII
- Section 6: Conclusions and proposed list of structural indicators to be used in EIS 2018

## 2. The Open Innovation System model

The Open Innovation System model is used to encompass the complexity of factors that influence innovation at both national and international level. As such it builds on the National Innovation Systems (NIS) approach and extends it with related external parameters that influence the NIS from an international perspective.

**Figure 1: Open Innovation System model**



Source: Modified based on Reid, et al (2016: 13).

The internal dimension (see darker blue areas in figure) includes the factors that are managed/influenced 'directly' by the core actors of the NIS, namely: companies, government and governance, the education and research system, research intermediaries, and wider framework conditions (e.g. financing, legal, regulations and standards, endowments, internal demand and cultural framework). Each component of the system needs to work at least at an acceptable quality and efficiency, and the inter-linkages between them need to function well. Business enterprises are principal actors in the system, and the articulation of effective demand is central to stimulating entrepreneurship and innovation.

The external dimension (see lighter blue areas in figure) conveys the principle of the openness of the NIS but also underlines that a series of factors are beyond the direct control of national governments or stakeholders. Policy interventions can only mitigate the negative and/or incentivise the positive effects of external determinants such as global demand, global value chain dynamics, resource prices/availability, etc. Export-driven growth that is based on innovative business activities is highly dependent on inward and outward flows of knowledge and ideas, hence mobility and supportive frameworks that facilitate knowledge circulation are crucial. The ability of a country to attract foreign direct investment (FDI), particularly in knowledge-intensive activities,

or develop key players in global value chains (GVCs), depends on how well it can foster new emerging high-value activities.

In the following sections, we discuss in more detail each block of factors from an internal and external perspective and propose a number of structural indicators. Some of the blocks of the OIS model have been grouped in order to present more concise descriptions.

### **3. Dimensions of the Open Innovation System model**

#### **3.1 Global demand and internal demand**

Global (external) demand and internal (domestic) demand are interrelated, as global demand (i.e. exports, as seen from the perspective of a national economy) increases national income that is then partially spent on goods and services produced in the domestic economy, and partially on goods and services produced abroad (i.e. imports). Causality also works in the other direction, as a boost in internal demand raises residents' income that is consequently spent on buying either domestic or foreign products. Both blocks of the OIS model are influenced by aggregate demand that comprises consumption, investment, government expenditures and net exports. At an aggregate level, it is the net exports (balance of trade) component, calculated by subtracting imports from exports, that tells us how the country is affected by demand from foreign sources, and vice versa, to what extent there exists a demand for foreign products and services. However, it is important to consider the structure of net exports at the industry level to analyse the effects on particular sectors. In addition, both the quantity and quality of demand will influence innovation activities.

Demand is important for the interrelated phenomena of competitiveness and innovation. Porter (1990) asserts that demand is among the four factors that determine national competitive advantage, which is closely related to innovativeness. The other three are 1) firm strategy, structure and rivalry, 2) factor conditions<sup>4</sup> and 3) related and supporting industries. Brouwer and Kleinknecht (1999) empirically confirm that demand positively influences innovation and stress the compatibility of their ideas with the Keynesian principle of effective demand. Fluctuations in aggregate demand will not only have effects on short-run production and employment, but they may also enhance or hamper innovation. In principle, this does not need to be taken as a reason to advocate a policy of Keynesian 'fine-tuning' of effective demand. It does suggest, however, that the influence of effective demand on innovation should be an important criterion in the decision process about government policy measures. For example, budget cuts, imposed by 'austerity policies', are likely to be damaging to the innovation process in Europe (Brouwer and Kleinknecht, 1999: 389). Dosi (1988) underlines demand patterns as one crucial factor explaining innovative activity, while Freeman (1982) stresses the role of government demand in stimulating innovation.

Hence, if aggregate demand is rising it may have a positive influence on innovation activities, whereas when it is falling, the expected effects are negative. However, the impact may not be proportional to a change in GDP growth, as recession phases may differ in size and scope, with depressions hitting some economies particularly hard.

In addition to the scale of demand, other demand characteristics may exert an equally important influence on innovation activities and need to be taken into account. For instance, Nesta (2010) finds that consumers' needs and preferences exert a strong influence on the propensity to innovate. Similarly, interactions between producers and consumers change the structure of the value chains, with customers taking on a larger role and even directly influencing innovations (WEF, 2017: 9).

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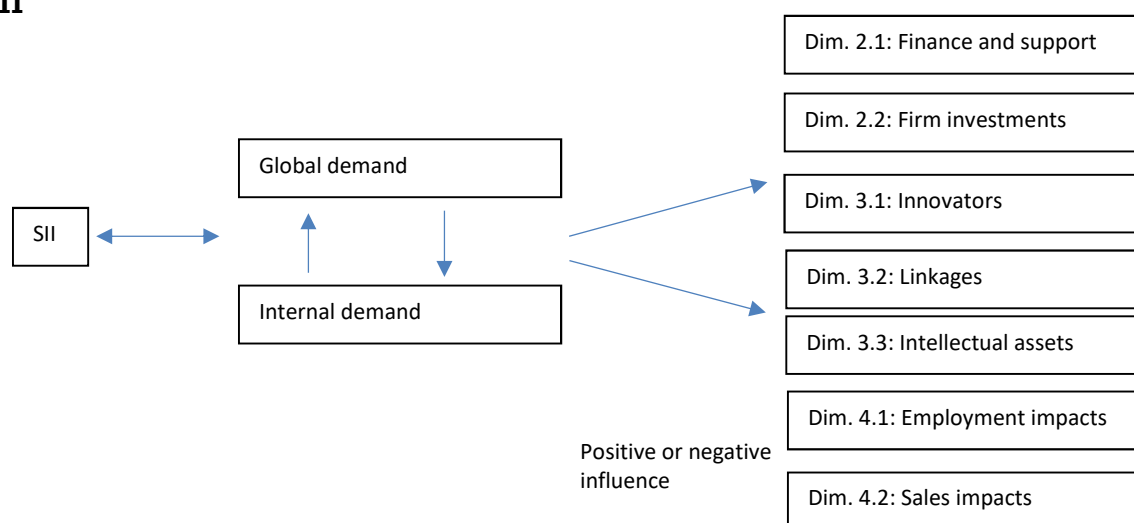
<sup>4</sup> This refers to factors of production (Porter, 1990).



Internal or global demand themselves can be influenced by certain factors such as disruptive innovations and innovations meeting specific consumer needs. Moreover, population size, density and the degree of urbanisation may be expected to have an impact on demand.

In conclusion, both global demand and internal demand exert an influence on innovation activities; both on particular dimensions and on the SII as a whole. Based on the above arguments, Figure 2 illustrates the link between demand and innovation activities and performance. Besides demand having a (direct) impact on particular dimensions of the SII, the overall performance of the innovation system can also exert an influence on global demand and internal demand by changing the capacities and capabilities of firms to innovate.

**Figure 2: Influence of global demand and internal demand on EIS indicators and the SII**



Structural indicators capturing the influence of aforementioned factors were identified in the EIS 2017, namely (see table 67 in Annex 1):

1. GDP per capita, PPS, average 2011-2013,
2. Change in GDP between 2010 and 2015 (%),
3. Population size (millions), average 2011-2015,
4. Change in population between 2010 and 2015 (%),
5. Population aged 15-64 (%), average 2011-2015,
6. Population density, average 2011-2015,
7. Degree of urbanization (%), average 2011-2015,
8. Buyer sophistication (1, worst - 7, best), 2013-2014.

Given the available datasets listed in the Annex 1 (detailed in table 67 in Annex 1), the following demand-related structural indicators were additionally identified:

9. Internal Market Dynamics, measuring the level of perceived change in markets from least positive to most positive (source: Global Entrepreneurship Monitor, National Expert Survey),
10. Domestic demand forecast (source: OECD),
11. Degree of customer orientation, measuring how well companies treat their

customers, ranging from poorly or mostly indifferent to customer satisfaction to extremely well or highly responsive to customers and seeking customer retention (source: World Economic Forum, Executive Opinion Survey).

Two other indicators were identified: spending on innovative products<sup>5</sup> and domestic demand including stocks at constant prices (from AMECO database). However, there were no data for the former, and the latter was found not to be of added value.

### 3.2 Foreign direct investment

The EIS 2017 methodology report considers foreign ownership to be an important structural indicator “as about 40% of business R&D expenditures in EU Member States are by foreign affiliates, which is significantly higher compared to major international competitors” (Hollanders and Es-Sadki, 2017: 41). However, there is not necessarily a direct, causal relationship between FDI stock/flows and innovation performance or even specific indicators such as business expenditure on R&D (BERD). The literature on the influence of FDI on innovation points to a more complex set of pathways that have varying degrees of impact on innovation performance.

Antonietti, Bronzini, and Cainelli (2015) find that inward FDI and patenting capability are positively related in the service industry. Bohle and Greskovits (2012) posit that inward FDI into complex manufacturing industries, effectively those of higher level of technological sophistication, have boosted Visegrád countries' as well as Slovenia's export competitiveness. Specific market conditions apparently have an influence on particular effects that FDI can have in the host country. An Estonian study found that “[i]n general, although foreign companies were found to be more innovative in several respects, many of the results did not hold after various other factors had been controlled for. It seems that the small size of the local market and the lack of local skills mean that foreign companies have less incentive to innovate” (Masso, Roolaht and Varblane, 2010: 49). Indeed, FDI depends on political and economic framework conditions as well as institutions of the receiving country (Estrin and Uvalic, 2016), and public policies seem to be the decisive factor determining whether FDI have positive or negative effects on economic growth (Moura and Forte, 2010).

The sector and a country of origin matter as well. A UK-based study asserted that “[h]igh-tech foreign-owned companies were particularly likely to have increased the innovative capability of their suppliers”. The survey also showed that American companies were more likely to report an impact on the innovation capabilities of their suppliers followed, in order, by those originating from the rest of Europe, and from the rest of the world (Nesta, 2012: 6).

Hence FDI may have direct or indirect positive (or even negative) effects on the domestic economy, and one may test correlations between different categories of FDI and groups of indicators (or the SII as a whole), as simplified in Figure 3.

In EIS 2017 one structural indicator was already identified (see table 68 in Annex 1):

1. Share of foreign controlled enterprises (%), 2014.

In addition, a new structural indicator is suggested (see table 68 in Annex 1):

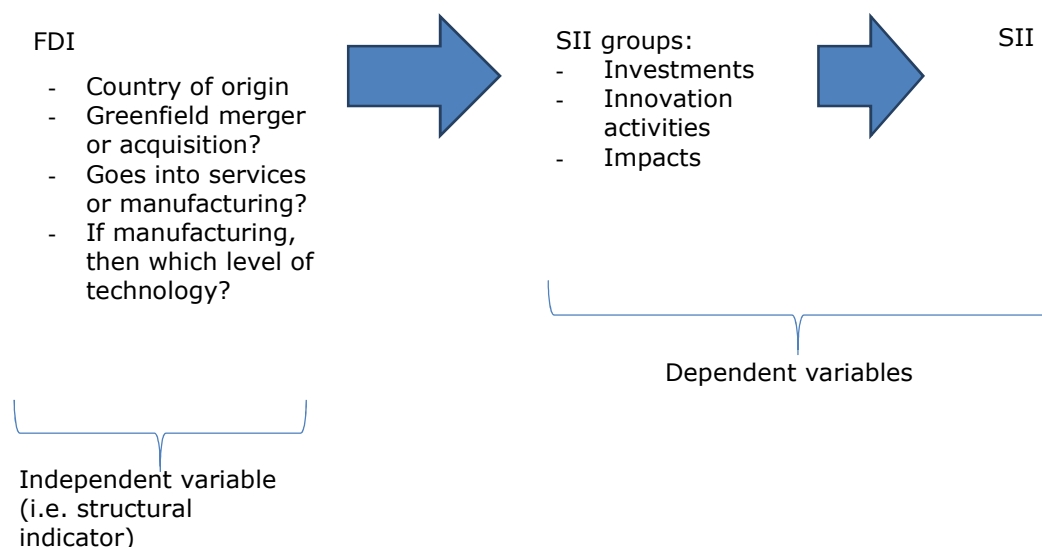
2. Foreign Direct Investment and Technology Transfer, measuring to what extent FDI brings new technology into a country (from ‘not at all’ to ‘a great extent’) (source: World Economic Forum, Executive Opinion Survey).

One additional indicator was chosen: direct investment in the reporting economy (from financial accounts). However, due to the requirement of extracting different data for different countries it was not tested.

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<sup>5</sup> For details see <http://eco2.inno-projects.net/res/ECOII-RES2016-Methodology.pdf>.

**Figure 3: Influence of FDI on EIS indicator groups and on the SII**



### 3.3 Cultural framework

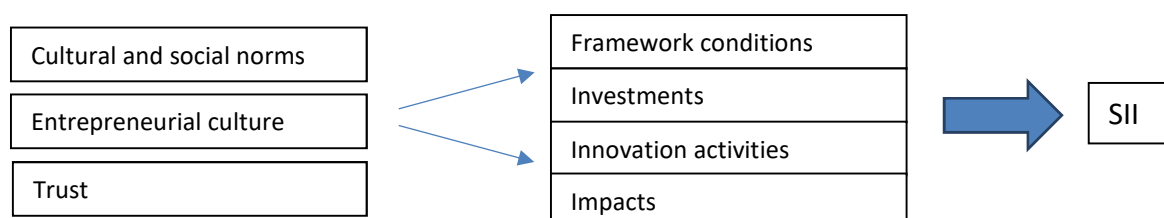
Culture is incorporated in the definition of National System of Innovation (NSI). The latter may be defined as "that set of institutions which jointly and individually contribute to the development and diffusion of new technologies and which provides the framework within which governments form and implement policies to influence the innovation process. As such it is a system of interconnected institutions to create, store, and transfer the knowledge, skills, and artefacts, which define new technologies. The element of nationality follows not only from the domain of technology policy but from elements of shared language and culture which bind the system together, and form the national focus of other policies, laws, and regulations which condition the innovative environment" (Soete, Verspagen, and Ter Weel, 2010: 1164 as in Metcalfe, 1995). Furthermore, as a set of immaterial values, attitudes and worldviews in a society, it is inextricably connected to the concept of social capital. Putnam (1995: 664-5) understands it as "features of social life-networks, norms, and trust – that enable participants to act together more effectively to pursue shared objectives".

More specifically, entrepreneurial culture may comprise "innovativeness, competence, rational calculation" (Adam et al., 2005: 21 drawing on Sztompka, 1993) and is hence more directly connected to innovation. The joint OECD-Eurostat framework for indicators measuring entrepreneurship specifies 'culture' as a determinant comprising 'risk attitude in society', 'attitudes towards entrepreneurs', 'desire for business ownership', and 'entrepreneurship education (mindset)' (Ahmad and Hoffman, 2007: 18). Thomas and Mueller (2000) measured innovativeness, risk-propensity, energy level and internal locus of control in eight countries and compared it with the USA. In their study, the US entrepreneurs achieved the best average score overall. Therefore, culture may be more or less supportive of innovation and entrepreneurship.

Trust, as a component of social capital, is connected to innovation – low trust negatively influences it (Landry, Amara and Lamari, 2002: 687 as in Knack and Keefer, 1997: 1252). Hence, we may assume that trust will influence propensity to innovate positively.

Figure 4 shows how culture and trust can influence the EIS 2017 measurement framework, while possible structural indicators from various sources are shown in the corresponding table in Annex 1.

**Figure 4: Influence of culture and trust on EIS indicator groups and on the SII**



New structural indicators proposed in this report are (details in table 69 in Annex 1):

1. Entrepreneurial Attitudes - Perceived Capabilities, measuring the share of population aged 18-64 who believe to have the required skills and knowledge to start a business (source: Global Entrepreneurship Monitor),
2. Entrepreneurship as Desirable Career Choice, measuring the share of population aged 18-64 who share the opinion that in their country starting a business is seen as a desirable career choice (source: Global Entrepreneurship Monitor),
3. Cultural and Social Norms, measuring the extent to which social and cultural norms encourage or allow actions leading to new business methods or activities that can potentially increase personal wealth and income – from 1 (least positive) to 5 (most positive) (source: Global Entrepreneurship Monitor),
4. It is important to think new ideas and being creative, measuring the share of people who agree that thinking up new ideas and being creative is important (source: European Social Survey),
5. Most people can be trusted, or you can't be too careful, measuring the share of people who agree that most people can be trusted (source: European Social Survey),
6. Fear of failure rate, measuring percentage of population between 18-64 (without individuals involved in entrepreneurial activity) that indicate that this fear would preclude them from starting a business (source: Global Entrepreneurship Monitor).

### 3.4 Financial system

The financing of innovations is more complex than a unidirectional causality that runs from the supply side of the financial system to the demand side (entrepreneurs). The demand side is just as important to consider as the supply side, as, logically, only entrepreneurs with innovation activities will seek out more novel and 'risk-friendly' forms of financial support. Hence, in a wider framework, financing of innovations depends not just on the financial system and the connected quality of corporate governance, but also on culture and social capital (cf. Cvijanović, 2011). As some of the aforementioned variables are covered by other blocks of the OIS model, the focus here is on the supply-side constraints and variables determining whether innovation activities will be financed.

If investors are better protected, financial markets will be deeper (La Porta et al., 1997). However, too fast a growth of the financial sector vis-à-vis the real sector may increase the fragility of the financial system and the possibility of a financial crisis as

well as direct activities of economic actors towards speculation and away from productive activities (cf. Radošević and Cvijanović, 2015).

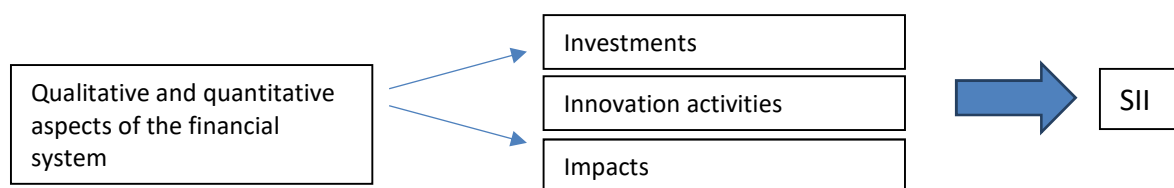
Being able to choose a financial institution and/or a financial instrument for financing innovation activities certainly benefits innovators. However, incremental innovations are better suited for banking credits than radical innovations, the latter are more likely to be funded via equity finance (Cvijanović, 2011: 82). As commercial banks are typically rather conservative institutions, they tend not to be specialised in financing innovation. Therefore, the presence of venture capitalists, business angels and private equity investors as well as the existence of development banks and other forms of government finance may be beneficial for financing innovation activities, as firms will be able to choose from a richer set of financial instruments.

In short, qualitative and quantitative aspects of the financial system may influence innovation activities, as illustrated in Figure 5. The 'investments', 'innovation activities' and 'impacts' groups of the EIS may be more directly influenced by aspects of the financial system, whereas the influence on 'framework conditions' may be more indirect. Different structural indicators that may have an influence on dimensions of the SII are listed below and described in more detail in table 70 in the Annex 1:

1. Strength of Investor protection, measuring the strength of minority investor protection index (0-10) based on survey results administered to corporate and securities lawyers (source: World Economic Forum),
2. Strength of legal rights, measuring the degree to which collateral and bankruptcy law protect the rights of borrowers and lenders (1-12) (source: World Bank),
3. Country credit rating, measuring institutional investor credit rating (0-100) (source: Institutional Investor Magazine).

Two additional indicators were suggested: loans by governments to SMEs (from OECD) and EU Structural Funds dedicated to entrepreneurship and SMEs (from European Commission, DG Regio). While the former had only limited country coverage, the latter is likely to be only relevant in countries where Structural Funds account for a significant share of Government investment.

**Figure 5: Influence of qualitative and quantitative aspects of the financial system on EIS indicator groups and on the SII**



### 3.5 Company system

The company system block of the OIS takes account of the influence of market structures, the sector of activity as well as business demographics (size of firms, birth and death rates, etc.) on innovation activities.

Broadly speaking, the more advanced the level of technology applied in production or required to serve customers, the more a firm is likely to invest in research and development (R&D). This is commonly captured by considering the share of firms in sectors classified as medium-high and high-technology, on the one hand side, and

low-technology and medium-low-technology on the other<sup>6</sup>. However, this classification often hides widely varying degrees of actual technological sophistication of companies across countries, notably depending on the type of products or position in global value chains.

Analysing innovations necessarily requires taking the service sector into account, given its huge contribution to GDP and employment (see Uppenberg and Strauss, 2010). “[R]esearch intensive and high-tech service industries, such as telecommunication and software development, not only account for a substantial part of manufacturing industries’ inputs, but are also the source of positive and substantial productivity effects in the manufacturing sector” (Foster, Pöschl, and Stehrer, 2012: 12). Hence, there is likely to be significant impact of service innovation on the overall innovation performance of a country or a region.

Sectors, and within sectors specific firms, may also differ in terms of being either export-oriented or home market-orientated. Not only have innovations been found to increase export probability (Roper and Love, 2002; Cieslik, Michałek, and Szczygielski, 2016), but the exports and innovations reciprocally cause each other (Filipescu et al., 2013).

The literature does not offer an unambiguous support for the correlation between market concentration or firm size and innovative activity (Syrneonidis, 1996: 59). However, the Community Innovation Survey for the period 2012-2014 shows large firms to be a lot more innovative than SMEs in all types of innovations (organisational, marketing, product, process)<sup>7</sup>. The positive contribution of start-ups to the economy tends to be rather limited on average, as ‘gazelles’ are rare (Nightingale and Coad, 2013).

There is no conclusive evidence that more innovative firms grow more (Demirel and Mazzucato, 2009). Some studies for both the developed countries’ context and the emerging market context find positive evidence for this link, though. For the UK, Mason, Bishop and Robinson (2009: 5) find that high-growth firms innovate more, and firms that are more innovative achieve higher growth. A study on Brazilian firms finds that product innovations, especially when combined with process innovations, drive their sales growth (Goedhuys and Veugelers, 2008: 19). A large study found that innovative firms create more jobs than non-innovative ones, and that they also exhibit faster productivity growth throughout the business cycle (Peters et al., 2014: 160). On the other hand, Freel and Robson (2004), for Scotland and Northern England, do not find evidence for the link between innovation and different measures of firm growth that is equally straightforward.

Based on the literature review, it is assumed that there is a relatively direct correlation of the company system block with ‘investments’, ‘innovation activities’ and ‘impacts’ groups of the SII. Several structural indicators were included in the EIS 2017 (see table 71 in Annex 1):

1. Composition of employment, %-shares, average 2011-2015
2. Composition of turnover, %-shares, average 2011-2014
3. Top R&D spending enterprises
4. Enterprise births (10+ employees) (%), average 2012-2014

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<sup>6</sup> See: [http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:High-tech\\_classification\\_of\\_manufacturing\\_industries](http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:High-tech_classification_of_manufacturing_industries)

<sup>7</sup> See [http://ec.europa.eu/eurostat/statistics-explained/index.php/Innovation\\_statistics#Innovation\\_in\\_SME.E2.80.99s\\_and\\_in\\_large\\_enterprises](http://ec.europa.eu/eurostat/statistics-explained/index.php/Innovation_statistics#Innovation_in_SME.E2.80.99s_and_in_large_enterprises)

Three new structural indicators were suggested:

5. Specialisation in knowledge-intensive emerging industries (from European Cluster Observatory),
6. Specialisation in service-oriented emerging industries (from European Cluster Observatory), and
7. A set of indicators representing: company structure: number of companies by size, main sector of economic activities, company survival rates, etc (from Eurostat).

However, for the first two it could be argued that they may be a result of innovation activities and therefore they were dropped from correlation testing. The set of structural indicators under number three were partially included in the EIS 2017.

### **3.6 Education and research system**

"Not only knowledge but also everyday learning (learning by interacting) is important for the innovation process. In this view, the sources of knowledge include all those entities introducing knowledge into social and economic change. The dynamic nature of the system requires continuous learning in order to adapt to challenges. As knowledge introduced to the system is fundamental, learning of individuals as well as organizations is now also necessary within the innovation process" (Soete, Verspagen, and Ter Weel, 2010: 1167-8). In the framework of a NIS, education and research are highly important functions that influence the way innovation activities are performed as well as the quality of innovations. Some organisations may be more knowledge- and research-intensive than others. Innovation depends not just on the institutional framework and organisations directly involved in innovation activities, but also on the linkages in the system to education and knowledge diffusion organisations.

The higher education sector (universities, etc.) is one of three crucial players in the triple helix model, which conceptualises how knowledge supports development through the linkages between university – industry – government (Etzkowitz and Dzisah, 2008: 664-5). "As knowledge becomes an increasingly important part of innovation, the university as a knowledge producing and disseminating institution plays a larger role in industrial innovation" (Etzkowitz et al., 2000: 314). In terms of innovation, the higher education sector may be especially important for smaller firms, as they would typically, for their innovations, be drawing on spillovers from universities and other firms, as opposed to large firms that invest directly in in-house or contract R&D (Ranga, Miedema and Jorna, 2008: 703, referring to Rodriguez-Pose and Refolo, 2003). However, research functions in a triple helix model extend beyond the university node to other spheres, albeit in different kinds of activities, with R&D innovators, non-R&D innovators, and hybrid institutions (or organisations) (Cavallini et al., 2016: 8-9 as in Ranga and Etzkowitz (2012, 2013).

The research landscape also comprises Research and Technology Organisations (RTOs) that may be scientific or applied research institutes or government laboratories, that support innovation in industry (Arnold, Clark and Jávorka, 2010: 9). EURAB (2005) estimated their contribution in the EU to be around 40% of all publicly funded R&D, which testifies to their importance.

Due to their importance for the innovation system, education and research are likely to have a direct influence on the SII. This has been confirmed by the sensitivity analysis in the Methodology Report of the European Innovation Scoreboard 2017: indicators 1.1.3 (Lifelong learning), 1.2.1 (International scientific co-publications) and 1.2.2 (Scientific publications among top 10% most cited) have very high correlations and  $r^2$  scores, indicating high influence of the indicator on the SII score. In addition to these indicators that are a part of the SII, there are three structural indicators that can have an influence on the SII in the longer run. They are listed here, with details specified in table 72 in Annex 1:



1. Basic-school entrepreneurial education and training, measuring the extent to which training in creating or managing SMEs is incorporated within the education and training system at primary and secondary levels – from 1 (least positive) to 5 (most positive) (source: Global Entrepreneurship Monitor),
2. Post-school entrepreneurial education and training, measuring the extent to which training in creating or managing SMEs is incorporated within the education and training system in higher education such as vocational, college, business schools, etc. – from 1 (least positive) to 5 (most positive) (source: Global Entrepreneurship Monitor),
3. Total R&D personnel (Full time equivalent % of the labour force) – Business enterprise sector (source: Eurostat).

Another structural indicator was chosen: Employment in technology and knowledge intensive sectors at the national level, by sex. However, this indicator was judged too similar to EIS indicator measuring Employment in knowledge-intensive activities.

### **3.7 Governance, policy, regulations and standards**

"Governance consists of the traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them" (World Bank, 2018a). Governance matters for innovation as the process involves many different governmental organisations at various levels (OECD, 2007: 26).

In a broad understanding of NSI comprising different socio-economic factors and institutions stimulating innovations (see Freeman, 2006), the role of the government and governance – that characterise this block – is to enhance the innovation capacities of an economy. The state's role is complementary to the private sector, but yet fundamental due to its capacity to mobilise national resources and its capability to stimulate innovations or whole new sectors when market fails to do so (Mazzucato, 2014). Lundvall et al. (2002: 227) underline the need to coordinate various policy areas to support development strategies at the national level. As is the case with some post-socialist economies, governance capacities may not be supportive enough of smart specialisation strategies to really stimulate growth through innovations (Muscio, Reid and Rivera Leon, 2015: 169).

Furthermore, social cohesion in general, and trust in particular, are important factors for learning and innovation (Lundvall et al, 2002: 225), which government can influence. "[P]ublic policy can help to shape the evolution of trust through moral leadership, through providing complementary third-party enforcement, and directly through its distributive policies and the support for the formation of new social networks. Through its actions, government influences trust in state institutions and helps to shape the structure of society, both of which... are important empirical determinants of the degree of trust" (Raiser, 1999: 14).

Government's entrepreneurship policy and industrial and innovation policies are more closely related to innovation activities, as they should foster the development of the NIS and stimulate productivity growth in firms. They aim at lowering costs of the private sector on the one hand side and at providing incentives for enterprises to grow and innovate on the other. The state can directly influence (financing of) innovation activities through government spending on R&D and tax incentives for innovation activities. Generally speaking, government effectiveness (and connected factors like e-government availability of services) is an important factor influencing innovation activities.



Government's policies get codified in regulations and standards that impact businesses. While standards would typically exert a positive influence on innovations, with regulations it is less so (Edler et al., 2013: 36-37). In particular, rigid regulation can have a negative effect on innovation activities (Pelkmans and Renda, 2014: 26).

Hence one may generally assume that better regulatory quality and standards will foster innovation and drive the SII higher, just as better governance capabilities will. There is a structural indicator already in the EIS 2017, and additional ones that may have an influence on the SII (all of these are listed in table 73 in Annex 1).

The EIS 2017 identified the following structural indicator:

1. Ease of starting a business, Doing Business 2017

Several new structural indicators are proposed in this report:

2. Rule of law, capturing perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence (source: World Bank, Worldwide Governance Indicators),
3. Government effectiveness, capturing perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies (source: World Bank, Worldwide Governance Indicators),
4. Barriers to entrepreneurship – An index comprising complexity of regulatory procedures, administrative burdens on start-ups and regulatory protection of incumbents, on a scale from 0 (least restrictive) to 6 (most restrictive) (source: OECD, Product Market Regulation Database),
5. Ease of doing business index, ranking economies by the criterion whether their regulatory environment is conducive to business operation (rank closer to number 1 out of 190 economies) or not (rank closer to 190). It is composed of sub-indexes. (source: World Bank),
6. Regulatory quality – it measures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. It is operationalised as a percentile rank measuring how well countries fare, with 0 being the lowest rank, and 100 the highest (source: World Bank),
7. Government procurement of advanced technology products, measuring the extent to which government procurement decisions foster technological innovation – from 1 (not at all) to 7 (extremely effectively) (source: World Economic Forum, Executive Opinion Survey).

Three more structural indicators were proposed: 1) criteria for awarding public procurement contracts (from the European Commission), 2) role of government in purchasing innovative goods and services (from Regional Ecosystem Scoreboard), and 3) government procurement as a driver of business innovation (from Regional Ecosystem Scoreboard). Due to availability of data, it was decided not to further test these indicators.

### **3.8 Sectoral trade patterns and global value chains**

Globalisation has brought not just increased trading and international financial flows, but also increased linkages between domestic and foreign companies and between domestic and foreign branches of the same company. "[C]ompanies are increasingly opening their innovation process and collaborating with other partners across borders"

(De Backer, Destefano, and Moussiégt, 2017: 28). All these factors have an impact on the way innovation activities are performed and where they are geographically located.

There are different effects that trade can have on innovation, depending on whether the effects stem from imports, exports or licensing (Onodera, 2008). Licensing has a clearly positive effect on innovation through technology transfer. Imports have an unambiguously positive effect on innovations when it comes to both the technology effect and a price effect. However, the picture is not so clear on the effect of competition, since the effects on innovation could be either positive or negative, depending on different responses of domestic firms. The effects of imports are also visible through the impact of economies of scale on innovations, but whether it is positive or negative depends on the response of the domestic economy in terms of exports and as regards inefficient manufacturers. Exports can have an effect on innovations through competition, economies of scale and through the effect on learning. Economies of scale have a positive effect on innovation, whereas with learning it depends on the product and/or the market to which products are exported. With competition stemming from exporting it is similar to what is described above – the effects on innovation could be either positive or negative (Onodera, 2008: 13).

To analyse the position of a country as regards trade patterns and global value chains requires considering the degree of sectoral, technological and geographic diversification of exports. According to Hausmann and Rodrik (2003), economic growth is not driven by comparative advantage but by countries' diversification of their investments into new activities. If exports are weakly diversified (e.g. concentrated in low-medium tech products that are sensitive to labour cost-based competition) then a country may be more exposed to external shocks through trade channels.

In terms of global value chains, as Veugelers (2013: 13) notes, firms involved in global value chains in three or more different ways (in importing, exporting and organisation of some of the production in other countries, etc.) "are more heavily engaged in R&D activities, have a more sophisticated human capital base, hire relatively more workers with a university degree and are consequently being able to support higher unit labour costs".

Given data availability, it is proposed to test one main structural indicator (see details in table 74 in Annex 1):

1. Export market shares - 5 years % change, measuring the degree of importance of a country within total exports of the world.

### **3.9 Endowments of renewable and non-renewable global resources**

Endowments and availability of renewable and non-renewable global resources – or lack thereof – are likely to direct the economy towards some activities and sectors. They will either provide opportunities for the private sector if they are available, or be a threat when resources become scarce or more expensive. However, a resource boom may have a negative impact on an economy (cf. Peretto and Valente, 2011). Hall and Wylie (2015) claim that even isolation may be a key factor triggering innovation, although its further path is determined by many not very well known environmental factors.

Natural resources are less important for technological innovations than they once were. What counts for innovation nowadays is investment in human capital, R&D infrastructures, the changing nature of international trade allowing for expansion of economies of scale of smaller economies, and knowledge spillovers across borders (Bruland and Mowery, 2005: 372-373). However, it is the scarcity of resources, i.e. their shortages that are making an impact on innovation activities (OECD, 2015: 43). Negative ecological and economic trends have caused a rise in demand for eco-

innovations<sup>8</sup> (Lang-Koetz et al., 2010: 165), and the policy momentum for resource efficiency started to gain ground through initiatives at the EU level such as Roadmap to a Resource Efficient Europe and The Action Plan towards the Circular Economy (see Domenech and Bahn-Walkowiak, 2017). These economic and environmental trends and accompanying policies will have cross-sectoral effects on economies.

To capture the broad range of environmental factors that influence innovation, it was decided to recommend a single composite indicator (details in table 75 in Annex 1):

1. Eco-innovation index, measuring the progress towards the objectives and targets of the Europe 2020 flagship initiative on Resource Efficiency

Other potential indicators that could be considered in the future include energy intensity per PPS of GDP (World Bank) and renewable freshwater resources (data from Eurostat).

### **3.10 Policy and regulatory environment in export markets and competitors**

As the European Single Market evolves, there are still different regulations – directly or indirectly connected to innovations – limiting companies in their access to different markets in the EU. The differences in regulations are even more pronounced between the EU and third countries, so companies from EU member states are still affected by them. Lack of a level playing field influences companies' costs and exports and hence has an impact on innovation activities.

No structural indicators were chosen for this block of the OIS model since regulatory environment is already covered at a domestic level and it is beyond the bounds of the EIS to estimate the impact of regulatory quality in export markets for each country. The influence of this factor on innovation system and performance should be assessed by national policy makers, taking into account the position of national firms in global value chains (see for instance Ali-Yrkkö et al, 2017).

### **3.11 International mobility and knowledge flows**

Highly skilled individuals have a positive impact on innovation (see Maier, Kurka and Tripl, 2007). They tend to concentrate in more developed countries even if their home countries may benefit from the links created through these migratory movements (Solimano and Avanzini, 2010: 15).

Countries can attract talented workers through the right policies. Richard Florida's work "suggests that in order to attract skilled researchers, workers and managers in high technology and creative sectors, policies for business development should be supplemented by policies for attracting talented people by improving the perceived and actual quality of place" (OECD, 2004: 167).

Transnational innovation networks may comprise three different yet overlapping domains: 1) a corporate-institutional (with knowledge transfers in and between firms, 2) social networks (in which people are the medium of knowledge transfer), and 3) hegemonic-discursive (with a variety of knowledge dissemination sources)<sup>9</sup> (Coe and Bunnell, 2003: 452).

Mahroum (2000a, as in Tripl and Maier, 2007: 15) explain the mobility of highly skilled workers and students with different factors. Managers and executives are

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<sup>8</sup> "Eco-innovations aim at increasing resource efficiency while contributing to the goals of sustainable development in a holistic sense, i.e., from an environmental, economical and social perspective" (Lang-Koetz et al., 2010: 166).

<sup>9</sup> It "delimits a range of international media, educational and policy networks through which both technical and managerial knowledge is propagated and dispersed" (Coe and Bunnell, 2003: 450).

attracted by benefits and remuneration. Engineers and technicians are influenced by economic factors (supply and demand mechanisms) and the state of the national economy. Academics and scientists are attracted by bottom-up developments in science, nature of conditions of work as well as by institutional prestige. Entrepreneurs are influenced by the following factors: governmental (visa, taxation, protection etc.) policies, financial facilities, and bureaucratic efficiency. Students are influenced by recognition of a global workplace, accessibility problems at home as well as by intercultural experience (taken from Trippi and Maier, 2007: 15, based on Mahroum, 2000a). Countries can therefore adapt their policies targeting specific groups of migrants.

One structural indicator was proposed for this block of the OIS model: foreign nationals in skilled occupations (from EU labour force survey). However, data were not consistently available. Nevertheless, the influence of international mobility and knowledge flows should be considered on a case by case basis, as some countries have a higher share of skilled migrants in its workforce than others.

### **3.12 Innovation support system**

A number of different organisations can play a role of intermediaries in the innovation system. Their role is to integrate networks, shape knowledge and an innovation system. By doing so, they also improve their capacities (De Silva, Howells, and Meyer, 2018: 11). They may be of a variety of legal forms, public or private, and governments have been behind some of them, thereby trying to influence innovations in certain sectors, such as construction (Winch and Courtney, 2007). They may have different forms and functions in the system, and encompass not only research brokers, but also cluster organisations, science, technology and innovation parks, incubators, technology transfer offices, etc. As such they may be referred to as innovation ecosystem builders since they have a much more important role than just that of intermediation.

A single structural indicator was suggested for this block of the OIS model: Availability of support services to enterprises through cluster organisations (from European Cluster Observatory). However, this indicator data is available only at a regional level, which would require aggregation at national level.

#### **4. Results from structured interviews with experts**

Interviews were conducted with 11 experts asking them to reflect on the relative importance of each of the indicators introduced in Section 3. Table 2 summarises the opinions of nine experts who graded the proposed structural indicators. The indicators highlighted in green received an average score of more than 4, those highlighted in yellow between 3 and 4, and those highlighted in orange below 3. The following indicators were perceived to be most important:

- Degree of customer orientation;
- Foreign Direct Investment and Technology Transfer;
- Direct investment in the reporting economy;
- Entrepreneurial Attitudes - Perceived Capabilities;
- It is important to think new ideas and being creative;
- Fear of failure rate;
- Specialisation in knowledge-intensive emerging industries;
- Company structure: number of companies by size, main sector of economic activities, company survival rates, etc.;
- Post-school entrepreneurial education and training;
- Employment in technology and knowledge-intensive sectors at the national level, by sex;
- Rule of law;
- Government effectiveness;
- Barriers to entrepreneurship;
- Regulatory quality.

After the interviews were done, it was decided not to include some of the indicators for testing of correlation, as previously mentioned. This was due to either insufficient data coverage, insufficient details as to which data to extract, indicators being possibly influenced by innovation results themselves or similarity to already existing EIS indicators.

**Table 2 Analysis of experts' responses on importance of structural indicators**

Ranking (1 – not important; 5 – very important)

No	Name of the indicator	Expert									Average
		1	2	3	4	5	6	7	8	9	
1	Internal Market Dynamics	5	3	4	1	4	1	4.5	1	-	2.94
2	Domestic demand forecast	3	4	4	1	4	1	4.5	1	-	2.81
3	Degree of customer orientation	3	4	5	5	3	4	4.5	-	-	4.07
4	Domestic demand including stocks at constant prices	3	2	3	5	2	-	4.5	1	-	2.93
5	Foreign Direct Investment and Technology Transfer	4	5	4	5	4	5	4.5	4	-	4.44
6	Direct investment in the reporting economy	5	5	5	5	3	3	4.5	3	-	4.19
7	Entrepreneurial Attitudes - Perceived Capabilities	5	4.5	3	5	3	4	4.5	3	-	4.00
8	Entrepreneurship as Desirable Career Choice	4	3	4	5	-	4	3.5	3	-	3.79
9	Cultural and Social Norms	4	3.5	4	5	2	4	3.5	4	-	3.75
10	It is important to think new ideas and being creative	4	5	4	5	3	4	3.5	5	-	4.19
11	Most people can be trusted or you can't be too careful	2	3	3	5	3	4	3.5	5	-	3.56
12	Fear of failure rate	5	4	5	5	-	3	3.5	3	-	4.07
13	Strength of Investor protection	3	5	4	1	2	3	2.5	2	-	2.81
14	Strength of legal rights	4	5	4	1	2	4	3.5	3	-	3.31
15	Country credit rating	5	4	4	5	3	4	2.5	2	-	3.69
16	Loans by governments to SMEs	4	4	5	1	4	4	2.5	3	-	3.44
17	Structural Funds dedicated to entrepreneurship and SMEs	3	4	5	1	3	1	2.5	3	-	2.81
18	Specialisation in knowledge-intensive emerging industries	5	5	3	5	3	3	4.5	4	-	4.06
19	Specialisation in service-oriented emerging industries	5	4	5	5	3	3	3.5	2	-	3.81
20	Company structure: number of companies by size, main sector of economic activities, company survival rates	5	5	4	5	3	-	4.5	3	5	4.31
21	Basic-school entrepreneurial education and training	3	5	3	5	3	2	1.5	3	-	3.19
22	Post-school entrepreneurial education and training	5	5	4	5	3	4	2.5	4	-	4.06
23	Total R&D personnel	4	5	4	1	5	3	3.5	4	-	3.69
24	Employment in technology and knowledge-intensive sectors	5	5	5	1	5	4	4.5	-	-	4.21
25	Rule of law	5	5	4	5	3	4	4.5	3	-	4.19
26	Government effectiveness	5	5	5	5	4	4	4.5	4	-	4.56
27	Barriers to entrepreneurship	5	5	4	5	4	2	4.5	3	-	4.06
28	Ease of doing business index	4	5	4	5	3	4	4.5	3	3	3.94
29	Regulatory quality <sup>10</sup>	5	5	4	5	3	3	4.5	4	-	4.19
30	Criteria for awarding public procurement contracts	4	4	5	1	-	-	4.5	1	-	3.25
31	Government procurement of advanced technological products	5	4	3	1	4	4	4.5	3	-	3.56
32	Export market shares - 5 years % change	5	5	5	1	4	4	4.5	3	3	3.83
33	Eco-innovation index	4	5	5	1	-	1	3.5	5	-	3.50
34	Renewable freshwater resources	3	4	4	5	3	-	1	2	1	2.88
35	Foreign Nationals in Skilled Occupations	3	4	3	5	4	4	3.5	3	-	3.69
36	Availability of support services to enterprises through cluster organisations	4	4	4	1	4	1	2.5	2	-	2.81

<sup>10</sup> The experts were asked about the indicator of regulatory quality based on the Quality of Government Dataset from the Quality of Government Institute.

## 5. Empirical testing of indicators

### 5.1 Correlation results for EIS structural indicators

#### 5.1.1 Structure of the economy

Table 3 shows the correlation results between the latest scores for the SII and the 27 EIS 2017 indicators and the following EIS 2017 structural indicators measuring differences in the structure of the economy:

- Composition of employment (% shares), average for 2011-2015
  - Agriculture & Mining (NACE A-B)
  - Manufacturing (NACE C)
    - of which High and Medium high-tech
  - Utilities and Construction (NACE D-F)
  - Services (NACE G-N)
    - of which Knowledge-intensive services
  - Public administration, etc. (NACE O-U)

The following correlations can be observed:

- Employment shares in Agriculture & Mining correlate negatively with the SII and 17 EIS indicators;
- Employment shares in Manufacturing correlate negatively with the SII and 14 EIS indicators, they correlate positively with only one indicator (Medium and high-tech product exports);
- Employment shares in High and Medium high-tech manufacturing correlate positively with the SII and 7 EIS indicators;
- Employment shares and Utilities and Construction correlate negatively with the SII and 11 EIS indicators;
- Employment shares in Services correlate positively with the SII and 18 EIS indicators;
- Employment shares in Knowledge-intensive services correlate positively with the SII and 18 EIS indicators;
- Employment shares in Public administration correlate positively with 3 EIS indicators.

The EIS 2017 report assumed that there would be positive correlations between the *Employment share in High and Medium high-tech manufacturing* and the EIS indicators measuring *Business R&D expenditures*, *Product or process innovators*, *Marketing or organisational innovators*, and *Patent applications*. The correlation results give support to two of the assumed positive correlations (highlighted in italics in the text above). Moreover, due to its positive contribution to employment and economic growth, the EU has set a 20% target for the contribution of manufacturing to EU GDP<sup>11</sup>.

As the employment indicators are correlated, and a higher employment share on one indicator is automatically matched by a lower share for another indicator, it is recommended to reduce the list of indicators and include the following structural indicators in the EIS 2018:

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<sup>11</sup> [http://europa.eu/rapid/press-release\\_MEMO-12-759\\_en.htm](http://europa.eu/rapid/press-release_MEMO-12-759_en.htm)



- Employment share in Manufacturing;
- Employment share in High and Medium high-tech manufacturing;
- Employment share in Services;
- Employment share in Knowledge-intensive services.

**Table 3 Pearson Correlation (PC) results between SII/EIS indicators and EIS 2017 Structural indicators on the structure of the economy**

		Agriculture & Mining (NACE A-B)	Manufacturing (NACE C)	High and medium high-tech manufacturing	Utilities and Construction (NACE D-F)	Services (NACE G-N)	Knowledge-intensive services	Public administration (NACE O-U)
SII	PC	-.627**	-.437*	.393	-.474**	.723**	.803**	.054
	Sig.	.000	.014	.029	.007	.000	.000	.775
	N	31	31	31	31	31	31	31
i111 DOGRADS	PC	-.227	.071	.624**	-.246	.226	.342	-.286
	Sig.	.219	.704	.000	.182	.222	.060	.119
	N	31	31	31	31	31	31	31
i112 TEREDUC	PC	-.330	-.676**	-.218	-.271	.617**	.509**	.155
	Sig.	.075	.000	.248	.147	.000	.004	.414
	N	30	30	30	30	30	30	30
i113 LIFELONG	PC	-.469**	-.425*	.208	-.421*	.655**	.788**	-.101
	Sig.	.009	.019	.269	.021	.000	.000	.595
	N	30	30	30	30	30	30	30
i121 INTCOPUB	PC	-.475**	-.533**	.137	-.439*	.678**	.789**	.050
	Sig.	.007	.002	.461	.013	.000	.000	.788
	N	31	31	31	31	31	31	31
i122 MOSTCITED	PC	-.553**	-.551**	.346	-.521**	.732**	.693**	.121
	Sig.	.001	.001	.057	.003	.000	.000	.517
	N	31	31	31	31	31	31	31
i123 FORDOCST	PC	-.510**	-.626**	.114	-.519**	.638**	.767**	.434
	Sig.	.004	.000	.548	.003	.000	.000	.017
	N	30	30	30	30	30	30	30
i131 BROADBAND	PC	-.149	-.223	.016	-.307	.274	.369*	.022
	Sig.	.432	.237	.932	.099	.143	.045	.907
	N	30	30	30	30	30	30	30
i132 OPPENTRE	PC	-.374*	-.427*	.094	-.315	.563**	.698**	-.068
	Sig.	.042	.019	.621	.090	.001	.000	.720
	N	30	30	30	30	30	30	30
i211 PUBRD	PC	-.422*	-.040	.325	-.124	.344	.480**	-.103
	Sig.	.018	.831	.074	.506	.058	.006	.580
	N	31	31	31	31	31	31	31
i212 VENTCAP	PC	-.278	-.377*	-.117	.012	.438*	.319	-.119
	Sig.	.137	.040	.538	.948	.016	.086	.529
	N	30	30	30	30	30	30	30
i221 BUSRD	PC	-.416*	-.010	.566**	-.285	.358*	.509**	-.137
	Sig.	.020	.959	.001	.120	.048	.003	.461
	N	31	31	31	31	31	31	31
i222 NONRD	PC	.061	.335	.080	.143	-.180	-.154	-.294
	Sig.	.748	.070	.674	.450	.342	.417	.114
	N	30	30	30	30	30	30	30
i223 ICTSKILLS	PC	-.573**	-.347	.452*	-.319	.603**	.687**	.077
	Sig.	.001	.056	.011	.080	.000	.000	.679
	N	31	31	31	31	31	31	31
i311 PPINNOV	PC	-.465**	-.468**	.189	-.534**	.666**	.661**	-.012
	Sig.	.008	.008	.308	.002	.000	.000	.951
	N	31	31	31	31	31	31	31
i312 MOINNOV	PC	-.509**	-.552**	.270	-.580**	.685**	.712**	.225
	Sig.	.003	.001	.142	.001	.000	.000	.224
	N	31	31	31	31	31	31	31
i313 INHOUSE	PC	-.482**	-.417*	.278	-.489**	.631**	.628**	.045
	Sig.	.007	.022	.136	.006	.000	.000	.814
	N	30	30	30	30	30	30	30
i321 COLLAB	PC	-.417*	-.415*	.169	-.283	.591**	.543**	-.113
	Sig.	.020	.020	.364	.123	.000	.002	.545
	N	31	31	31	31	31	31	31
i322 PPCOPUB	PC	-.414*	-.264	.419*	-.461**	.554**	.640**	-.198
	Sig.	.021	.151	.019	.009	.001	.000	.285
	N	31	31	31	31	31	31	31



		Agriculture & Mining (NACE A-B)	Manufacturing (NACE C)	High and medium high-tech manufacturing	Utilities and Construction (NACE D-F)	Services (NACE G-N)	Knowledge-intensive services	Public administration (NACE O-U)
i323 COFUNDING	PC	-.029	.097	.109	-.042	.009	-.005	-.144
	Sig.	.878	.604	.559	.823	.961	.977	.439
	N	31	31	31	31	31	31	31
i331 PATENTS	PC	-.538**	-.278	.566**	-.475**	.633**	.725**	-.146
	Sig.	.002	.137	.001	.008	.000	.000	.443
	N	30	30	30	30	30	30	30
i332 TRADEMARK	PC	-.449*	-.367*	-.258	-.075	.390*	.277	.446*
	Sig.	.011	.042	.160	.690	.030	.131	.012
	N	31	31	31	31	31	31	31
i333 DESIGNS	PC	-.317	-.079	.028	-.092	.149	.159	.411*
	Sig.	.082	.673	.882	.623	.424	.393	.022
	N	31	31	31	31	31	31	31
i411 KIAEMPL	PC	-.651**	-.634**	.170	-.554**	.799**	.832**	.296
	Sig.	.000	.000	.359	.001	.000	.000	.106
	N	31	31	31	31	31	31	31
i412 HIGHGROW	PC	-.211	.092	.371	-.122	.080	.067	.073
	Sig.	.281	.642	.052	.536	.687	.736	.713
	N	28	28	28	28	28	28	28
i421 MHTEXPORT	PC	-.215	.435*	.659**	.205	-.211	.017	.207
	Sig.	.246	.014	.000	.269	.254	.929	.265
	N	31	31	31	31	31	31	31
i422 KISEXPORT	PC	-.418*	-.616**	.254	-.473**	.653**	.746**	.199
	Sig.	.019	.000	.168	.007	.000	.000	.283
	N	31	31	31	31	31	31	31
i423 INNSALES	PC	-.242	.199	.575**	-.014	.053	.024	-.048
	Sig.	.190	.282	.001	.942	.775	.897	.799
	N	31	31	31	31	31	31	31

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

### 5.1.2 Business indicators

Table 4 shows the correlation results between the latest scores for the SII and the 27 EIS 2017 indicators and the following EIS 2017 structural indicators measuring differences in enterprise characteristics ('business indicators'):

- Composition of turnover, average turnover shares (%) for 2011-2014
  - Micro enterprises (0-9 employees)
  - SMEs (10-249 employees)
  - Large enterprises (250+ employees)
- Share of foreign controlled enterprises, 2014 (%)
- Top R&D spending enterprises
  - average number per 10 million population, average for 2011-2015
  - average R&D spending, million Euros, average for 2011-2015
- Enterprise births (10+ employees) (%), average for 2012-2014
- Buyer sophistication 1-7 (best), 2013-2014
- Ease of starting a business, Doing Business 2017

The following correlations can be observed:

- The turnover share in Micro enterprises correlates negatively with the SII and 8 EIS indicators (New doctorate graduates, Lifelong learning, International scientific co-publications, Opportunity-driven entrepreneurship, Business R&D expenditures, Public-private scientific co-publications, Patent applications, and Exports of knowledge-intensive services);

- The turnover share in SMEs correlates negatively with two EIS indicators (Lifelong learning and Public-private scientific co-publications);
- The turnover share in Large firms correlates positively with 4 EIS indicators (New doctorate graduates, Employment in high-growth enterprises, Medium and high-tech product exports, and Innovative sales);
- The share of foreign controlled enterprises correlates positively with one EIS indicator (Trademark applications);
- The average number of Top R&D spending enterprises correlates positively with the SII and 15 EIS indicators;
- The average R&D spending of Top R&D spending enterprises correlates positively with 6 EIS indicators;
- Enterprise births correlates negatively with the SII and 13 EIS indicators;
- Buyer sophistication correlates positively with the SII and 16 EIS indicators;
- Ease of starting a business correlates positively with the SII and 11 EIS indicators.

The EIS 2017 report assumed that there would be positive correlations between the turnover share in large firms and the EIS indicator measuring BERD, between the share of foreign controlled enterprises and the EIS indicator measuring BERD, between Enterprise births and the EIS indicator measuring Opportunity-driven entrepreneurship, between the degree of Buyer sophistication and the EIS indicator measuring the Innovative sales share, and between the *Ease of starting a business* and the EIS indicators measuring *Opportunity-driven entrepreneurship* and Employment in high-growth enterprises. The correlation results give support to only one of the assumed positive correlations (highlighted in italics in the text above). Between Enterprise births and the EIS indicator measuring Opportunity-driven entrepreneurship, the correlation results even suggest a negative relation.

The employment share in SMEs is a relevant indicator and several of the EIS indicators are specific for SMEs only, despite the weak correlation results this indicator should be included.

Based on the results above, it is recommended to include the following indicators in the EIS 2018:

- Employment share in SMEs;
- Average number of Top R&D spending enterprises per million population;
- Buyer sophistication;
- Ease of starting a business.

**Table 4 Pearson Correlation (PC) results between SII/EIS indicators and EIS 2017 Structural indicators on enterprise characteristics**

		Turnover share			Share of foreign-controlled enterprises	Top R&D spending enterprises		Enterprise births (10+ employees)	Buyer sophistication	Ease of starting a business
		Micro enterprises	SMEs	Large enterprises		Average number per 10 million population	Average R&D spending in mln Euros			
SII	PC	-.426*	-.206	.230	-.035	.520**	.306	-.483**	.679**	.463**
	Sig.	.017	.266	.214	.853	.003	.094	.006	.000	.009
	N	31	31	31	31	31	31	31	31	31
i111 DOCGRADS	PC	-.387*	-.173	.590**	-.262	.142	.284	-.103	.268	.570**
	Sig.	.032	.351	.000	.154	.446	.121	.582	.145	.001

		Turnover share			Share of foreign-controlled enterprises	Top R&D spending enterprises		Enterprise births (10+ employees)	Buyer sophistication	Ease of starting a business
		Micro enterprises	SMEs	Large enterprises		Average number per 10 million population	Average R&D spending in mln Euros			
	N	31	31	31	31	31	31	31	31	31
i112 TEREDUC	PC	-.142	.003	-.094	.175	.372*	.050	-.257	.445*	.301
	Sig.	.456	.987	.623	.356	.043	.794	.171	.014	.106
	N	30	30	30	30	30	30	30	30	30
i113 LIFELONG	PC	-.466**	-.440*	-.093	.064	.492**	.320	-.502**	.592**	.539**
	Sig.	.009	.015	.627	.738	.006	.085	.005	.001	.002
	N	30	30	30	30	30	30	30	30	30
i121 INTCOPUB	PC	-.390*	-.208	.001	.103	.540**	.095	-.517**	.567**	.396*
	Sig.	.030	.262	.997	.582	.002	.612	.003	.001	.027
	N	31	31	31	31	31	31	31	31	31
i122 MOSTCITED	PC	-.201	-.102	.236	-.074	.410*	.356*	-.389*	.680**	.223
	Sig.	.278	.585	.200	.694	.022	.049	.031	.000	.228
	N	31	31	31	31	31	31	31	31	31
i123 FORDOCST	PC	-.297	-.106	.075	.140	.641**	.176	-.293	.633**	.114
	Sig.	.111	.576	.694	.462	.000	.352	.116	.000	.550
	N	30	30	30	30	30	30	30	30	30
i131 BROADBAND	PC	-.230	.087	.224	.115	.342	-.058	-.116	.218	.428*
	Sig.	.221	.646	.233	.544	.064	.761	.542	.247	.018
	N	30	30	30	30	30	30	30	30	30
i132 OPPENTRE	PC	-.431*	-.344	-.045	.078	.409*	.069	-.414*	.434*	.596**
	Sig.	.017	.063	.814	.683	.025	.719	.023	.016	.001
	N	30	30	30	30	30	30	30	30	30
i211 PUBRD	PC	-.350	-.281	.130	-.039	.244	.170	-.451*	.344	.544**
	Sig.	.054	.126	.487	.834	.187	.361	.011	.058	.002
	N	31	31	31	31	31	31	31	31	31
i212 VENTCAP	PC	-.078	.175	.243	.218	.096	.034	-.025	.252	.591**
	Sig.	.683	.356	.196	.248	.614	.860	.897	.180	.001
	N	30	30	30	30	30	30	30	30	30
i221 BUSRD	PC	-.393*	-.224	.329	-.157	.262	.227	-.434*	.384*	.472**
	Sig.	.029	.226	.071	.400	.154	.219	.015	.033	.007
	N	31	31	31	31	31	31	31	31	31
i222 NONRD	PC	-.123	-.289	-.138	-.109	-.209	.147	-.023	-.092	.185
	Sig.	.516	.122	.468	.565	.267	.439	.905	.630	.328
	N	30	30	30	30	30	30	30	30	30
i223 ICTSKILLS	PC	-.277	-.170	.171	-.124	.429*	.245	-.451*	.607**	.272
	Sig.	.132	.361	.357	.506	.016	.183	.011	.000	.139
	N	31	31	31	31	31	31	31	31	31
i311 PPINNOV	PC	-.270	-.144	.049	-.241	.372*	.328	-.568**	.684**	.191
	Sig.	.142	.441	.794	.191	.039	.072	.001	.000	.305
	N	31	31	31	31	31	31	31	31	31
i312 MOINNOV	PC	-.289	-.200	.053	-.092	.546**	.385*	-.496**	.719**	.098
	Sig.	.115	.280	.777	.622	.001	.032	.005	.000	.601
	N	31	31	31	31	31	31	31	31	31
i313 INHOUSE	PC	-.161	-.042	.093	-.195	.383*	.390*	-.665**	.672**	.103
	Sig.	.394	.825	.625	.302	.037	.033	.000	.000	.588
	N	30	30	30	30	30	30	30	30	30
i321 COLLAB	PC	-.277	-.217	.082	-.198	.175	.132	-.338	.491**	.384*
	Sig.	.132	.240	.662	.286	.347	.478	.063	.005	.033
	N	31	31	31	31	31	31	31	31	31
i322 PPCOPUB	PC	-.575**	-.482**	.132	-.293	.257	.271	-.467**	.441*	.445*
	Sig.	.001	.006	.478	.110	.163	.140	.008	.013	.012
	N	31	31	31	31	31	31	31	31	31
i323 COFUNDING	PC	-.101	.110	.252	-.150	-.155	.104	-.022	.028	.300
	Sig.	.588	.556	.172	.420	.405	.579	.906	.880	.101
	N	31	31	31	31	31	31	31	31	31
i331 PATENTS	PC	-.456*	-.329	.257	-.165	.412*	.613**	-.511**	.703**	.460*
	Sig.	.011	.076	.171	.384	.024	.000	.004	.000	.010
	N	30	30	30	30	30	30	30	30	30
i332 TRADEMARK	PC	.115	.318	-.299	.383*	.460**	-.184	-.158	.278	-.288
	Sig.	.539	.082	.102	.033	.009	.321	.397	.130	.117
	N	31	31	31	31	31	31	31	31	31
i333 DESIGNS	PC	.058	.251	.058	.327	.435*	-.114	-.038	.208	-.195
	Sig.	.755	.173	.758	.072	.014	.542	.837	.261	.292
	N	31	31	31	31	31	31	31	31	31
i411	PC	-.291	-.162	-.114	.151	.684**	.307	-.467**	.745**	.021

		Turnover share			Share of foreign-controlled enterprises	Top R&D spending enterprises		Enterprise births (10+ employees)	Buyer sophistication	Ease of starting a business
		Micro enterprises	SMEs	Large enterprises		Average number per 10 million population	Average R&D spending in mln Euros			
KIAEMPL	Sig.	.113	.384	.543	.418	.000	.093	.008	.000	.912
	N	31	31	31	31	31	31	31	31	31
i412 HIGHGROW	PC	-.080	-.255	.393*	-.092	.033	.167	.119	.021	.039
	Sig.	.686	.191	.039	.640	.867	.396	.548	.914	.844
	N	28	28	28	28	28	28	28	28	28
i421 MHTEXPORT	PC	-.065	.179	.520**	.031	.094	.168	.198	-.005	-.085
	Sig.	.728	.336	.003	.870	.613	.366	.285	.978	.650
	N	31	31	31	31	31	31	31	31	31
i422 KISEXPORT	PC	-.361*	-.147	.214	.133	.561**	.380*	-.351	.719**	.343
	Sig.	.046	.430	.249	.475	.001	.035	.053	.000	.059
	N	31	31	31	31	31	31	31	31	31
i423 INNSALES	PC	-.105	-.139	.435*	-.172	-.086	.403*	.050	.091	.191
	Sig.	.574	.455	.014	.353	.645	.025	.790	.628	.304
	N	31	31	31	31	31	31	31	31	31

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

### 5.1.3 Socio-demographic indicators

Table 5 shows the correlation results between the latest scores for the SII and the 27 EIS 2017 indicators and the following EIS 2017 structural indicators measuring differences in socio-demographic characteristics:

- GDP per capita, PPS, average for 2011-2013
- Change in GDP between 2010 and 2015, (%)
- Population size, average for 2011-2015 (millions)
- Change in population between 2010 and 2015 (%)
- Population aged 15-64, average for 2011-2015 (%)
- Population density, average for 2011-2015
- Degree of urbanisation, average for 2011-2015 (%)

The following correlations can be observed:

- GDP per capita correlates positively with the SII and 16 EIS indicators;
- Change in GDP correlates positively with one EIS indicator;
- Population size correlates positively with two EIS indicators;
- Change in population size correlates positively with the SII and 15 EIS indicators;
- Share of population aged 15-64 correlates negatively with the SII and 16 EIS indicators;
- Population density correlates positively with two EIS indicators (Trademark applications and Design applications).

The EIS 2017 report assumed that there would be positive correlations between Population density and the EIS indicators measuring Tertiary educational attainment and Lifelong learning, and between the Degree of urbanisation and the EIS indicators measuring Tertiary educational attainment and Lifelong learning. The correlation results give no support to these assumed positive correlations.

Although population size does not correlate with the SII or any of the EIS indicators, country size, measured by GDP or population, is an important criterion for identifying countries of comparable size and more comparable national systems of research and innovation. In addition, growing markets provide more opportunities for selling new products. Population growth and GDP growth are therefore important for measuring differences in growth potentials between countries.

Based on the results above, it is recommended to include the following indicators in the EIS 2018:

- GDP per capita;
- Change in GDP;
- Population size;
- Change in population size;
- Population density.

**Table 5 Pearson Correlation (PC) results between SII/EIS indicators and Structural indicators on socio-demographic characteristics**

		GDP per capita (PPS)	Change in GDP	Population size	Change in population size	Share of population aged 15-64	Population density	Degree of urbanization
SII	PC	.635**	.057	.105	.551**	-.515**	.020	.150
	Sig.	.000	.759	.575	.001	.003	.913	.422
	N	31	31	31	31	31	31	31
i111 DOGRADS	PC	.169	-.098	.247	.119	-.438*	-.194	-.167
	Sig.	.363	.600	.181	.523	.014	.296	.371
	N	31	31	31	31	31	31	31
i112 TEREDUC	PC	.471**	.168	-.252	.313	-.085	-.152	-.209
	Sig.	.009	.376	.178	.092	.655	.423	.267
	N	30	30	30	30	30	30	30
i113 LIFELONG	PC	.546**	-.017	-.057	.520**	-.528**	-.107	.132
	Sig.	.002	.931	.765	.003	.003	.573	.488
	N	30	30	30	30	30	30	30
i121 INTCOPUB	PC	.645**	-.026	-.198	.620**	-.390*	-.074	.119
	Sig.	.000	.889	.286	.000	.030	.692	.525
	N	31	31	31	31	31	31	31
i122 MOSTCITED	PC	.575**	-.109	.270	.611**	-.505**	.204	.336
	Sig.	.001	.560	.142	.000	.004	.271	.064
	N	31	31	31	31	31	31	31
i123 FORDOCST	PC	.668**	-.016	.091	.665**	-.439*	.095	.298
	Sig.	.000	.932	.631	.000	.015	.618	.110
	N	30	30	30	30	30	30	30
i131 BROADBAND	PC	.270	.218	-.224	.031	-.324	-.040	-.150
	Sig.	.150	.247	.233	.871	.081	.835	.429
	N	30	30	30	30	30	30	30
i132 OPPENTRE	PC	.518**	.167	-.066	.450*	-.449*	-.186	.064
	Sig.	.003	.378	.729	.013	.013	.324	.736
	N	30	30	30	30	30	30	30
i211 PUBRD	PC	.381*	-.112	.072	.226	-.359*	-.146	.048
	Sig.	.034	.549	.700	.221	.048	.434	.797
	N	31	31	31	31	31	31	31
i212 VENTCAP	PC	.128	.177	.015	-.039	-.478**	-.256	-.070
	Sig.	.500	.350	.936	.838	.007	.172	.713
	N	30	30	30	30	30	30	30
i221 BUSRD	PC	.315	-.039	.176	.309	-.510**	-.108	.072
	Sig.	.085	.836	.344	.090	.003	.563	.700
	N	31	31	31	31	31	31	31
i222 NONRD	PC	-.191	.094	.070	-.318	.026	-.202	-.168
	Sig.	.311	.621	.712	.087	.893	.286	.375
	N	30	30	30	30	30	30	30
i223 ICTSKILLS	PC	.647**	-.043	-.053	.625**	-.225	.088	.143
	Sig.	.000	.817	.779	.000	.224	.639	.443
	N	31	31	31	31	31	31	31
i311 PPINNOV	PC	.567**	-.139	.020	.470**	-.525**	.047	.203
	Sig.	.001	.455	.917	.008	.002	.800	.274
	N	31	31	31	31	31	31	31
i312	PC	.727**	-.084	.149	.619**	-.439*	.076	.188

		GDP per capita (PPS)	Change in GDP	Population size	Change in population size	Share of population aged 15-64	Population density	Degree of urbanization
MOINNOV	Sig.	.000	.652	.423	.000	.013	.686	.312
	N	31	31	31	31	31	31	31
i313 INHOUSE	PC	.589**	-.130	.003	.462*	-.475**	.069	.051
	Sig.	.001	.493	.986	.010	.008	.715	.788
	N	30	30	30	30	30	30	30
i321 COLLAB	PC	.403*	-.116	-.013	.360*	-.426*	-.107	.169
	Sig.	.025	.535	.946	.047	.017	.566	.364
	N	31	31	31	31	31	31	31
i322 PPCOPUB	PC	.378*	-.096	.084	.419*	-.470**	-.052	.276
	Sig.	.036	.607	.653	.019	.008	.780	.132
	N	31	31	31	31	31	31	31
i323 COFUNDING	PC	-.026	-.044	.190	-.334	-.254	-.105	.020
	Sig.	.889	.813	.306	.067	.167	.573	.916
	N	31	31	31	31	31	31	31
i331 PATENTS	PC	.500**	-.040	.224	.473**	-.584**	.030	.189
	Sig.	.005	.832	.234	.008	.001	.876	.317
	N	30	30	30	30	30	30	30
i332 TRADEMARK	PC	.310	.053	-.190	.413*	.146	.446*	.277
	Sig.	.090	.777	.307	.021	.433	.012	.131
	N	31	31	31	31	31	31	31
i333 DESIGNS	PC	.253	.051	.133	.308	.000	.456**	.194
	Sig.	.170	.785	.475	.092	.998	.010	.295
	N	31	31	31	31	31	31	31
i411 KIAEMPL	PC	.729**	.212	-.053	.772**	-.250	.300	.299
	Sig.	.000	.252	.779	.000	.176	.100	.103
	N	31	31	31	31	31	31	31
i412 HIGHGROW	PC	-.015	.629**	.020	-.001	.098	.292	-.070
	Sig.	.939	.000	.922	.997	.621	.132	.725
	N	28	28	28	28	28	28	28
i421 MHTEXPORT	PC	-.028	.196	.370*	.124	.227	.257	-.028
	Sig.	.879	.290	.040	.507	.219	.163	.881
	N	31	31	31	31	31	31	31
i422 KISEXPORT	PC	.673**	.128	.201	.591**	-.395*	-.099	.099
	Sig.	.000	.493	.278	.000	.028	.597	.598
	N	31	31	31	31	31	31	31
i423 INNSALES	PC	.013	.048	.442*	.024	-.037	-.129	-.113
	Sig.	.944	.796	.013	.900	.841	.491	.545
	N	31	31	31	31	31	31	31

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

## 5.2 Correlation results for newly identified structural indicators

This section discusses correlation results between the new indicators proposed in Section 2 in this report and the SII, EIS dimensions and EIS indicators.

### 5.2.1 Global and internal demand

#### *Internal Market Dynamics*

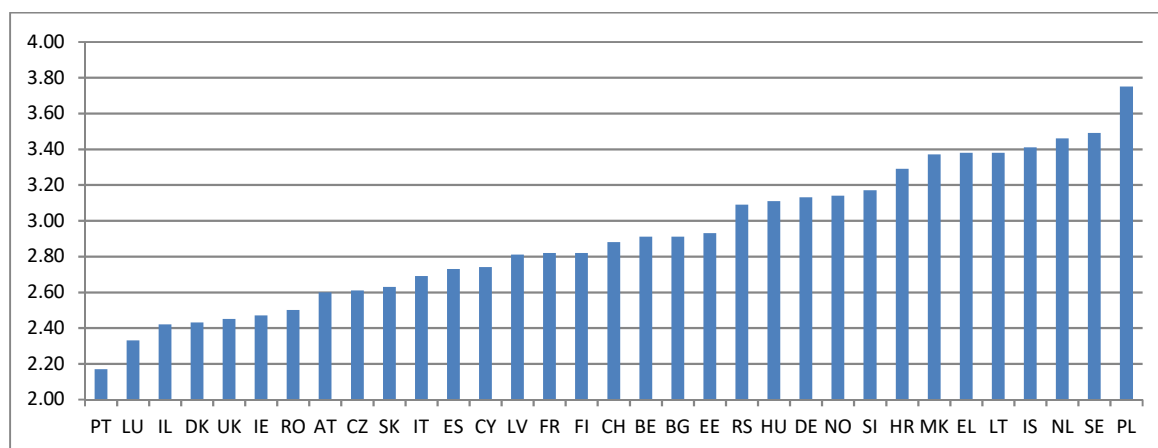
Internal Market Dynamics is defined as “[t]he level of change in markets from year to year”<sup>12</sup>. Data are taken from the Global Entrepreneurship Monitor. Data for 2007-2016 are incomplete for many countries and completely missing for Malta, Turkey and Ukraine (Table 6). Data availability for the more recent period 2013-2016 is 100% for 18 countries and between 50% and 100% for 9 countries. Incomplete data coverage for several countries is a concern.

Internal Market Dynamics is fairly stable over time with year-to-year correlations being moderately high (Table 7). Stability has decreased in the most recent years. Internal Market Dynamics correlates negatively with the SII, 2 EIS dimensions and 7 EIS indicators, and positively with only one indicator (Non-R&D innovation expenditures) (Table 8).<sup>13</sup>

Based on the summary of key characteristics, it is recommended **not to include this indicator**.

<b>Data availability</b>	Limited
<b>Stability over time</b>	Moderate
<b>Correlation with EIS</b>	Weak

**Figure 6: Internal market dynamics**



Most recent data shown for all countries for which data are available.

<sup>12</sup> See: <http://www.gemconsortium.org/data/key-nes>

<sup>13</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

**Table 6 Data availability Internal Market Dynamics**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2007-2016	2013-2016
BE	2.22	n/a	2.59	n/a	n/a	2.65	2.81	2.50	2.91	n/a	60%	75%
BG	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.13	2.91	20%	50%
CZ	n/a	n/a	n/a	n/a	2.95	n/a	2.61	n/a	n/a	n/a	20%	25%
DK	2.50	2.31	2.31	n/a	n/a	2.81	n/a	2.43	n/a	n/a	50%	25%
DE	n/a	3.09	2.68	2.96	2.88	2.91	3.18	2.84	2.69	3.13	90%	100%
EE	n/a	n/a	n/a	n/a	n/a	3.58	3.61	3.39	3.20	2.93	50%	100%
IE	2.49	2.80	n/a	2.86	3.06	2.81	2.66	2.59	2.31	2.47	90%	100%
EL	2.57	2.69	2.73	2.35	3.12	3.00	3.18	3.42	3.02	3.38	100%	100%
ES	2.02	2.41	2.50	2.55	2.69	2.79	2.14	2.87	2.68	2.73	100%	100%
FR	n/a	n/a	n/a	2.77	3.22	3.05	3.24	3.02	n/a	2.82	60%	75%
HR	3.49	3.87	3.51	3.31	3.32	3.47	3.63	3.37	3.64	3.29	100%	100%
IT	3.05	2.94	3.03	2.96	n/a	2.97	3.50	3.50	2.60	2.69	90%	100%
CY	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.74	10%	25%
LV	n/a	n/a	2.79	2.59	2.87	2.44	2.60	2.27	2.89	2.81	80%	100%
LT	n/a	n/a	n/a	n/a	3.72	3.57	3.96	3.38	n/a	n/a	40%	50%
LU	n/a	n/a	n/a	n/a	n/a	n/a	2.99	2.76	2.37	2.33	40%	100%
HU	n/a	n/a	3.14	2.95	3.04	2.82	3.10	3.13	3.27	3.11	80%	100%
MT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0%	0%
NL	n/a	n/a	2.71	n/a	2.59	2.75	2.91	2.85	2.95	3.46	70%	100%
AT	2.85	n/a	n/a	n/a	n/a	2.47	n/a	2.49	n/a	2.60	40%	50%
PL	n/a	n/a	n/a	n/a	4.15	3.92	3.83	4.04	3.80	3.75	60%	100%
PT	n/a	n/a	n/a	2.61	2.77	2.41	2.36	2.40	3.40	2.17	70%	100%
RO	3.29	n/a	n/a	n/a	n/a	3.03	3.29	3.14	2.50	n/a	50%	75%
SI	2.99	3.25	2.97	3.11	2.97	3.44	3.10	3.04	3.13	3.17	100%	100%
SK	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.63	10%	25%
FI	1.84	2.34	3.13	2.82	2.91	2.78	2.83	3.23	3.28	2.82	100%	100%
SE	n/a	n/a	n/a	3.06	3.19	3.46	3.41	3.13	3.49	3.49	70%	100%
UK	3.09	n/a	2.65	3.06	3.04	3.12	2.84	3.28	3.06	2.45	90%	100%
IS	3.53	n/a	3.56	3.41	n/a	n/a	n/a	n/a	n/a	n/a	30%	0%
IL	2.23	n/a	2.66	2.25	n/a	2.67	2.67	n/a	2.40	2.42	70%	75%
MK	n/a	3.21	n/a	3.01	n/a	3.13	3.00	n/a	3.44	3.37	60%	75%
NO	2.39	2.44	2.53	2.79	2.84	2.78	2.88	2.59	3.14	n/a	90%	75%
CH	2.69	n/a	1.84	2.33	2.50	2.47	2.74	2.34	2.70	2.88	90%	100%
RS	3.93	3.80	3.09	n/a	n/a	n/a	n/a	n/a	n/a	n/a	30%	0%
UA	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0%	0%
TR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0%	0%

**Table 7 Internal Market Dynamics (IMD): stability over time**

		IMD 2007	IMD 2008	IMD 2009	IMD 2010	IMD 2011	IMD 2012	IMD 2013	IMD 2014	IMD 2015	IMD 2016
IMD 2007	PC	1	.925**	.516	.709**	.526	.601*	.762**	.379	.189	.293
	Sig.		.000	.059	.010	.146	.018	.002	.182	.536	.382
	N	17	10	14	12	9	15	13	14	13	11
IMD 2008	PC	.925**	1	.726*	.781**	.730*	.879**	.702*	.449	.412	.533
	Sig.	.000		.018	.008	.040	.000	.024	.193	.237	.140
	N	10	12	10	10	8	11	10	10	10	9
IMD 2009	PC	.516	.726*	1	.748**	.787**	.602*	.598*	.687**	.614*	.260
	Sig.	.059	.018		.002	.002	.014	.018	.005	.015	.391
	N	14	10	18	14	12	16	15	15	15	13
IMD 2010	PC	.709**	.781**	.748**	1	.625*	.733**	.589*	.490	.511*	.366
	Sig.	.010	.008	.002		.013	.001	.010	.054	.036	.149
	N	12	10	14	19	15	18	18	16	17	17
IMD 2011	PC	.526	.730*	.787**	.625*	1	.847**	.804**	.796**	.625**	.483
	Sig.	.146	.040	.002	.013		.000	.000	.000	.010	.058
	N	9	8	12	15	19	18	19	18	16	16
IMD 2012	PC	.601*	.879**	.602*	.733**	.847**	1	.826**	.830**	.544**	.630**
	Sig.	.018	.000	.014	.001	.000		.000	.000	.009	.002
	N	15	11	16	18	18	26	24	24	22	21
IMD 2013	PC	.762**	.702*	.598*	.589*	.804**	.826**	1	.758**	.412	.609**
	Sig.	.002	.024	.018	.010	.000	.000		.000	.051	.003
	N	13	10	15	18	19	24	26	23	23	21
IMD 2014	PC	.379	.449	.687**	.490	.796**	.830**	.758**	1	.449*	.554*
	Sig.	.182	.193	.005	.054	.000	.000	.000		.041	.011
	N	14	10	15	16	18	24	23	25	21	20
IMD 2015	PC	.189	.412	.614*	.511*	.625**	.544**	.412	.449*	1	.554**
	Sig.	.536	.237	.015	.036	.010	.009	.051	.041		.009
	N	13	10	15	17	16	22	23	21	24	21

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).



**Table 8 Pearson correlation (PC) results between Internal market dynamics (IMD) and SII, EIS dimensions and EIS indicators**

		IMD 2007	IMD 2008	IMD 2009	IMD 2010	IMD 2011	IMD 2012	IMD 2013	IMD 2014	IMD 2015	IMD 2016
SII	PC	-.440	-.631*	-.540*	-.067	-.486*	-.344	-.274	-.469*	-.120	-.209
	Sig.	.077	.028	.021	.784	.035	.085	.175	.018	.577	.316
	N	17	12	18	19	19	26	26	25	24	25
HUMAN RESOURCES	PC	-.406	-.656*	-.538*	-.022	-.406	-.162	-.205	-.389	.020	-.108
	Sig.	.106	.020	.021	.928	.085	.429	.315	.055	.927	.607
	N	17	12	18	19	19	26	26	25	24	25
RESEARCH SYSTEM	PC	-.419	-.804**	-.548*	-.112	-.564*	-.418*	-.349	-.492*	-.171	-.289
	Sig.	.095	.002	.018	.649	.012	.034	.081	.013	.423	.161
	N	17	12	18	19	19	26	26	25	24	25
INNOVATION FRIENDLY ENVIRONMENT	PC	-.389	-.747**	-.214	.110	-.349	-.284	-.270	-.524**	.057	-.144
	Sig.	.123	.005	.394	.655	.143	.159	.183	.007	.791	.492
	N	17	12	18	19	19	26	26	25	24	25
FINANCE SUPPORT	PC	-.318	-.608*	-.235	.082	-.301	-.136	-.005	-.282	.213	-.066
	Sig.	.213	.036	.348	.740	.211	.508	.979	.172	.318	.755
	N	17	12	18	19	19	26	26	25	24	25
FIRM INVESTMENTS	PC	-.234	.045	-.301	-.146	-.238	-.210	-.171	-.322	-.005	-.083
	Sig.	.366	.889	.225	.551	.326	.303	.404	.117	.982	.692
	N	17	12	18	19	19	26	26	25	24	25
INNOVATORS	PC	-.257	-.304	-.318	-.014	-.441	-.406*	-.244	-.461*	-.136	-.234
	Sig.	.319	.337	.199	.956	.059	.040	.231	.021	.527	.261
	N	17	12	18	19	19	26	26	25	24	25
LINKAGES	PC	-.337	-.525	-.361	.081	-.406	-.276	-.110	-.338	.034	.093
	Sig.	.186	.079	.141	.743	.084	.172	.593	.099	.875	.658
	N	17	12	18	19	19	26	26	25	24	25
INTELLECTUAL ASSETS	PC	-.492*	-.528	-.513*	-.225	-.335	-.230	-.103	-.262	-.302	-.244
	Sig.	.045	.078	.029	.354	.161	.259	.618	.205	.152	.239
	N	17	12	18	19	19	26	26	25	24	25
EMPLOYMENT IMPACT	PC	-.112	-.269	-.121	-.073	-.210	-.211	-.261	-.230	-.352	-.307
	Sig.	.668	.398	.632	.767	.387	.302	.197	.269	.092	.136
	N	17	12	18	19	19	26	26	25	24	25
SALES IMPACT	PC	-.318	-.279	-.532*	-.149	-.355	-.268	-.358	-.221	-.325	-.287
	Sig.	.214	.379	.023	.543	.136	.185	.072	.289	.121	.165
	N	17	12	18	19	19	26	26	25	24	25
i111 DOCGRADES	PC	-.368	-.405	-.524*	.012	-.527*	-.218	-.292	-.355	-.083	-.106
	Sig.	.146	.191	.026	.961	.020	.285	.148	.081	.698	.614
	N	17	12	18	19	19	26	26	25	24	25
i112 TEREDUC	PC	-.409	-.519	-.540*	-.232	.129	.059	-.043	-.228	-.010	-.129
	Sig.	.130	.102	.031	.355	.598	.780	.839	.273	.964	.548
	N	15	11	16	18	19	25	25	25	23	24
i113 LIFELONG	PC	-.231	-.693*	-.312	.010	-.433	-.213	-.163	-.327	.105	-.065
	Sig.	.407	.018	.240	.970	.064	.307	.435	.111	.632	.763
	N	15	11	16	18	19	25	25	25	23	24
i121 INTCOPUB	PC	-.367	-.696*	-.357	.096	-.514*	-.295	-.261	-.471*	-.028	-.176
	Sig.	.147	.012	.146	.696	.024	.144	.198	.018	.896	.401
	N	17	12	18	19	19	26	26	25	24	25
i122 MOSTCITED	PC	-.511*	-.782**	-.632**	-.177	-.582**	-.429*	-.374	-.434*	-.217	-.281
	Sig.	.036	.003	.005	.469	.009	.029	.060	.030	.307	.173
	N	17	12	18	19	19	26	26	25	24	25
i123 FORDOCST	PC	-.295	-.795**	-.557*	-.248	-.471*	-.447*	-.336	-.468*	-.230	-.349
	Sig.	.286	.003	.025	.336	.048	.028	.109	.021	.303	.102
	N	15	11	16	17	18	24	24	24	22	23
i131 BROADBAND	PC	-.746**	-.707*	-.485	-.161	-.315	-.325	-.380	-.556**	.043	-.148
	Sig.	.002	.010	.067	.551	.203	.121	.067	.005	.848	.501
	N	14	12	15	16	18	24	24	24	22	23
i132 OPPENTRE	PC	-.198	-.674*	-.187	.139	-.291	-.185	-.076	-.346	.028	-.130
	Sig.	.447	.016	.458	.571	.227	.365	.712	.090	.896	.537
	N	17	12	18	19	19	26	26	25	24	25
i211 PUBRD	PC	-.347	-.530	-.444	-.118	-.264	-.148	-.007	-.248	.176	.020
	Sig.	.172	.076	.065	.630	.274	.472	.973	.232	.412	.923
	N	17	12	18	19	19	26	26	25	24	25
i212 VENTCAP	PC	-.421	-.509	-.163	.130	-.185	-.071	-.001	-.211	.198	-.154
	Sig.	.104	.091	.531	.606	.447	.731	.995	.310	.353	.464
	N	16	12	17	18	19	26	26	25	24	25
i221 BUSRD	PC	-.472	-.441	-.347	-.080	-.357	-.289	-.207	-.350	-.123	-.078
	Sig.	.056	.151	.159	.745	.133	.151	.309	.086	.568	.712
	N	17	12	18	19	19	26	26	25	24	25
i222 NONRD	PC	.548*	.868*	-.038	.023	.395	.424*	.445*	.255	.365	.458*
	Sig.	.035	.000	.890	.929	.094	.035	.026	.219	.086	.024

		IMD 2007	IMD 2008	IMD 2009	IMD 2010	IMD 2011	IMD 2012	IMD 2013	IMD 2014	IMD 2015	IMD 2016
	N	15	12	16	17	19	25	25	25	23	24
i223	PC	-.444	-.376	-.260	.213	-.520*	-.409*	-.470*	-.520**	.081	-.344
ICTSKILLS	Sig.	.098	.229	.331	.411	.027	.047	.020	.009	.721	.108
	N	15	12	16	17	18	24	24	24	22	23
i311	PC	-.249	-.321	-.229	.131	-.406	-.347	-.214	-.430*	.027	-.119
PPINNOV	Sig.	.335	.310	.362	.593	.084	.083	.293	.032	.900	.570
	N	17	12	18	19	19	26	26	25	24	25
i312	PC	-.221	-.201	-.482*	-.197	-.495*	-.490*	-.359	-.516**	-.267	-.400*
MOINNOV	Sig.	.393	.532	.043	.418	.031	.011	.072	.008	.208	.047
	N	17	12	18	19	19	26	26	25	24	25
i313	PC	-.344	-.296	-.351	-.094	-.361	-.318	-.116	-.382	-.155	-.147
INHOUSE	Sig.	.192	.351	.168	.709	.129	.113	.572	.060	.469	.483
	N	16	12	17	18	19	26	26	25	24	25
i321	PC	-.249	-.563	-.042	.247	-.154	-.147	-.108	-.177	.097	-.141
COLLAB	Sig.	.335	.056	.869	.307	.530	.473	.600	.397	.653	.500
	N	17	12	18	19	19	26	26	25	24	25
i322	PC	-.205	-.589*	-.307	.195	-.504*	-.345	-.234	-.412*	.017	.058
PPCOPUB	Sig.	.431	.044	.215	.423	.028	.085	.250	.041	.936	.783
	N	17	12	18	19	19	26	26	25	24	25
i323	PC	-.348	-.013	-.474*	-.267	-.237	-.115	.072	-.175	.007	.332
COFUNDING	Sig.	.170	.969	.047	.285	.329	.583	.733	.403	.975	.113
	N	17	11	18	18	19	25	25	25	23	24
i331	PC	-.475	-.484	-.350	-.098	-.382	-.265	-.163	-.278	-.130	-.062
PATENTS	Sig.	.063	.131	.169	.688	.106	.191	.426	.179	.546	.768
	N	16	11	17	19	19	26	26	25	24	25
i332	PC	-.392	-.426	-.435	-.355	-.438	-.220	-.148	-.267	-.377	-.376
TRADEMARK	Sig.	.119	.167	.071	.136	.061	.280	.471	.198	.069	.064
	N	17	12	18	19	19	26	26	25	24	25
i333	PC	-.305	-.422	-.523*	-.184	-.058	-.101	.058	-.131	-.256	-.164
DESIGNS	Sig.	.233	.172	.026	.450	.813	.622	.778	.532	.226	.434
	N	17	12	18	19	19	26	26	25	24	25
i411	PC	-.209	-.324	-.335	-.149	-.489*	-.335	-.297	-.376	-.364	-.365
KIAEMPL	Sig.	.420	.304	.174	.542	.034	.094	.140	.064	.081	.073
	N	17	12	18	19	19	26	26	25	24	25
i412	PC	-.047	-.220	-.015	.144	.151	.059	-.107	.043	-.059	.071
HIGHGROW	Sig.	.879	.570	.960	.609	.551	.790	.628	.841	.801	.754
	N	13	9	14	15	18	23	23	24	21	22
i421	PC	-.138	.158	-.179	.068	-.036	.020	-.041	.037	-.046	-.043
MHTEXPORT	Sig.	.596	.623	.477	.782	.885	.923	.842	.861	.829	.837
	N	17	12	18	19	19	26	26	25	24	25
i422	PC	-.395	-.597*	-.491*	-.107	-.414	-.405*	-.369	-.422*	-.409*	-.323
KISEXPORT	Sig.	.117	.040	.038	.664	.078	.040	.063	.036	.047	.115
	N	17	12	18	19	19	26	26	25	24	25
i423	PC	-.142	-.088	-.476*	-.297	-.343	-.179	-.342	-.057	-.234	-.234
INNSALES	Sig.	.587	.787	.046	.217	.151	.381	.088	.788	.270	.259
	N	17	12	18	19	19	26	26	25	24	25

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

### Domestic demand forecast

Data on Domestic Demand Forecast are taken from the OECD. Data for 2007-2016 are either complete for all countries or completely missing (Bulgaria, Croatia, Cyprus, Malta, Romania, FYR Macedonia, Serbia and Ukraine) (Table 9).

Another concern is the fact that Domestic Demand Forecast is not showing a stable performance over time as year-to-year correlations are not significant over the entire period, in particular there seems to be a break in series between 2013 and 2014 with a non-significant correlation coefficient between these two years (Table 10).

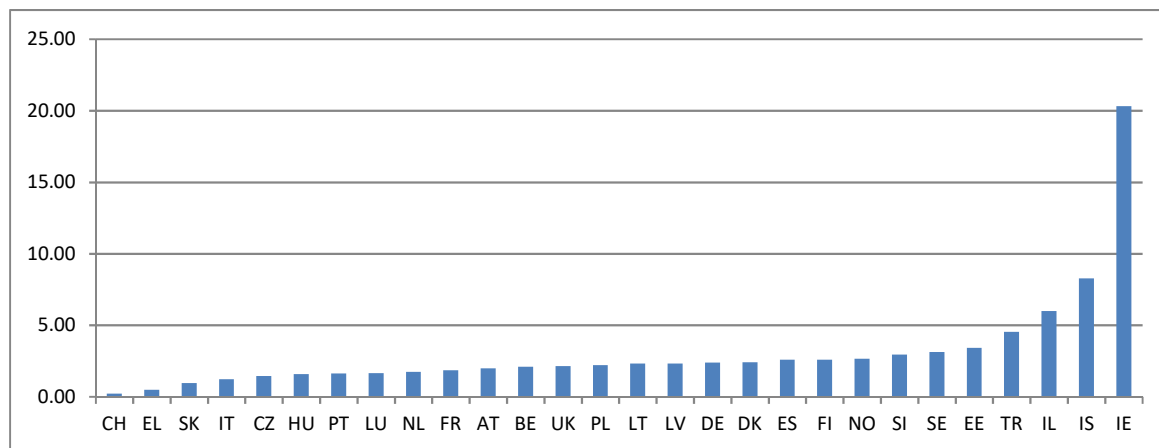
Table 11 shows that there is only limited support for a statistically significant correlation between Domestic demand forecast and the SII. Domestic Demand Forecast in 2007 correlates negatively with the SII, 3 EIS dimensions and 11 EIS indicators, Domestic Demand Forecast in 2009 correlates positively with the SII, 5 EIS dimensions and 7 EIS indicators. Domestic Demand Forecast scores in more recent

years correlate positively with Employment impacts (EIS dimension) and the EIS indicator Employment in high-growth enterprises.

Based on the summary of key characteristics, it is recommended **not to include this indicator**.

<b>Data availability</b>	Limited
<b>Stability over time</b>	Possible break in series between 2013 and 2014
<b>Correlation with EIS</b>	Weak

**Figure 7: Domestic demand forecast**



Most recent data shown for all countries for which data are available.

**Table 9 Data availability Domestic demand forecast**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
BE	3.32	2.08	-1.77	2.08	2.17	0.03	-0.25	2.11	1.42	2.10
BG	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
CZ	6.61	1.87	-5.32	1.67	-0.04	-2.07	-0.61	3.41	5.95	1.45
DK	1.87	-0.19	-6.11	0.72	1.02	0.96	0.87	1.95	1.30	2.42
DE	1.79	0.97	-3.14	2.91	2.98	-0.76	1.03	1.34	1.46	2.38
EE	9.30	-8.71	-20.78	0.26	9.26	8.75	1.36	3.91	1.11	3.42
IE	3.89	-3.81	-8.18	-3.16	-0.34	1.87	-1.57	8.96	9.05	20.32
EL	5.40	-0.53	-6.22	-6.54	-11.08	-9.73	-3.98	0.95	-0.96	0.48
ES	4.11	-0.41	-6.01	-0.46	-3.06	-5.06	-3.22	1.97	3.96	2.59
FR	3.15	0.36	-2.49	1.93	2.05	-0.27	0.73	1.47	1.49	1.85
HR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
IT	1.16	-1.22	-4.25	1.87	-0.49	-5.67	-2.68	0.32	1.43	1.23
CY	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LV	12.51	-8.85	-23.27	-4.00	11.93	1.74	2.12	-0.88	2.31	2.33
LT	15.31	3.31	-21.70	2.36	5.97	-0.38	3.16	3.48	7.20	2.32
LU	5.54	4.26	-5.70	5.71	4.52	2.35	2.68	5.69	1.39	1.64
HU	-1.05	0.31	-9.49	-0.64	-0.27	-3.00	2.33	5.47	1.28	1.59
MT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
NL	3.45	1.94	-2.46	-0.09	0.75	-2.31	-1.32	0.85	3.28	1.75
AT	2.92	0.98	-1.48	0.60	2.58	0.03	0.16	0.36	1.19	2.00
PL	9.32	5.38	-0.22	4.15	4.20	-0.42	-0.56	4.71	3.27	2.22
PT	2.18	1.06	-3.56	1.85	-5.68	-7.32	-1.98	2.16	2.73	1.63
RO	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SI	8.98	3.09	-9.47	-0.80	-0.65	-5.73	-2.03	1.68	1.83	2.94
SK	6.76	6.47	-7.07	4.53	1.12	-4.02	0.30	3.15	4.75	0.95
FI	4.84	0.91	-6.29	3.56	4.05	-1.22	-1.06	-0.06	1.25	2.59
SE	4.84	-0.12	-4.30	5.71	3.00	-0.23	1.64	3.03	4.07	3.13
UK	2.31	-1.04	-4.59	2.47	0.00	2.22	2.69	3.62	2.47	2.14
IS	1.39	-6.83	-16.91	-3.11	2.77	1.21	1.69	4.12	5.27	8.28
IL	6.47	1.78	0.23	5.35	5.57	3.75	3.01	4.04	3.46	6.00
MK	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
NO	6.21	1.59	-3.37	3.17	2.73	3.37	3.54	1.63	0.69	2.67
CH	0.56	2.51	2.23	-0.57	3.91	-1.40	-0.68	2.67	2.38	0.23
RS	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
UA	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TR	6.09	-0.28	-7.37	13.26	10.14	1.89	9.87	2.61	4.46	4.55

**Table 10 Domestic demand forecast (DDF): stability over time**

		DDF 2008	DDF 2009	DDF 2010	DDF 2011	DDF 2012	DDF 2013	DDF 2014	DDF 2015	DDF 2016
DDF 2007	PC	-.012	-.568**	.081	.441*	.221	.200	-.037	.262	-.023
	Sig.	.950	.002	.682	.019	.258	.307	.853	.178	.907
	N	28	28	28	28	28	28	28	28	28
DDF 2008	PC	1	.619**	.439*	-.255	-.374	-.079	.039	-.012	-.371
	Sig.		.000	.019	.190	.050	.691	.843	.951	.052
	N	28	28	28	28	28	28	28	28	28
DDF 2009	PC	.619**	1	.300	-.381*	-.258	-.220	-.046	-.240	-.165
	Sig.	.000		.121	.045	.185	.260	.816	.219	.401
	N	28	28	28	28	28	28	28	28	28
DDF 2010	PC	.439*	.300	1	.435*	.293	.652**	.074	.103	-.156
	Sig.	.019	.121		.021	.130	.000	.708	.603	.429
	N	28	28	28	28	28	28	28	28	28
DDF 2011	PC	-.255	-.381*	.435*	1	.772**	.692**	.009	.153	.064
	Sig.	.190	.045	.021		.000	.000	.963	.437	.745
	N	28	28	28	28	28	28	28	28	28
DDF 2012	PC	-.374	-.258	.293	.772**	1	.629**	.320	.127	.321
	Sig.	.050	.185	.130	.000		.000	.097	.519	.096
	N	28	28	28	28	28	28	28	28	28
DDF 2013	PC	-.079	-.220	.652**	.692**	.629**	1	.174	.139	.046
	Sig.	.691	.260	.000	.000	.000		.377	.480	.816
	N	28	28	28	28	28	28	28	28	28
DDF 2014	PC	.039	-.046	.074	.009	.320	.174	1	.562**	.627**
	Sig.	.843	.816	.708	.963	.097	.377		.002	.000
	N	28	28	28	28	28	28	28	28	28
DDF 2015	PC	-.012	-.240	.103	.153	.127	.139	.562**	1	.628**
	Sig.	.951	.219	.603	.437	.519	.480	.002		.000
	N	28	28	28	28	28	28	28	28	28

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

**Table 11 Pearson correlation (PC) results between Domestic demand forecast (DDF) and SII, EIS dimensions and EIS indicators**

		DDF 2007	DDF 2008	DDF 2009	DDF 2010	DDF 2011	DDF 2012	DDF 2013	DDF 2014	DDF 2015	DDF 2016
SII	PC	-.458*	.090	.406*	-.007	.002	.248	-.053	.002	-.077	.115
	Sig.	.014	.650	.032	.972	.991	.204	.789	.992	.696	.561
	N	28	28	28	28	28	28	28	28	28	28
HUMAN RESOURCES	PC	-.225	.037	.204	-.120	-.020	.182	-.148	-.061	-.061	.058
	Sig.	.249	.854	.298	.544	.921	.354	.454	.757	.759	.769
	N	28	28	28	28	28	28	28	28	28	28
RESEARCH SYSTEM	PC	-.535**	.029	.429*	-.110	-.146	.185	-.149	.030	-.199	.069
	Sig.	.003	.882	.023	.577	.459	.346	.450	.881	.310	.728
	N	28	28	28	28	28	28	28	28	28	28
INNOVATION FRIENDLY ENVIRONMENT	PC	-.086	-.189	-.133	.063	.292	.344	.216	-.089	.039	.088
	Sig.	.662	.336	.500	.749	.132	.073	.271	.654	.844	.655
	N	28	28	28	28	28	28	28	28	28	28
FINANCE SUPPORT	PC	-.088	-.242	-.136	.053	.313	.420*	.164	-.249	-.046	-.094
	Sig.	.655	.215	.491	.789	.105	.026	.405	.202	.818	.634
	N	28	28	28	28	28	28	28	28	28	28
FIRM INVESTMENTS	PC	-.248	.196	.441*	.297	.197	.276	.257	.054	.037	.141
	Sig.	.204	.318	.019	.125	.315	.155	.187	.785	.850	.474
	N	28	28	28	28	28	28	28	28	28	28
INNOVATORS	PC	-.448*	.103	.405*	-.013	-.185	.001	-.080	-.028	-.009	.238
	Sig.	.017	.601	.033	.950	.346	.997	.686	.888	.962	.222
	N	28	28	28	28	28	28	28	28	28	28
LINKAGES	PC	-.296	.079	.223	-.101	.002	.125	.017	-.238	-.099	-.028
	Sig.	.126	.690	.255	.610	.991	.525	.930	.223	.616	.887
	N	28	28	28	28	28	28	28	28	28	28
INTELLECTUAL ASSETS	PC	-.322	.152	.403*	.092	.091	.184	-.181	-.106	-.307	-.141
	Sig.	.095	.439	.033	.640	.643	.348	.358	.591	.112	.475
	N	28	28	28	28	28	28	28	28	28	28
EMPLOYMENT	PC	-.294	-.016	.188	-.174	-.055	.281	-.034	.523**	.249	.420*

		DDF 2007	DDF 2008	DDF 2009	DDF 2010	DDF 2011	DDF 2012	DDF 2013	DDF 2014	DDF 2015	DDF 2016
IMPACT	Sig.	.129	.934	.338	.376	.782	.148	.865	.004	.201	.026
	N	28	28	28	28	28	28	28	28	28	28
SALES IMPACT	PC	-.485**	.196	.471	.018	-.145	.079	-.147	.313	.087	.191
	Sig.	.009	.318	.011	.928	.463	.689	.457	.105	.661	.329
	N	28	28	28	28	28	28	28	28	28	28
i111 DOCGRADES	PC	-.334	.211	.379	-.096	-.260	-.138	-.340	-.151	-.056	.022
	Sig.	.082	.280	.047	.627	.182	.485	.077	.443	.777	.910
	N	28	28	28	28	28	28	28	28	28	28
i112 TEREDUC	PC	.290	.027	-.097	-.204	.119	.362	.004	.287	.192	.262
	Sig.	.142	.893	.630	.306	.553	.063	.983	.146	.337	.187
	N	27	27	27	27	27	27	27	27	27	27
i113 LIFELONG	PC	-.327	-.132	.159	.014	.152	.310	.046	-.154	-.192	-.054
	Sig.	.096	.513	.429	.945	.449	.116	.819	.443	.338	.790
	N	27	27	27	27	27	27	27	27	27	27
i121 INTCOPUB	PC	-.393*	-.033	.244	-.111	-.047	.251	-.105	.036	-.139	.119
	Sig.	.039	.869	.211	.573	.813	.198	.594	.854	.480	.545
	N	28	28	28	28	28	28	28	28	28	28
i122 MOSTCITED	PC	-.646**	.034	.552*	-.138	-.271	.084	-.269	-.043	-.246	.088
	Sig.	.000	.862	.002	.484	.163	.671	.166	.830	.207	.657
	N	28	28	28	28	28	28	28	28	28	28
i123 FORDOCST	PC	-.483*	.080	.425	-.085	-.159	.157	-.082	.067	-.196	-.031
	Sig.	.012	.696	.031	.679	.436	.443	.692	.747	.336	.881
	N	26	26	26	26	26	26	26	26	26	26
i131 BROADBAND	PC	.123	.000	-.119	.193	.289	.212	.166	-.083	.136	.063
	Sig.	.557	.999	.571	.355	.161	.310	.428	.693	.518	.766
	N	25	25	25	25	25	25	25	25	25	25
i132 OPPENTRE	PC	-.213	-.228	-.016	.023	.242	.420*	.228	-.096	-.126	.047
	Sig.	.276	.243	.935	.906	.215	.026	.243	.627	.523	.814
	N	28	28	28	28	28	28	28	28	28	28
i211 PUBRD	PC	-.104	.200	.199	.133	.055	.095	-.045	-.393*	-.168	-.368
	Sig.	.600	.307	.310	.498	.780	.631	.819	.038	.394	.054
	N	28	28	28	28	28	28	28	28	28	28
i212 VENTCAP	PC	.046	-.548**	-.369	-.033	.463	.571*	.336	-.010	.022	.174
	Sig.	.822	.004	.063	.873	.017	.002	.094	.962	.915	.396
	N	26	26	26	26	26	26	26	26	26	26
i221 BUSRD	PC	-.430*	.112	.479**	.094	.051	.193	-.026	-.085	-.153	.087
	Sig.	.022	.570	.010	.635	.798	.326	.894	.669	.437	.659
	N	28	28	28	28	28	28	28	28	28	28
i222 NONRD	PC	.279	.122	-.107	.323	.319	.070	.415*	.114	.285	-.083
	Sig.	.167	.553	.604	.108	.113	.733	.035	.578	.158	.686
	N	26	26	26	26	26	26	26	26	26	26
i223 ICTSKILLS	PC	-.413*	.187	.483	.229	-.087	.187	.087	-.026	-.118	.214
	Sig.	.040	.372	.015	.271	.679	.370	.679	.902	.573	.304
	N	25	25	25	25	25	25	25	25	25	25
i311 PPINNOV	PC	-.436*	.097	.357	-.017	-.222	-.050	-.111	-.063	.024	.199
	Sig.	.020	.622	.063	.932	.256	.799	.574	.750	.902	.310
	N	28	28	28	28	28	28	28	28	28	28
i312 MOINNOV	PC	-.485**	.104	.480**	.063	-.133	.080	.048	.054	-.077	.246
	Sig.	.009	.600	.010	.751	.499	.685	.807	.784	.697	.207
	N	28	28	28	28	28	28	28	28	28	28
i313 INHOUSE	PC	-.329	.166	.383	-.043	-.172	-.040	-.174	-.090	-.011	.198
	Sig.	.094	.408	.049	.833	.391	.842	.385	.654	.956	.322
	N	27	27	27	27	27	27	27	27	27	27
i321 COLLAB	PC	-.183	-.013	.112	-.137	-.170	.194	-.011	-.057	-.059	.149
	Sig.	.352	.946	.569	.487	.388	.323	.954	.772	.767	.449
	N	28	28	28	28	28	28	28	28	28	28
i322 PPCOPUB	PC	-.610**	.027	.368	-.165	-.130	.034	-.146	-.108	-.134	.048
	Sig.	.001	.892	.054	.401	.510	.864	.458	.584	.496	.807
	N	28	28	28	28	28	28	28	28	28	28
i323 COFUNDING	PC	.182	.160	-.013	.086	.311	.059	.211	-.360	-.018	-.259
	Sig.	.355	.416	.946	.663	.108	.765	.281	.060	.926	.183
	N	28	28	28	28	28	28	28	28	28	28
i331 PATENTS	PC	-.422*	.086	.460	.130	.082	.225	-.020	-.138	-.149	.078
	Sig.	.025	.662	.014	.509	.680	.250	.918	.485	.448	.694
	N	28	28	28	28	28	28	28	28	28	28
i332 TRADEMARK	PC	-.093	.009	.110	-.057	.157	.254	-.175	.046	-.221	-.085
	Sig.	.637	.964	.576	.774	.425	.192	.374	.815	.259	.666
	N	28	28	28	28	28	28	28	28	28	28
i333 DESIGNS	PC	-.242	.251	.373	.126	.002	-.004	-.248	-.141	-.371	-.324
	Sig.	.215	.198	.051	.524	.990	.984	.204	.475	.052	.093
	N	28	28	28	28	28	28	28	28	28	28
i411 KIAEMPL	PC	-.390*	-.033	.320	-.130	-.009	.306	-.089	.298	.005	.304
	Sig.	.040	.868	.096	.511	.963	.113	.653	.123	.981	.116

		DDF 2007	DDF 2008	DDF 2009	DDF 2010	DDF 2011	DDF 2012	DDF 2013	DDF 2014	DDF 2015	DDF 2016
	N	28	28	28	28	28	28	28	28	28	28
i412	PC	-.080	.047	-.024	.000	-.132	.076	.312	.582*	.465*	.383
HIGHGROW	Sig.	.709	.829	.912	1.000	.539	.724	.137	.003	.022	.065
	N	24	24	24	24	24	24	24	24	24	24
i421	PC	-.265	.378*	.362	.220	-.017	-.068	-.110	.188	.059	-.087
MHTEXPORT	Sig.	.173	.047	.058	.261	.932	.731	.578	.337	.766	.660
	N	28	28	28	28	28	28	28	28	28	28
i422	PC	-.454*	-.127	.329	-.065	-.007	.377*	.005	.235	-.085	.346
KISEXPORT	Sig.	.015	.519	.088	.741	.974	.048	.980	.228	.668	.071
	N	28	28	28	28	28	28	28	28	28	28
i423	PC	-.267	.153	.270	-.116	-.273	-.154	-.196	.214	.205	.127
INNSALES	Sig.	.170	.436	.164	.556	.159	.435	.318	.274	.294	.521
	N	28	28	28	28	28	28	28	28	28	28

\*\*. Correlation is significant at the 0.01 level (2-tailed). \*. Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

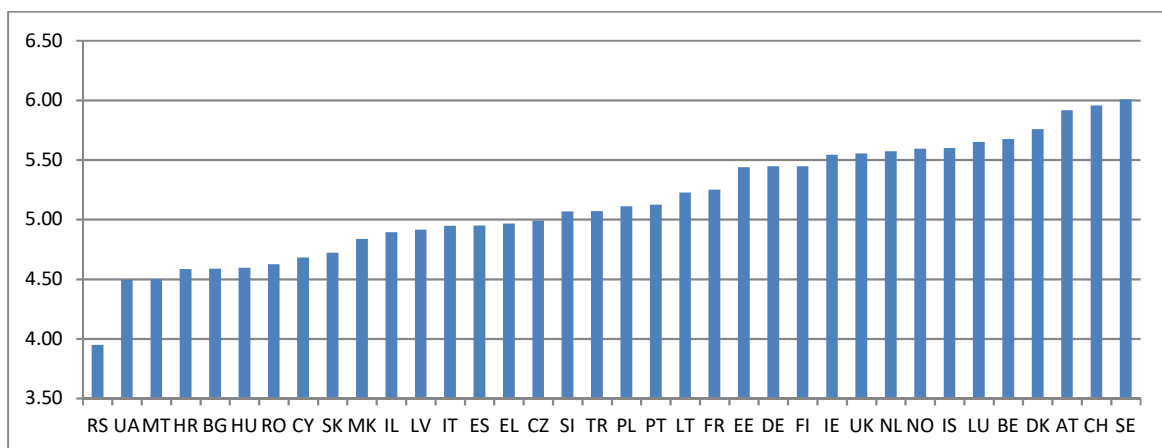
### Degree of customer orientation

The indicator measures how well enterprises treat their customers. Data are collected by the World Economic Forum. Data availability is 100% for this indicator, with 2007-2016 data available for all countries.

The degree of customer orientation is highly stable over time as shown by high significant year-to-year correlation coefficients (Table 12). The degree of customer orientation correlates positively with the SII, 9 EIS dimensions and 22 EIS indicators (Table 13).<sup>14</sup> Based on the summary of key characteristics, it is recommended to **include this indicator**.

<b>Data availability</b>	Full
<b>Stability over time</b>	Stable
<b>Correlation with EIS</b>	Strong

Figure 8: Degree of customer orientation



Most recent data shown for all countries for which data are available.

<sup>14</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

**Table 12 Degree of customer orientation (CUST OR): stability over time**

		CUST OR 2008	CUST OR 2009	CUST OR 2010	CUST OR 2011	CUST OR 2012	CUST OR 2013	CUST OR 2014	CUST OR 2015	CUST OR 2016
CUST OR 2007	PC	.947**	.925**	.928**	.914**	.904**	.860**	.820**	.838**	.904**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
CUST OR 2008	PC	1	.966**	.903**	.867**	.884**	.863**	.831**	.833**	.878**
	Sig.		.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
CUST OR 2009	PC	.966**	1	.958**	.895**	.885**	.860**	.835**	.845**	.894**
	Sig.	.000		.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
CUST OR 2010	PC	.903**	.958**	1	.960**	.925**	.895**	.865**	.871**	.922**
	Sig.	.000	.000		.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
CUST OR 2011	PC	.867**	.895**	.960**	1	.970**	.895**	.839**	.869**	.944**
	Sig.	.000	.000	.000		.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
CUST OR 2012	PC	.884**	.885**	.925**	.970**	1	.944**	.878**	.882**	.932**
	Sig.	.000	.000	.000	.000		.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
CUST OR 2013	PC	.863**	.860**	.895**	.895**	.944**	1	.960**	.890**	.886**
	Sig.	.000	.000	.000	.000	.000		.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
CUST OR 2014	PC	.831**	.835**	.865**	.839**	.878**	.960**	1	.939**	.877**
	Sig.	.000	.000	.000	.000	.000	.000		.000	.000
	N	36	36	36	36	36	36	36	36	36
CUST OR 2015	PC	.833**	.845**	.871**	.869**	.882**	.890**	.939**	1	.952**
	Sig.	.000	.000	.000	.000	.000	.000	.000		.000
	N	36	36	36	36	36	36	36	36	36

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

**Table 13 Pearson correlation (PC) results between Degree of customer orientation (CUST OR) and SII, EIS dimensions and EIS indicators**

		CUST OR 2007	CUST OR 2008	CUST OR 2009	CUST OR 2010	CUST OR 2011	CUST OR 2012	CUST OR 2013	CUST OR 2014	CUST OR 2015	CUST OR 2016
SII	PC	.877**	.833**	.862**	.850**	.846**	.798**	.708**	.689**	.729**	.839**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
HUMAN RESOURCES	PC	.807**	.825**	.814**	.742**	.728**	.721**	.686**	.680**	.722**	.796**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
RESEARCH SYSTEM	PC	.812**	.776**	.799**	.798**	.773**	.713**	.652**	.675**	.724**	.807**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
INNOVATION FRIENDLY ENVIRONMENT	PC	.683**	.657**	.650**	.667**	.687**	.668**	.646**	.587**	.629**	.717**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35	35	35
FINANCE SUPPORT	PC	.789**	.777**	.765**	.719**	.725**	.723**	.696**	.668**	.692**	.774**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
FIRM INVESTMENTS	PC	.593**	.530**	.589**	.606**	.635**	.578**	.412*	.340*	.385*	.508**
	Sig.	.000	.001	.000	.000	.000	.000	.013	.043	.020	.002
	N	36	36	36	36	36	36	36	36	36	36
INNOVATORS	PC	.714**	.688**	.732**	.752**	.703**	.657**	.621**	.634**	.628**	.662**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
LINKAGES	PC	.798**	.778**	.784**	.748**	.749**	.721**	.639**	.625**	.679**	.757**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
INTELLECTUAL ASSETS	PC	.644**	.586**	.604**	.634**	.619**	.563**	.524**	.492**	.437**	.539**
	Sig.	.000	.000	.000	.000	.000	.000	.001	.002	.008	.001
	N	36	36	36	36	36	36	36	36	36	36
EMPLOYMENT IMPACT	PC	.336*	.288	.281	.271	.324	.290	.145	.061	.098	.276
	Sig.	.045	.089	.096	.109	.054	.086	.398	.723	.570	.103
	N	36	36	36	36	36	36	36	36	36	36
SALES IMPACT	PC	.399*	.321	.377*	.366*	.386*	.347*	.192	.210	.326	.406*

		CUST OR 2007	CUST OR 2008	CUST OR 2009	CUST OR 2010	CUST OR 2011	CUST OR 2012	CUST OR 2013	CUST OR 2014	CUST OR 2015	CUST OR 2016
	Sig.	.016	.056	.023	.028	.020	.038	.262	.220	.053	.014
	N	36	36	36	36	36	36	36	36	36	36
i111	PC	.578**	.587**	.545**	.447**	.473**	.506**	.420*	.448**	.526**	.552**
DOCGRA	Sig.	.000	.000	.001	.006	.004	.002	.011	.006	.001	.000
	N	36	36	36	36	36	36	36	36	36	36
i112	PC	.568**	.634**	.623**	.579**	.509**	.504**	.585**	.564**	.532**	.569**
TEREDUC	Sig.	.001	.000	.000	.000	.002	.003	.000	.001	.001	.001
	N	33	33	33	33	33	33	33	33	33	33
i113	PC	.773**	.740**	.739**	.729**	.744**	.687**	.666**	.651**	.668**	.776**
LIFELONG	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	33	33	33	33	33	33	33	33	33	33
i121	PC	.811**	.803**	.836**	.819**	.778**	.724**	.685**	.691**	.726**	.808**
INTCOPUB	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i122	PC	.779**	.736**	.749**	.746**	.712**	.666**	.603**	.612**	.639**	.738**
MOSTCITED	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i123	PC	.680**	.655**	.664**	.671**	.672**	.622**	.585**	.661**	.695**	.723**
FORDOCST	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	33	33	33	33	33	33	33	33	33	33
i131	PC	.529**	.496**	.466**	.505**	.582**	.580**	.562**	.529**	.564**	.598**
BROADBAND	Sig.	.002	.004	.007	.003	.000	.000	.001	.002	.001	.000
	N	32	32	32	32	32	32	32	32	32	32
i132	PC	.707**	.655**	.703**	.706**	.668**	.612**	.605**	.571**	.623**	.717**
OPPENTRE	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35	35	35
i211	PC	.698**	.717**	.725**	.634**	.634**	.626**	.542**	.517**	.571**	.672**
PUBRD	Sig.	.000	.000	.000	.000	.000	.000	.001	.001	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i212	PC	.600**	.564**	.509**	.522**	.538**	.553**	.618**	.610**	.586**	.608**
VENTCAP	Sig.	.000	.001	.002	.002	.001	.001	.000	.000	.000	.000
	N	34	34	34	34	34	34	34	34	34	34
i221	PC	.751**	.681**	.693**	.699**	.734**	.672**	.502**	.455**	.530**	.659**
BUSRD	Sig.	.000	.000	.000	.000	.000	.000	.002	.005	.001	.000
	N	36	36	36	36	36	36	36	36	36	36
i222	PC	-.139	-.097	-.027	-.037	.004	.040	.030	-.024	-.079	-.074
NONRD	Sig.	.434	.584	.882	.835	.981	.821	.864	.892	.655	.679
	N	34	34	34	34	34	34	34	34	34	34
i223	PC	.655**	.638**	.664**	.643**	.598**	.589**	.540**	.524**	.509**	.564**
ICTSKILLS	Sig.	.000	.000	.000	.000	.000	.000	.001	.002	.003	.001
	N	32	32	32	32	32	32	32	32	32	32
i311	PC	.651**	.645**	.690**	.726**	.695**	.643**	.626**	.653**	.649**	.666**
PPINNOV	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i312	PC	.644**	.563**	.623**	.670**	.626**	.574**	.514**	.532**	.552**	.588**
MOINNOV	Sig.	.000	.000	.000	.000	.000	.000	.001	.001	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i313	PC	.716**	.729**	.747**	.721**	.653**	.628**	.603**	.596**	.562**	.604**
INHOUSE	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35	35	35
i321	PC	.676**	.664**	.661**	.636**	.621**	.577**	.507**	.499**	.569**	.647**
COLLAB	Sig.	.000	.000	.000	.000	.000	.000	.002	.002	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i322	PC	.742**	.739**	.762**	.733**	.724**	.687**	.610**	.600**	.632**	.723**
PPCOPUB	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i323	PC	.441**	.429**	.395**	.352**	.386**	.420**	.364**	.345**	.379**	.381**
COFUNDING	Sig.	.009	.011	.021	.041	.024	.013	.035	.046	.027	.026
	N	34	34	34	34	34	34	34	34	34	34
i331	PC	.815**	.728**	.726**	.731**	.770**	.702**	.533**	.462**	.532**	.694**
PATENTS	Sig.	.000	.000	.000	.000	.000	.000	.001	.005	.001	.000
	N	35	35	35	35	35	35	35	35	35	35
i332	PC	.422**	.375**	.400**	.431**	.369**	.289	.307	.285	.190	.271
TRADEMARK	Sig.	.010	.024	.016	.009	.027	.087	.069	.092	.266	.110
	N	36	36	36	36	36	36	36	36	36	36
i333	PC	.344**	.323	.346**	.381**	.373**	.369**	.403**	.406**	.307	.338**
DESIGNS	Sig.	.040	.055	.039	.022	.025	.027	.015	.014	.068	.044
	N	36	36	36	36	36	36	36	36	36	36
i411	PC	.580**	.542**	.555**	.548**	.526**	.465**	.360**	.318	.338**	.468**
KIAEMPL	Sig.	.000	.001	.000	.001	.001	.004	.031	.058	.044	.004
	N	36	36	36	36	36	36	36	36	36	36
i412	PC	-.223	-.259	-.267	-.252	-.082	-.012	-.134	-.262	-.230	-.087



		CUST OR 2007	CUST OR 2008	CUST OR 2009	CUST OR 2010	CUST OR 2011	CUST OR 2012	CUST OR 2013	CUST OR 2014	CUST OR 2015	CUST OR 2016
HIGHGROW	Sig.	.246	.174	.162	.187	.674	.950	.488	.170	.230	.654
	N	29	29	29	29	29	29	29	29	29	29
i421 MHTEXPORT	PC	.034	-.039	.045	.064	.105	.037	-.084	-.082	-.008	.051
	Sig.	.843	.821	.796	.709	.541	.831	.628	.635	.962	.769
i422 KISEXPORT	N	36	36	36	36	36	36	36	36	36	36
	PC	.597**	.556**	.576**	.586**	.533**	.514**	.441**	.465**	.543**	.593**
i423 INNSALES	Sig.	.000	.000	.000	.000	.001	.001	.007	.004	.001	.000
	N	36	36	36	36	36	36	36	36	36	36
i423 INNSALES	PC	.198	.145	.163	.112	.168	.170	.036	.047	.139	.199
	Sig.	.248	.399	.342	.517	.329	.322	.837	.787	.419	.246
i423 INNSALES	N	36	36	36	36	36	36	36	36	36	36

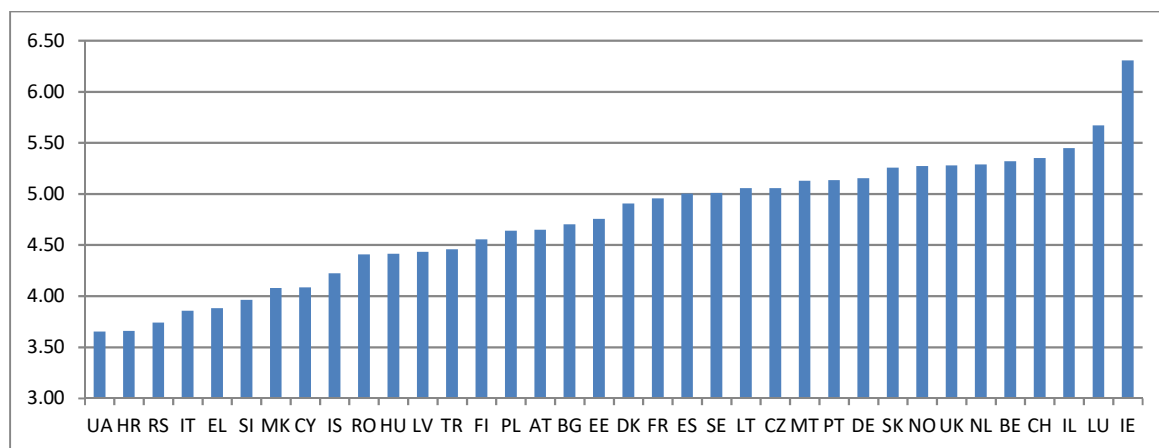
\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

## 5.2.2 Foreign direct investment

### Foreign Direct Investment and Technology Transfer

The indicator measures to what extent FDI brings new technology into a country. Data are collected by the World Economic Forum. Data availability is 100% for this indicator, with 2007-2016 data available for all countries.

**Figure 9: FDI and technology transfer**



Most recent data shown for all countries for which data are available.

Foreign Direct Investment and Technology Transfer is highly stable over time as shown by high significant year-to-year correlation coefficients (Table 14). Foreign Direct Investment and Technology Transfer in 2016 correlates positively with the SII, 4 EIS dimensions and 11 EIS indicators (Table 15).<sup>15</sup> The most recent data for Foreign Direct Investment and Technology Transfer even correlate positively with 9 EIS dimensions and 19 EIS indicators. Over time, correlations are strongest with the EIS dimensions Employment impacts and Sales impacts and the EIS indicators in these two dimensions.

Based on the summary of key characteristics, it is recommended to **include this indicator**.

<b>Data availability</b>	Full
<b>Stability over time</b>	Relatively stable

<sup>15</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

**Correlation with EIS**

Strong

**Table 14 Foreign Direct Investment (FDI) and Technology Transfer: stability over time**

		FDI 2008	FDI 2009	FDI 2010	FDI 2011	FDI 2012	FDI 2013	FDI 2014	FDI 2015	FDI 2016
FDI 2007	PC	.954**	.900**	.835**	.836**	.815**	.791**	.758**	.774**	.740**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
FDI 2008	PC	1	.917**	.835**	.844**	.827**	.800**	.751**	.761**	.749**
	Sig.		.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
FDI 2009	PC	.917**	1	.960**	.924**	.910**	.874**	.830**	.833**	.802**
	Sig.	.000		.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
FDI 2010	PC	.835**	.960**	1	.977**	.960**	.908**	.861**	.884**	.862**
	Sig.	.000	.000		.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
FDI 2011	PC	.844**	.924**	.977**	1	.976**	.912**	.854**	.869**	.845**
	Sig.	.000	.000	.000		.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
FDI 2012	PC	.827**	.910**	.960**	.976**	1	.956**	.890**	.897**	.868**
	Sig.	.000	.000	.000	.000		.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
FDI 2013	PC	.800**	.874**	.908**	.912**	.956**	1	.965**	.932**	.868**
	Sig.	.000	.000	.000	.000	.000		.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
FDI 2014	PC	.751**	.830**	.861**	.854**	.890**	.965**	1	.959**	.848**
	Sig.	.000	.000	.000	.000	.000	.000		.000	.000
	N	36	36	36	36	36	36	36	36	36
FDI 2015	PC	.761**	.833**	.884**	.869**	.897**	.932**	.959**	1	.944**
	Sig.	.000	.000	.000	.000	.000	.000	.000		.000
	N	36	36	36	36	36	36	36	36	36

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 15 Pearson correlation (PC) results between Foreign Direct Investment (FDI) and Technology Transfer and SII, EIS dimensions and EIS indicators**

		FDI 2007	FDI 2008	FDI 2009	FDI 2010	FDI 2011	FDI 2012	FDI 2013	FDI 2014	FDI 2015	FDI 2016
SII	PC	.308	.370*	.347*	.414*	.441**	.424*	.377*	.280	.433**	.584**
	Sig.	.068	.027	.038	.012	.007	.010	.023	.098	.008	.000
	N	36	36	36	36	36	36	36	36	36	36
HUMAN RESOURCES	PC	.164	.201	.211	.287	.316	.292	.239	.154	.313	.452**
	Sig.	.340	.241	.216	.090	.061	.084	.160	.368	.063	.006
	N	36	36	36	36	36	36	36	36	36	36
RESEARCH SYSTEM	PC	.296	.374*	.361*	.408*	.431**	.394*	.321	.215	.372*	.532**
	Sig.	.080	.025	.031	.013	.009	.017	.057	.208	.026	.001
	N	36	36	36	36	36	36	36	36	36	36
INNOVATION FRIENDLY ENVIRONMENT	PC	.126	.171	.163	.252	.291	.273	.214	.147	.282	.409*
	Sig.	.472	.325	.351	.143	.089	.112	.216	.400	.101	.015
	N	35	35	35	35	35	35	35	35	35	35
FINANCE SUPPORT	PC	.220	.244	.215	.282	.337*	.308	.255	.169	.271	.385*
	Sig.	.198	.152	.208	.095	.045	.068	.134	.324	.110	.021
	N	36	36	36	36	36	36	36	36	36	36
FIRM INVESTMENTS	PC	.132	.159	.108	.174	.231	.229	.201	.143	.222	.326
	Sig.	.443	.354	.531	.311	.176	.180	.241	.406	.193	.052
	N	36	36	36	36	36	36	36	36	36	36
INNOVATORS	PC	.104	.230	.189	.216	.235	.241	.236	.169	.258	.389*
	Sig.	.545	.178	.270	.206	.168	.158	.167	.325	.129	.019
	N	36	36	36	36	36	36	36	36	36	36
LINKAGES	PC	.054	.098	.066	.173	.213	.183	.168	.101	.234	.346*
	Sig.	.756	.569	.701	.313	.213	.285	.327	.559	.169	.039
	N	36	36	36	36	36	36	36	36	36	36
INTELLECTUAL ASSETS	PC	.202	.245	.263	.283	.280	.301	.259	.173	.288	.429**
	Sig.	.238	.149	.121	.094	.098	.075	.127	.312	.089	.009

		FDI 2007	FDI 2008	FDI 2009	FDI 2010	FDI 2011	FDI 2012	FDI 2013	FDI 2014	FDI 2015	FDI 2016
	N	36	36	36	36	36	36	36	36	36	36
EMPLOYMENT IMPACT	PC	.567**	.566**	.469**	.518**	.559**	.527**	.429**	.358*	.476**	.577**
	Sig.	.000	.000	.004	.001	.000	.001	.009	.032	.003	.000
	N	36	36	36	36	36	36	36	36	36	36
SALES IMPACT	PC	.568**	.556**	.568**	.576**	.523**	.526**	.519**	.475**	.572**	.584**
	Sig.	.000	.000	.000	.000	.001	.001	.001	.003	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i111 DOCGRADES	PC	.174	.119	.154	.211	.185	.169	.145	.103	.272	.377*
	Sig.	.311	.488	.371	.217	.279	.323	.397	.551	.108	.023
	N	36	36	36	36	36	36	36	36	36	36
i112 TEREDUC	PC	.118	.246	.246	.304	.368*	.379*	.363*	.297	.350*	.421*
	Sig.	.513	.167	.168	.086	.035	.030	.038	.093	.046	.015
	N	33	33	33	33	33	33	33	33	33	33
i113 LIFELONG	PC	.086	.139	.052	.099	.161	.121	.020	-.082	.077	.246
	Sig.	.633	.439	.774	.582	.370	.502	.914	.650	.670	.167
	N	33	33	33	33	33	33	33	33	33	33
i121 INTCOPUB	PC	.203	.277	.267	.323	.362*	.335*	.245	.110	.256	.429**
	Sig.	.234	.103	.115	.055	.030	.046	.149	.521	.132	.009
	N	36	36	36	36	36	36	36	36	36	36
i122 MOSTCITED	PC	.335*	.393*	.373*	.410*	.421*	.389*	.346*	.248	.389*	.541**
	Sig.	.046	.018	.025	.013	.011	.019	.039	.145	.019	.001
	N	36	36	36	36	36	36	36	36	36	36
i123 FORDOCST	PC	.279	.377*	.368*	.409*	.418*	.375*	.287	.219	.391*	.537**
	Sig.	.116	.030	.035	.018	.015	.031	.106	.221	.024	.001
	N	33	33	33	33	33	33	33	33	33	33
i131 BROADBAND	PC	.183	.193	.250	.326	.335	.372*	.412*	.385*	.467**	.507**
	Sig.	.317	.290	.167	.069	.061	.036	.019	.030	.007	.003
	N	32	32	32	32	32	32	32	32	32	32
i132 OPPENTRE	PC	.173	.226	.176	.240	.290	.233	.172	.090	.213	.362*
	Sig.	.322	.192	.312	.164	.091	.178	.323	.605	.220	.033
	N	35	35	35	35	35	35	35	35	35	35
i211 PUBRD	PC	.211	.251	.189	.220	.255	.223	.157	.068	.209	.345*
	Sig.	.218	.140	.269	.197	.133	.192	.361	.692	.221	.039
	N	36	36	36	36	36	36	36	36	36	36
i212 VENTCAP	PC	.234	.228	.243	.306	.368*	.384*	.422*	.376*	.366*	.381*
	Sig.	.183	.194	.166	.078	.032	.025	.013	.029	.033	.026
	N	34	34	34	34	34	34	34	34	34	34
i221 BUSRD	PC	.144	.143	.128	.217	.255	.244	.172	.085	.239	.372*
	Sig.	.402	.404	.458	.203	.133	.151	.317	.620	.160	.026
	N	36	36	36	36	36	36	36	36	36	36
i222 NONRD	PC	-.180	-.188	-.201	-.186	-.144	-.156	-.099	-.038	-.128	-.165
	Sig.	.307	.287	.254	.291	.418	.378	.579	.833	.471	.351
	N	34	34	34	34	34	34	34	34	34	34
i223 ICTSKILLS	PC	.207	.335	.263	.253	.270	.307	.265	.119	.210	.376*
	Sig.	.255	.061	.146	.162	.135	.088	.143	.515	.250	.034
	N	32	32	32	32	32	32	32	32	32	32
i311 PPINNOV	PC	.025	.158	.143	.194	.205	.208	.221	.154	.224	.345*
	Sig.	.885	.356	.405	.256	.230	.223	.195	.370	.189	.039
	N	36	36	36	36	36	36	36	36	36	36
i312 MOINNOV	PC	.181	.283	.249	.258	.261	.261	.269	.238	.323	.431**
	Sig.	.290	.094	.143	.128	.124	.124	.112	.162	.055	.009
	N	36	36	36	36	36	36	36	36	36	36
i313 INHOUSE	PC	.124	.243	.176	.175	.213	.242	.235	.146	.231	.358*
	Sig.	.477	.159	.311	.316	.219	.161	.175	.402	.182	.035
	N	35	35	35	35	35	35	35	35	35	35
i321 COLLAB	PC	.076	.157	.125	.214	.250	.225	.217	.113	.188	.305
	Sig.	.659	.361	.467	.209	.141	.186	.203	.513	.272	.070
	N	36	36	36	36	36	36	36	36	36	36
i322 PPCOPUB	PC	.086	.135	.106	.192	.228	.157	.053	-.039	.131	.282
	Sig.	.617	.434	.540	.261	.182	.360	.761	.819	.446	.096
	N	36	36	36	36	36	36	36	36	36	36
i323 COFUNDING	PC	-.150	-.154	-.198	-.108	-.080	-.025	.055	.105	.176	.159
	Sig.	.397	.385	.261	.542	.655	.888	.756	.555	.319	.369
	N	34	34	34	34	34	34	34	34	34	34
i331 PATENTS	PC	.200	.223	.137	.198	.239	.233	.187	.091	.239	.399*
	Sig.	.249	.198	.432	.255	.167	.178	.281	.601	.167	.017
	N	35	35	35	35	35	35	35	35	35	35
i332 TRADEMARK	PC	.217	.261	.272	.254	.255	.287	.258	.183	.234	.311
	Sig.	.204	.124	.109	.135	.134	.089	.128	.286	.169	.065
	N	36	36	36	36	36	36	36	36	36	36
i333 DESIGNS	PC	.117	.166	.223	.197	.158	.173	.150	.109	.184	.302
	Sig.	.498	.333	.191	.249	.358	.312	.382	.528	.282	.073
	N	36	36	36	36	36	36	36	36	36	36

		FDI 2007	FDI 2008	FDI 2009	FDI 2010	FDI 2011	FDI 2012	FDI 2013	FDI 2014	FDI 2015	FDI 2016
i411 KIAEMPL	PC	.375*	.436**	.338*	.351*	.397*	.393*	.305	.205	.331*	.471**
	Sig.	.024	.008	.044	.036	.016	.018	.071	.229	.049	.004
	N	36	36	36	36	36	36	36	36	36	36
i412 HIGHGROW	PC	.563**	.494**	.470*	.544**	.524**	.505**	.504**	.515**	.520**	.497**
	Sig.	.001	.006	.010	.002	.004	.005	.005	.004	.004	.006
	N	29	29	29	29	29	29	29	29	29	29
i421 MHTEXPORT	PC	.411*	.393*	.470**	.456**	.379*	.402*	.418*	.383*	.390*	.316
	Sig.	.013	.018	.004	.005	.023	.015	.011	.021	.019	.060
	N	36	36	36	36	36	36	36	36	36	36
i422 KISEXPORT	PC	.360*	.429**	.363*	.374*	.374*	.380*	.351*	.281	.406*	.539**
	Sig.	.031	.009	.029	.025	.025	.022	.036	.097	.014	.001
	N	36	36	36	36	36	36	36	36	36	36
i423 INNSALES	PC	.427**	.350*	.368*	.388*	.350*	.330*	.330*	.340*	.409*	.370*
	Sig.	.009	.036	.027	.019	.036	.050	.050	.042	.013	.026
	N	36	36	36	36	36	36	36	36	36	36

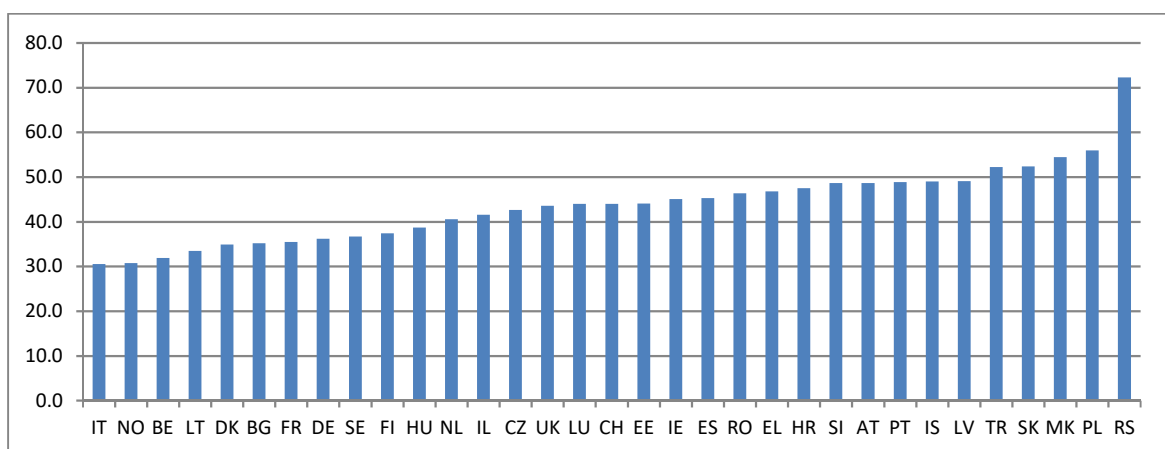
\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

### 5.2.3 Cultural framework

#### *Entrepreneurial Attitudes - Perceived Capabilities*

Data are taken from the Global Entrepreneurship Monitor. The indicator measures the share of adult population who believe to have the required skills and knowledge to start a business. Data availability is weak with data missing for 36% of all observations, in particular with no data for Cyprus, Malta, Slovakia, and Ukraine (Table 16).

**Figure 10: Entrepreneurial attitudes – Perceived Capabilities**



Most recent data shown for all countries for which data are available.

Entrepreneurial attitudes – Perceived Capabilities is relatively stable over time, but only in the last six years as shown by high significant year-to-year correlation coefficients (**Table 17**). In the last six years, Entrepreneurial attitudes – Perceived Capabilities correlates negatively with the SII, 6 EIS dimensions and 12 EIS indicators (Table 18).<sup>16</sup>

Based on the summary of key characteristics, it is recommended **not to include this indicator**.

<sup>16</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

<b>Data availability</b>	Weak
<b>Stability over time</b>	Relatively stable
<b>Correlation with EIS</b>	Moderate

**Table 16 Data availability Entrepreneurial Attitudes - Perceived Capabilities**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BE	34.6	n/a	n/a	36.7	44.9	44.0	37.1	33.8	30.4	31.9
BG	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	35.2
CZ	38.0	n/a	n/a	n/a	n/a	39.2	n/a	42.6	n/a	n/a
DK	36.4	53.7	40.2	35.4	40.8	35.0	31.0	n/a	34.9	n/a
DE	39.0	60.7	35.8	39.7	41.6	37.1	37.1	37.7	36.4	36.2
EE	n/a	n/a	n/a	n/a	n/a	n/a	43.2	40.0	42.5	44.0
IE	50.9	47.9	47.7	n/a	49.2	45.5	45.2	43.1	47.2	45.0
EL	46.4	36.1	54.4	58.1	52.2	49.7	50.0	46.0	45.5	46.8
ES	46.2	57.9	41.4	47.5	50.2	50.9	50.4	48.4	48.1	45.3
FR	33.3	68.9	33.1	27.1	37.3	38.4	35.7	33.2	35.4	n/a
HR	58.1	37.4	41.6	59.1	53.2	49.0	44.1	47.2	45.9	47.5
IT	44.5	44.5	32.6	41.2	42.4	n/a	30.0	29.1	31.3	30.5
CY	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LV	36.1	n/a	n/a	49.6	50.8	46.5	43.6	47.8	n/a	49.1
LT	n/a	n/a	n/a	n/a	n/a	35.4	39.8	35.4	33.4	n/a
LU	n/a	n/a	n/a	n/a	n/a	n/a	n/a	43.3	37.6	44.0
HU	43.1	39.7	21.4	40.9	43.4	40.0	39.8	37.5	40.9	38.7
MT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
NL	37.5	49.4	36.7	47.5	45.5	41.9	42.3	42.4	44.3	40.6
AT	n/a	n/a	n/a	n/a	n/a	n/a	49.6	n/a	48.7	n/a
PL	n/a	41.0	50.1	n/a	n/a	52.0	53.9	51.8	54.3	55.9
PT	n/a	26.4	46.3	n/a	52.1	46.7	46.8	48.7	46.6	48.9
RO	n/a	n/a	n/a	27.3	38.2	41.6	38.3	45.9	48.4	46.3
SI	47.7	36.2	43.2	52.0	56.3	50.8	51.3	51.5	48.6	48.6
SK	n/a	n/a	n/a	n/a	n/a	52.9	49.7	51.0	54.4	52.4
FI	36.5	38.9	36.1	35.1	39.5	37.3	34.3	33.3	34.9	37.4
SE	41.9	50.8	42.3	n/a	42.4	40.3	37.0	38.8	36.7	36.7
UK	49.6	8.7	51.7	47.0	51.8	42.5	47.1	43.8	46.4	43.6
IS	50.2	33.5	48.3	49.8	49.0	n/a	n/a	n/a	n/a	n/a
IL	n/a	32.2	42.2	38.3	39.9	n/a	29.3	36.2	n/a	41.6
MK	n/a	n/a	n/a	n/a	59.7	n/a	55.1	49.7	n/a	54.4
NO	39.1	50.5	41.8	44.1	40.5	33.2	34.4	34.2	30.5	30.8
CH	n/a	n/a	n/a	48.9	43.9	42.4	37.3	44.7	41.6	44.0
RS	n/a	n/a	n/a	72.3	n/a	n/a	n/a	n/a	n/a	n/a
UA	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TR	54.7	n/a	n/a	n/a	54.2	42.1	49.4	52.2	n/a	n/a

**Table 17 Entrepreneurial Attitudes - Perceived Capabilities (CAPAB): stability over time**

		CAPAB 2007	CAPAB 2008	CAPAB 2009	CAPAB 2010	CAPAB 2011	CAPAB 2012	CAPAB 2013	CAPAB 2014	CAPAB 2015
ENTR ATT 2006	PC	-.583*	.479	.481	.744**	.552*	.625**	.598**	.709**	.523*
	Sig.	.018	.060	.051	.000	.018	.006	.009	.002	.045
	N	16	16	17	19	18	18	18	16	15
ENTR ATT 2007	PC	1	-.456*	-.385	-.538*	-.335	-.307	-.326	-.426	-.351
	Sig.		.049	.141	.021	.205	.215	.202	.088	.182
	N	19	19	16	18	16	18	17	17	16
ENTR ATT 2008	PC	-.456*	1	.285	.584*	.509*	.553*	.605*	.544*	.582*
	Sig.	.049		.284	.011	.044	.017	.010	.024	.018
	N	19	19	16	18	16	18	17	17	16
ENTR ATT 2009	PC	-.385	.285	1	.658**	.504*	.505*	.448	.400	.425
	Sig.	.141	.284		.002	.039	.027	.062	.111	.089
	N	16	16	21	20	17	19	18	17	17
ENTR ATT 2010	PC	-.538*	.584*	.658**	1	.803**	.905**	.797**	.673**	.737**
	Sig.	.021	.011	.002		.000	.000	.000	.002	.000
	N	18	18	20	24	20	23	22	19	20
ENTR ATT 2011	PC	-.335	.509*	.504*	.803**	1	.855**	.800**	.837**	.834**
	Sig.	.205	.044	.039	.000		.000	.000	.000	.000
	N	16	16	17	20	24	23	23	21	19
ENTR ATT 2012	PC	-.307	.553*	.505*	.905**	.855**	1	.869**	.869**	.821**
	Sig.	.215	.017	.027	.000	.000		.000	.000	.000
	N	18	18	19	23	23	28	26	24	23
ENTR ATT 2013	PC	-.326	.605*	.448	.797**	.800**	.869**	1	.922**	.931**
	Sig.	.202	.010	.062	.000	.000	.000		.000	.000
	N	17	17	18	22	23	26	28	23	24
ENTR ATT 2014	PC	-.426	.544*	.400	.673**	.837**	.869**	.922**	1	.942**
	Sig.	.088	.024	.111	.002	.000	.000	.000		.000

		CAPAB 2007	CAPAB 2008	CAPAB 2009	CAPAB 2010	CAPAB 2011	CAPAB 2012	CAPAB 2013	CAPAB 2014	CAPAB 2015
	N	17	17	17	19	21	24	23	25	21

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

**Table 18 Pearson correlation (PC) results between Entrepreneurial Attitudes - Perceived Capabilities (CAPAB) and SII, EIS dimensions and EIS indicators**

		CAPAB 2006	CAPAB 2007	CAPAB 2008	CAPAB 2009	CAPAB 2010	CAPAB 2011	CAPAB 2012	CAPAB 2013	CAPAB 2014	CAPAB 2015
SII	PC	-.415	.152	-.006	-.349	-.420*	-.457*	-.467*	-.443*	-.428*	-.438*
	Sig.	.069	.535	.981	.121	.041	.025	.012	.018	.033	.029
	N	20	19	19	21	24	24	28	28	25	25
HUMAN RESOURCES	PC	-.347	.140	.110	-.341	-.325	-.378	-.362	-.288	-.315	-.283
	Sig.	.134	.566	.653	.130	.121	.069	.059	.137	.125	.170
	N	20	19	19	21	24	24	28	28	25	25
RESEARCH SYSTEM	PC	-.367	.030	.144	-.322	-.387	-.344	-.433*	-.384*	-.382	-.419*
	Sig.	.111	.904	.556	.155	.062	.100	.021	.044	.060	.037
	N	20	19	19	21	24	24	28	28	25	25
INNOVATION FRIENDLY ENVIRONMENT	PC	-.404	.177	-.046	-.482*	-.361	-.581**	-.475*	-.317	-.513**	-.358
	Sig.	.078	.468	.852	.027	.083	.003	.011	.100	.009	.079
	N	20	19	19	21	24	24	28	28	25	25
FINANCE SUPPORT	PC	-.489*	.224	-.053	-.336	-.420*	-.611**	-.400*	-.426*	-.461*	-.356
	Sig.	.029	.356	.830	.136	.041	.002	.035	.024	.020	.081
	N	20	19	19	21	24	24	28	28	25	25
FIRM INVESTMENTS	PC	.013	-.050	.024	-.111	-.226	-.356	-.350	-.273	-.306	-.313
	Sig.	.957	.840	.923	.631	.288	.087	.068	.160	.137	.127
	N	20	19	19	21	24	24	28	28	25	25
INNOVATORS	PC	-.123	.150	.158	-.065	-.153	-.405*	-.322	-.395*	-.497*	-.407*
	Sig.	.605	.540	.517	.780	.476	.050	.095	.038	.012	.044
	N	20	19	19	21	24	24	28	28	25	25
LINKAGES	PC	-.344	.058	.000	-.189	-.302	-.471*	-.367	-.431*	-.410*	-.445*
	Sig.	.137	.813	1.000	.411	.152	.020	.055	.022	.042	.026
	N	20	19	19	21	24	24	28	28	25	25
INTELLECTUAL ASSETS	PC	-.493*	.220	-.195	-.457*	-.516**	-.306	-.488**	-.398*	-.324	-.412*
	Sig.	.027	.366	.424	.037	.010	.146	.008	.036	.114	.041
	N	20	19	19	21	24	24	28	28	25	25
EMPLOYMENT IMPACT	PC	-.089	-.190	.087	-.153	-.368	-.130	-.379*	-.300	-.026	-.255
	Sig.	.709	.436	.724	.507	.077	.545	.047	.120	.903	.218
	N	20	19	19	21	24	24	28	28	25	25
SALES IMPACT	PC	-.261	.148	-.235	-.316	-.314	-.109	-.160	-.191	.054	-.097
	Sig.	.267	.544	.334	.163	.135	.611	.415	.331	.797	.646
	N	20	19	19	21	24	24	28	28	25	25
i111 DOCGRADES	PC	-.225	.074	.003	-.308	-.280	-.190	-.297	-.152	-.077	-.268
	Sig.	.341	.763	.992	.174	.185	.374	.125	.439	.714	.196
	N	20	19	19	21	24	24	28	28	25	25
i112 TEREDUC	PC	-.194	.019	.519*	-.012	-.061	-.168	-.077	-.144	-.194	-.007
	Sig.	.413	.941	.027	.962	.782	.433	.704	.475	.353	.973
	N	20	18	18	19	23	24	27	27	25	24
i113 LIFELONG	PC	-.387	.169	-.095	-.363	-.456*	-.518**	-.527**	-.401*	-.433*	-.367
	Sig.	.092	.503	.709	.127	.029	.009	.005	.038	.031	.077
	N	20	18	18	19	23	24	27	27	25	24
i121 INTCOPUB	PC	-.275	.043	.125	-.320	-.347	-.396	-.438*	-.371	-.410*	-.442*
	Sig.	.240	.861	.610	.158	.097	.055	.020	.052	.042	.027
	N	20	19	19	21	24	24	28	28	25	25
i122 MOSTCITED	PC	-.357	.122	.056	-.301	-.415*	-.309	-.405*	-.412*	-.337	-.466*
	Sig.	.123	.619	.820	.185	.044	.142	.033	.029	.099	.019
	N	20	19	19	21	24	24	28	28	25	25
i123 FORDOCST	PC	-.380	-.050	.198	-.263	-.315	-.268	-.368	-.291	-.312	-.285
	Sig.	.109	.848	.446	.277	.153	.216	.064	.149	.138	.188
	N	19	17	17	19	22	23	26	26	24	23
i131 BROADBAND	PC	-.443	.131	-.078	-.514*	-.187	-.342	-.282	-.102	-.341	-.188
	Sig.	.058	.617	.766	.029	.417	.110	.163	.620	.103	.391
	N	19	17	17	18	21	23	26	26	24	23
i132 OPPENTRE	PC	-.376	.234	-.074	-.434*	-.520**	-.682**	-.616**	-.504**	-.563**	-.475*
	Sig.	.102	.335	.763	.049	.009	.000	.000	.006	.003	.017
	N	20	19	19	21	24	24	28	28	25	25
i211 PUBRD	PC	-.595**	.360	-.062	-.316	-.506*	-.474*	-.408*	-.382*	-.388	-.332
	Sig.	.006	.130	.802	.163	.012	.019	.031	.045	.055	.105
	N	20	19	19	21	24	24	28	28	25	25
i212	PC	-.273	.047	-.143	-.334	-.239	-.470*	-.249	-.351	-.365	-.262

		CAPAB 2006	CAPAB 2007	CAPAB 2008	CAPAB 2009	CAPAB 2010	CAPAB 2011	CAPAB 2012	CAPAB 2013	CAPAB 2014	CAPAB 2015
VENTCAP	Sig.	.274	.852	.572	.150	.284	.023	.211	.072	.073	.205
	N	18	18	18	20	22	23	27	27	25	25
i221 BUSRD	PC	-.420	.163	-.226	-.511*	-.532**	-.431*	-.517**	-.478*	-.358	-.507**
	Sig.	.065	.504	.352	.018	.007	.035	.005	.010	.079	.010
	N	20	19	19	21	24	24	28	28	25	25
i222 NONRD	PC	.520*	-.110	.178	.321	.296	-.052	.140	.156	-.038	.133
	Sig.	.023	.673	.495	.180	.180	.808	.485	.436	.856	.535
	N	19	17	17	19	22	24	27	27	25	24
i223 ICTSKILLS	PC	-.103	.031	.098	-.042	-.087	-.271	-.130	-.228	-.243	-.340
	Sig.	.674	.903	.700	.866	.708	.223	.535	.273	.253	.112
	N	19	18	18	19	21	22	25	25	24	23
i311 PPINNOV	PC	-.165	.100	.156	-.128	-.031	-.433*	-.215	-.349	-.512**	-.350
	Sig.	.488	.685	.524	.580	.887	.035	.272	.069	.009	.086
	N	20	19	19	21	24	24	28	28	25	25
i312 MOINNOV	PC	.094	-.007	.282	.071	-.068	-.271	-.267	-.237	-.348	-.282
	Sig.	.693	.978	.242	.759	.751	.200	.170	.225	.088	.172
	N	20	19	19	21	24	24	28	28	25	25
i313 INHOUSE	PC	-.290	.352	-.017	-.134	-.335	-.452*	-.425*	-.516**	-.570**	-.520**
	Sig.	.228	.152	.948	.575	.118	.027	.024	.005	.003	.008
	N	19	18	18	20	23	24	28	28	25	25
i321 COLLAB	PC	-.165	-.260	.321	-.066	-.081	-.365	-.160	-.459*	-.351	-.388
	Sig.	.487	.283	.181	.775	.708	.080	.416	.014	.085	.055
	N	20	19	19	21	24	24	28	28	25	25
i322 PPCOPUB	PC	-.300	.139	-.099	-.315	-.407*	-.385	-.455*	-.377*	-.329	-.462*
	Sig.	.198	.572	.687	.164	.049	.063	.015	.048	.109	.020
	N	20	19	19	21	24	24	28	28	25	25
i323 COFUNDING	PC	-.294	.256	-.221	-.027	-.095	-.298	-.146	-.148	-.264	-.213
	Sig.	.209	.291	.362	.908	.666	.158	.468	.462	.202	.317
	N	20	19	19	21	23	24	27	27	25	24
i331 PATENTS	PC	-.433	.239	-.248	-.459*	-.592**	-.494*	-.599**	-.541**	-.452*	-.535**
	Sig.	.056	.325	.306	.042	.002	.014	.001	.003	.023	.006
	N	20	19	19	20	24	24	28	28	25	25
i332 TRADEMARK	PC	-.388	-.044	-.017	-.201	-.332	-.076	-.379*	-.249	-.185	-.193
	Sig.	.091	.857	.946	.383	.113	.724	.046	.201	.375	.355
	N	20	19	19	21	24	24	28	28	25	25
i333 DESIGNS	PC	-.466*	.243	-.141	-.372	-.389	-.154	-.259	-.182	-.174	-.241
	Sig.	.038	.316	.566	.097	.060	.473	.184	.354	.405	.247
	N	20	19	19	21	24	24	28	28	25	25
i411 KIAEMPL	PC	-.139	-.125	.127	-.106	-.381	-.251	-.508**	-.394*	-.307	-.369
	Sig.	.559	.611	.606	.647	.067	.238	.006	.038	.136	.070
	N	20	19	19	21	24	24	28	28	25	25
i412 HIGHGROW	PC	.135	-.145	.076	-.176	.067	.057	.229	.175	.275	.131
	Sig.	.605	.593	.781	.499	.784	.800	.281	.413	.193	.562
	N	17	16	16	17	19	22	24	24	24	22
i421 MHTEEXPORT	PC	-.245	.217	-.549*	-.419	-.220	.029	-.010	-.034	.208	.119
	Sig.	.297	.373	.015	.059	.303	.895	.959	.862	.317	.571
	N	20	19	19	21	24	24	28	28	25	25
i422 KISEXPORT	PC	-.423	.152	.032	-.455*	-.525**	-.420*	-.499**	-.419*	-.376	-.459*
	Sig.	.063	.533	.897	.038	.008	.041	.007	.026	.064	.021
	N	20	19	19	21	24	24	28	28	25	25
i423 INNSALES	PC	.131	-.052	.024	.192	.058	.164	.184	.075	.324	.146
	Sig.	.583	.832	.923	.404	.790	.444	.348	.704	.114	.487
	N	20	19	19	21	24	24	28	28	25	25

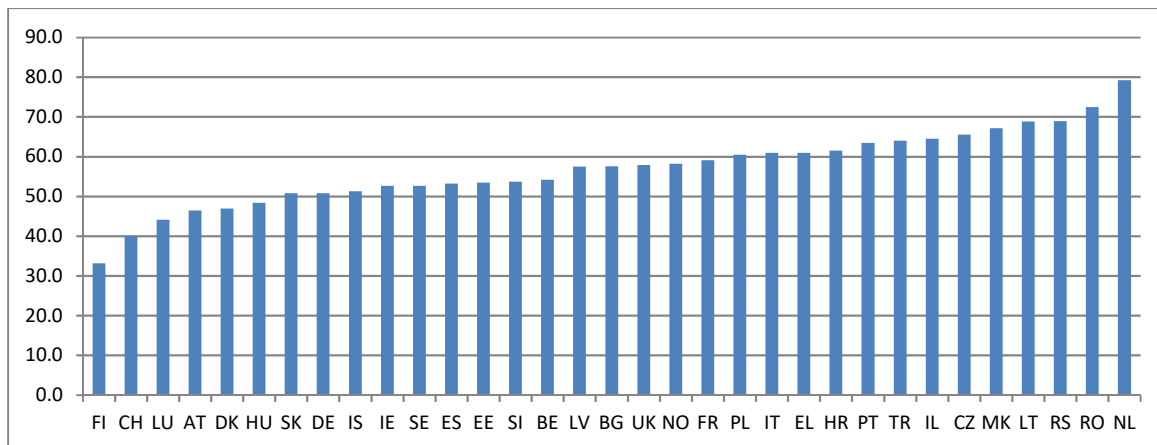
\*\*. Correlation is significant at the 0.01 level (2-tailed). \*. Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.



### Entrepreneurship as Desirable Career Choice

Data are taken from the Global Entrepreneurship Monitor. The indicator measures the share of adult population that agrees with the statement that in their country, most people consider starting a business as a desirable career choice. Data availability is weak with data missing for 36% of all observations, and in particular with no data for Cyprus, Malta, and Ukraine (Table 19).

**Figure 11: Entrepreneurship as Desirable Career Choice**



Most recent data shown for all countries for which data are available.

Entrepreneurship as Desirable Career Choice is relatively stable over time, in particular in the last seven years as shown by high significant year-to-year correlation coefficients (Table 20). In the last six years, Entrepreneurship as Desirable Career Choice correlates negatively with the SII, 5 EIS dimensions and 10 EIS indicators (Table 21).<sup>17</sup>

Based on the summary of key characteristics, it is recommended **not to include this indicator**.

<b>Data availability</b>	Weak
<b>Stability over time</b>	Relatively stable
<b>Correlation with EIS</b>	Moderate

**Table 19 Data availability Entrepreneurship as Desirable Career Choice**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BE	47.0	n/a	n/a	45.6	60.0	63.6	62.3	54.8	52.4	54.2
BG	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	57.5
CZ	65.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
DK	51.6	82.3	50.2	46.9	n/a	n/a	n/a	n/a	n/a	n/a
DE	56.2	72.2	53.8	53.6	53.1	55.0	48.9	49.4	51.7	50.8
EE	n/a	n/a	n/a	n/a	n/a	n/a	54.8	53.2	55.6	53.4
IE	69.7	66.1	65.6	n/a	51.8	45.9	45.4	49.6	49.4	52.6
EL	64.2	56.0	66.5	65.6	65.6	61.0	64.4	60.1	58.4	60.9
ES	70.6	65.6	71.8	63.0	65.4	65.2	63.6	54.3	53.9	53.2
FR	64.4	88.4	59.9	65.1	65.2	65.8	64.5	55.3	59.0	n/a
HR	74.7	44.5	65.4	68.2	67.1	65.3	64.2	61.5	63.3	61.5
IT	72.7	57.7	76.6	71.7	69.1	n/a	66.7	65.6	65.1	60.9
CY	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LV	65.6	n/a	n/a	58.6	58.8	n/a	59.7	61.4	n/a	57.5
LT	n/a	n/a	n/a	n/a	n/a	n/a	63.1	68.6	68.8	n/a

<sup>17</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
LU	n/a	n/a	n/a	n/a	n/a	n/a	n/a	39.4	40.7	44.1
HU	55.6	37.5	55.2	42.3	55.0	53.7	41.5	45.7	47.4	48.4
MT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
NL	80.3	63.0	80.7	83.6	85.4	83.4	79.3	79.5	79.1	79.2
AT	n/a	n/a	n/a	n/a	n/a	n/a	46.4	n/a	n/a	n/a
PL	n/a	83.9	65.2	n/a	n/a	72.9	67.9	66.8	63.3	60.5
PT	n/a	54.4	64.2	n/a	67.5	n/a	n/a	n/a	62.2	63.4
RO	n/a	n/a	n/a	57.6	66.5	67.9	71.2	73.6	73.6	72.4
SI	56.7	54.9	59.3	55.8	53.2	53.7	52.7	57.4	53.4	53.7
SK	n/a	n/a	n/a	n/a	n/a	54.6	50.3	49.2	45.4	50.8
FI	37.3	68.6	38.4	44.9	46.1	45.5	45.1	44.3	41.2	33.2
SE	50.9	72.8	53.3	n/a	56.9	51.8	n/a	52.0	51.6	52.7
UK	53.9	29.5	54.5	47.5	51.0	51.9	49.8	54.1	60.3	57.9
IS	66.7	64.8	61.9	51.0	51.2	n/a	n/a	n/a	n/a	n/a
IL	n/a	65.7	62.3	61.4	60.1	n/a	59.5	60.6	n/a	64.5
MK	n/a	n/a	n/a	n/a	71.3	n/a	69.6	69.5	n/a	67.1
NO	60.8	72.8	58.0	62.8	57.8	52.9	50.4	49.3	58.2	n/a
CH	n/a	n/a	n/a	65.7	64.9	n/a	44.2	40.5	42.3	40.0
RS	n/a	n/a	n/a	68.9	n/a	n/a	n/a	n/a	n/a	n/a
UA	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TR	77.2	n/a	n/a	n/a	71.2	n/a	67.1	64.0	n/a	n/a

**Table 20 Entrepreneurship as Desirable Career Choice (CAREER): stability over time**

		CAREER 2007	CAREER 2008	CAREER 2009	CAREER 2010	CAREER 2011	CAREER 2012	CAREER 2013	CAREER 2014	CAREER 2015
CAREER 2006	PC	-.091	.947**	.856**	.739**	.650*	.671**	.730**	.756**	.785**
	Sig.	.737	.000	.000	.000	.012	.004	.001	.001	.001
	N	16	16	16	18	14	16	17	15	14
CAREER 2007	PC	1	-.095	.152	.053	.207	.270	.049	-.034	-.070
	Sig.		.698	.588	.840	.478	.330	.857	.899	.805
	N	19	19	15	17	14	15	16	16	15
CAREER 2008	PC	-.095	1	.854**	.816**	.770**	.781**	.794**	.777**	.815**
	Sig.	.698		.000	.000	.001	.001	.000	.000	.000
	N	19	19	15	17	14	15	16	16	15
CAREER 2009	PC	.152	.854**	1	.872**	.775**	.680**	.590**	.624**	.596*
	Sig.	.588	.000		.000	.002	.003	.013	.013	.019
	N	15	15	20	18	13	17	17	15	15
CAREER 2010	PC	.053	.816**	.872**	1	.958**	.847**	.750**	.742**	.737**
	Sig.	.840	.000	.000		.000	.000	.000	.000	.000
	N	17	17	18	23	15	20	21	18	19
CAREER 2011	PC	.207	.770**	.775**	.958**	1	.941**	.867**	.813**	.815**
	Sig.	.478	.001	.002	.000		.000	.000	.000	.000
	N	14	14	13	15	17	16	17	17	15
CAREER 2012	PC	.270	.781**	.680**	.847**	.941**	1	.914**	.852**	.852**
	Sig.	.330	.001	.003	.000	.000		.000	.000	.000
	N	15	15	17	20	16	25	24	20	20
CAREER 2013	PC	.049	.794**	.590*	.750**	.867**	.914**	1	.952**	.935**
	Sig.	.857	.000	.013	.000	.000	.000		.000	.000
	N	16	16	17	21	17	24	26	22	22
CAREER 2014	PC	-.034	.777**	.624*	.742**	.813**	.852**	.952**	1	.957**
	Sig.	.899	.000	.013	.000	.000	.000	.000		.000
	N	16	16	15	18	17	20	22	23	20

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

**Table 21 Pearson correlation (PC) results between Entrepreneurship as Desirable Career Choice (CAREER) and SII, EIS dimensions and EIS indicators**

		CAREER R 2006	CAREER R 2007	CAREER R 2008	CAREER R 2009	CAREER R 2010	CAREER R 2011	CAREER R 2012	CAREER R 2013	CAREER R 2014	CAREER R 2015
SII	PC	-.524*	.302	-.438	-.168	-.343	-.336	-.486*	-.538**	-.426*	-.449*
	Sig.	.018	.209	.061	.479	.110	.187	.014	.005	.042	.028
	N	20	19	19	20	23	17	25	26	23	24
HUMAN RESOURCES	PC	-.519*	.310	-.486*	-.150	-.361	-.377	-.478*	-.497**	-.365	-.484*
	Sig.	.019	.196	.035	.528	.091	.136	.016	.010	.087	.017
	N	20	19	19	20	23	17	25	26	23	24
RESEARCH SYSTEM	PC	-.402	.206	-.224	-.093	-.204	-.162	-.341	-.490*	-.345	-.330
	Sig.	.079	.397	.357	.696	.350	.534	.095	.011	.107	.116
	N	20	19	19	20	23	17	25	26	23	24

		CAREE R 2006	CAREE R 2007	CAREE R 2008	CAREE R 2009	CAREE R 2010	CAREE R 2011	CAREE R 2012	CAREE R 2013	CAREE R 2014	CAREE R 2015
INNOVATION FRIENDLY ENVIRONMENT	PC	-.376	.411	-.409	-.323	-.308	-.218	-.248	-.344	-.233	-.371
	Sig.	.102	.080	.082	.164	.153	.402	.233	.086	.285	.074
	N	20	19	19	20	23	17	25	26	23	24
FINANCE SUPPORT	PC	-.357	.387	-.404	-.144	-.232	-.137	-.308	-.347	-.162	-.387
	Sig.	.123	.102	.086	.546	.288	.599	.134	.082	.459	.062
	N	20	19	19	20	23	17	25	26	23	24
FIRM INVESTMENTS	PC	-.501*	.186	-.501*	-.177	-.364	-.506*	-.468*	-.409*	-.498*	-.386
	Sig.	.024	.446	.029	.456	.087	.038	.018	.038	.016	.062
	N	20	19	19	20	23	17	25	26	23	24
INNOVATORS	PC	-.218	.216	-.174	.053	-.161	-.324	-.288	-.383	-.304	-.315
	Sig.	.356	.374	.477	.825	.463	.205	.163	.054	.158	.134
	N	20	19	19	20	23	17	25	26	23	24
LINKAGES	PC	-.443	.115	-.321	-.186	-.239	-.105	-.300	-.213	-.113	-.222
	Sig.	.051	.640	.180	.433	.272	.689	.145	.297	.607	.297
	N	20	19	19	20	23	17	25	26	23	24
INTELLECTUAL ASSETS	PC	-.511*	.417	-.324	-.109	-.226	-.112	-.343	-.454*	-.419*	-.445*
	Sig.	.021	.076	.175	.647	.299	.668	.093	.020	.046	.029
	N	20	19	19	20	23	17	25	26	23	24
EMPLOYMENT IMPACT	PC	-.180	-.040	-.098	-.111	-.429*	-.376	-.462*	-.450*	-.403	-.235
	Sig.	.447	.871	.689	.640	.041	.136	.020	.021	.056	.270
	N	20	19	19	20	23	17	25	26	23	24
SALES IMPACT	PC	-.234	-.026	-.145	-.160	-.248	-.327	-.457*	-.458*	-.425*	-.301
	Sig.	.321	.915	.555	.501	.255	.201	.022	.019	.043	.153
	N	20	19	19	20	23	17	25	26	23	24
i111 DOCGRADES	PC	-.524*	.029	-.443	-.180	-.367	-.518*	-.523**	-.406*	-.300	-.359
	Sig.	.018	.905	.057	.447	.085	.033	.007	.040	.164	.085
	N	20	19	19	20	23	17	25	26	23	24
i112 TEREDUC	PC	-.251	.325	-.142	.004	-.287	-.145	-.219	-.302	-.197	-.338
	Sig.	.286	.187	.575	.989	.195	.579	.303	.142	.369	.115
	N	20	18	18	18	22	17	24	25	23	23
i113 LIFELONG	PC	-.433	.396	-.479*	-.091	-.262	-.237	-.377	-.467*	-.338	-.478*
	Sig.	.057	.104	.044	.721	.239	.359	.070	.019	.114	.021
	N	20	18	18	18	22	17	24	25	23	23
i121 INTCOPUB	PC	-.447*	.254	-.351	-.181	-.325	-.300	-.444*	-.526**	-.400	-.426*
	Sig.	.048	.295	.141	.444	.130	.243	.026	.006	.058	.038
	N	20	19	19	20	23	17	25	26	23	24
i122 MOSTCITED	PC	-.327	.156	-.102	-.030	-.157	-.134	-.313	-.415*	-.242	-.247
	Sig.	.160	.525	.678	.901	.476	.609	.127	.035	.266	.244
	N	20	19	19	20	23	17	25	26	23	24
i123 FORDOCST	PC	-.286	.114	-.097	-.033	-.059	.003	-.214	-.440*	-.303	-.286
	Sig.	.235	.664	.712	.896	.798	.992	.326	.031	.171	.197
	N	19	17	17	18	21	16	23	24	22	22
i131 BROADBAND	PC	-.399	.304	-.325	-.350	-.125	-.095	-.041	-.153	-.146	-.223
	Sig.	.091	.235	.203	.168	.601	.718	.853	.474	.518	.318
	N	19	17	17	17	20	17	23	24	22	22
i132 OPPENTRE	PC	-.318	.459*	-.439	-.197	-.361	-.297	-.372	-.444*	-.252	-.448*
	Sig.	.172	.048	.060	.404	.091	.246	.067	.023	.246	.028
	N	20	19	19	20	23	17	25	26	23	24
i211 PUBRD	PC	-.391	.549*	-.380	-.001	-.135	-.076	-.285	-.351	-.218	-.374
	Sig.	.088	.015	.109	.997	.539	.772	.168	.079	.317	.072
	N	20	19	19	20	23	17	25	26	23	24
i212 VENTCAP	PC	-.224	.014	-.322	-.207	-.236	-.166	-.242	-.231	-.029	-.265
	Sig.	.371	.957	.193	.395	.303	.524	.255	.266	.894	.210
	N	18	18	18	19	21	17	24	25	23	24
i221 BUSRD	PC	-.696**	.323	-.557*	-.343	-.445*	-.399	-.489*	-.427*	-.450*	-.382
	Sig.	.001	.178	.013	.138	.033	.113	.013	.030	.031	.065
	N	20	19	19	20	23	17	25	26	23	24
i222 NONRD	PC	.181	-.076	-.121	.157	.015	-.132	-.054	.032	-.034	-.210
	Sig.	.458	.771	.644	.533	.949	.614	.801	.878	.877	.336
	N	19	17	17	18	21	17	24	25	23	23
i223 ICTSKILLS	PC	-.520*	.108	-.553*	-.335	-.485*	-.521*	-.542**	-.614**	-.534*	-.509*
	Sig.	.022	.670	.017	.175	.030	.032	.009	.002	.011	.016
	N	19	18	18	18	20	17	22	23	22	22
i311 PPINNOV	PC	-.240	.188	-.163	.015	-.063	-.259	-.181	-.249	-.197	-.209
	Sig.	.308	.441	.506	.948	.776	.315	.387	.220	.367	.326
	N	20	19	19	20	23	17	25	26	23	24
i312 MOINNOV	PC	-.146	.087	-.182	.028	-.201	-.413	-.353	-.473*	-.418*	-.332
	Sig.	.540	.724	.456	.906	.359	.099	.084	.015	.047	.113
	N	20	19	19	20	23	17	25	26	23	24
i313 INHOUSE	PC	-.244	.317	-.151	.146	-.158	-.284	-.289	-.364	-.261	-.356
	Sig.	.315	.201	.548	.551	.483	.269	.162	.068	.228	.088
	N	19	18	18	19	22	17	25	26	23	24
i321	PC	-.407	-.072	-.273	-.238	-.326	-.252	-.245	-.158	-.039	-.102

		CAREE R 2006	CAREE R 2007	CAREE R 2008	CAREE R 2009	CAREE R 2010	CAREE R 2011	CAREE R 2012	CAREE R 2013	CAREE R 2014	CAREE R 2015
COLLAB	Sig.	.075	.769	.259	.312	.129	.329	.239	.440	.859	.636
	N	20	19	19	20	23	17	25	26	23	24
i322 PPCOPUB	PC	-.478*	.250	-.406	-.269	-.330	-.246	-.448*	-.421*	-.333	-.363
	Sig.	.033	.303	.084	.252	.124	.341	.025	.032	.121	.081
	N	20	19	19	20	23	17	25	26	23	24
i323 COFUNDING	PC	-.048	.078	-.048	.115	.190	.260	.052	.146	.086	-.047
	Sig.	.840	.750	.845	.628	.398	.313	.810	.485	.697	.830
	N	20	19	19	20	22	17	24	25	23	23
i331 PATENTS	PC	-.540*	.359	-.434	-.086	-.311	-.260	-.371	-.358	-.317	-.328
	Sig.	.014	.131	.064	.726	.148	.314	.068	.072	.141	.118
	N	20	19	19	19	23	17	25	26	23	24
i332 TRADEMARK	PC	-.443	.201	-.156	-.047	-.237	-.105	-.321	-.445*	-.466*	-.428*
	Sig.	.050	.408	.525	.843	.276	.688	.118	.023	.025	.037
	N	20	19	19	20	23	17	25	26	23	24
i333 DESIGNS	PC	-.361	.384	-.132	-.056	-.014	.125	-.193	-.355	-.284	-.354
	Sig.	.118	.105	.590	.815	.948	.633	.355	.075	.189	.090
	N	20	19	19	20	23	17	25	26	23	24
i411 KIAEMPL	PC	-.290	.058	-.128	.012	-.365	-.362	-.432*	-.520**	-.474*	-.356
	Sig.	.214	.814	.600	.960	.087	.154	.031	.006	.022	.088
	N	20	19	19	20	23	17	25	26	23	24
i412 HIGHGROW	PC	.078	-.181	-.051	-.195	-.252	-.264	-.285	-.166	-.146	.014
	Sig.	.766	.503	.852	.470	.313	.323	.211	.460	.516	.951
	N	17	16	16	16	18	16	21	22	22	21
i421 MHTEXPORT	PC	-.219	-.048	-.143	-.213	-.062	-.105	-.256	-.188	-.294	-.169
	Sig.	.353	.847	.559	.367	.779	.690	.217	.359	.174	.431
	N	20	19	19	20	23	17	25	26	23	24
i422 KISEXPORT	PC	-.329	.268	-.228	-.186	-.352	-.261	-.298	-.428*	-.290	-.214
	Sig.	.157	.267	.349	.433	.100	.312	.149	.029	.180	.315
	N	20	19	19	20	23	17	25	26	23	24
i423 INNSALES	PC	.063	-.285	.059	.055	-.133	-.311	-.455*	-.339	-.326	-.269
	Sig.	.792	.237	.810	.817	.544	.225	.022	.090	.129	.204
	N	20	19	19	20	23	17	25	26	23	24

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

### Cultural and Social Norms

Data are taken from the Global Entrepreneurship Monitor. The indicator measures the extent to which social and cultural norms encourage or allow actions leading to new business methods or activities that can potentially increase personal wealth and income. Data availability is weak with data missing for 39% of all observations, in particular with no data for Cyprus, Malta, and Ukraine (Table 22).

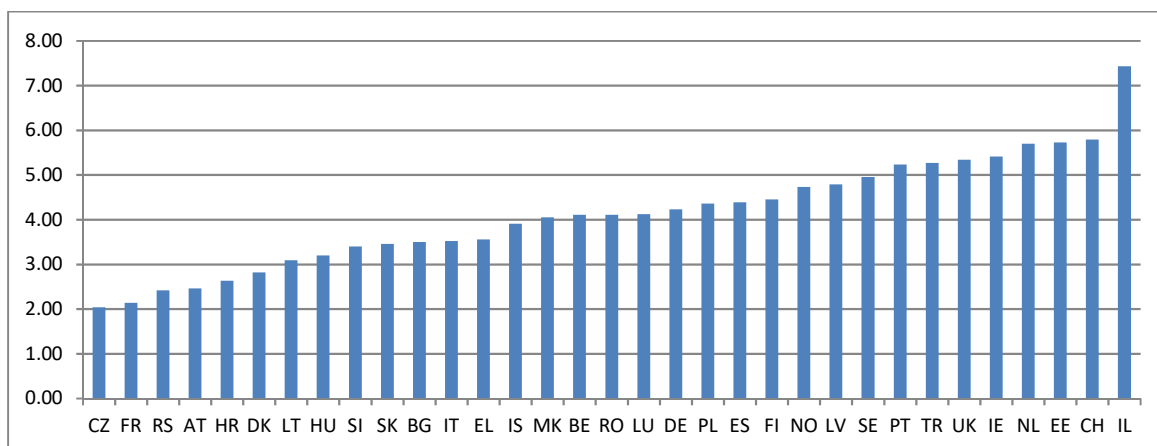
Cultural and Social Norms is relatively stable over time, in particular in the most recent years as shown by high significant year-to-year correlation coefficients, but stability has decreased in 2014 and 2015 (Table 23). In the last six years, Cultural and Social Norms correlates positively with the SII, 3 EIS dimensions and 10 EIS indicators (Table 24).<sup>18</sup>

Based on the summary of key characteristics, it is recommended **not to include this indicator**.

<b>Data availability</b>	Limited
<b>Stability over time</b>	Relatively stable
<b>Correlation with EIS</b>	Moderate

<sup>18</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

**Figure 12: Cultural and social norms**



Most recent data shown for all countries for which data are available.

**Table 22 Data availability Cultural and Social Norms**

	2007	2008	2009	2010	2011	2012	2013	2014	2015
BE	2.4	n/a	2.7	n/a	n/a	2.3	2.2	2.2	4.1
BG	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.5
CZ	n/a	n/a	n/a	n/a	2.2	n/a	2.0	n/a	n/a
DK	2.9	2.7	3.0	n/a	n/a	2.6	n/a	2.8	n/a
DE	n/a	2.5	2.7	2.6	2.6	2.7	2.8	2.7	4.2
EE	n/a	n/a	n/a	n/a	n/a	3.4	3.5	3.4	5.7
IE	3.6	3.4	n/a	3.1	3.2	3.2	3.0	3.0	5.4
EL	n/a	2.6	2.5	2.6	2.4	2.1	2.3	2.5	3.6
ES	2.8	2.8	2.5	2.3	2.2	2.4	2.1	2.6	4.4
FR	n/a	n/a	n/a	2.3	2.4	2.5	2.2	2.1	n/a
HR	2.4	2.3	2.4	2.4	2.3	2.0	2.0	2.0	2.6
IT	2.7	2.5	2.7	2.3	n/a	2.4	2.1	2.2	3.5
CY	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LV	n/a	n/a	2.6	3.1	2.6	3.2	3.1	2.9	4.8
LT	n/a	n/a	n/a	n/a	2.5	2.4	3.0	3.1	n/a
LU	n/a	n/a	n/a	n/a	n/a	n/a	2.4	2.6	4.1
HU	n/a	n/a	2.3	2.4	2.1	2.4	2.6	2.3	3.2
MT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
NL	n/a	n/a	2.6	n/a	3.0	n/a	3.1	3.6	5.7
AT	2.5	n/a	n/a	n/a	n/a	2.4	n/a	2.5	n/a
PL	n/a	n/a	n/a	n/a	2.8	2.7	2.8	3.0	4.4
PT	n/a	n/a	n/a	2.1	1.9	2.2	2.6	2.6	5.2
RO	2.7	n/a	n/a	n/a	n/a	2.2	2.3	2.6	4.1
SI	2.3	2.3	2.2	2.1	2.2	2.3	2.2	2.1	3.4
SK	n/a	n/a	n/a	n/a	2.3	2.2	1.9	2.4	3.5
FI	2.7	2.9	2.7	2.9	2.7	2.8	2.9	2.8	4.5
SE	n/a	n/a	n/a	2.4	2.9	2.7	3.2	3.1	5.0
UK	2.8	n/a	2.7	2.7	3.1	3.0	3.1	2.8	5.3
IS	4.0	n/a	4.2	3.9	n/a	n/a	n/a	n/a	n/a
IL	4.2	n/a	4.0	4.0	n/a	4.3	3.8	n/a	7.4
MK	n/a	2.8	n/a	2.5	n/a	2.8	2.8	n/a	4.1
NO	2.8	2.8	2.8	2.5	2.6	2.9	2.8	2.9	4.7
CH	3.0	n/a	3.3	3.0	3.3	3.5	3.3	3.4	5.8
RS	2.5	2.3	2.4	n/a	n/a	n/a	n/a	n/a	n/a
UA	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TR	2.6	2.8	n/a	2.1	2.7	3.2	3.2	3.1	5.3

**Table 23 Cultural and Social Norms (NORMS): stability over time**

		NORMS 2008	NORMS 2009	NORMS 2010	NORMS 2011	NORMS 2012	NORMS 2013	NORMS 2014	NORMS 2015
NORMS 2007	PC	-.007	.680**	.608*	.453	.689**	.283	.374	.652*
	Sig.	.982	.007	.027	.188	.003	.306	.170	.012
	N	12	14	13	10	16	15	15	14
NORMS 2008	PC	1	-.535	-.258	-.359	-.278	-.188	-.291	-.215
	Sig.		.090	.418	.308	.357	.539	.358	.503
	N	14	11	12	10	13	13	12	12
NORMS 2009	PC	-.535	1	.932**	.840**	.852**	.306	.622*	.835**
	Sig.	.090		.000	.001	.000	.249	.013	.000
	N	11	18	14	12	15	16	15	15
NORMS 2010	PC	-.258	.932**	1	.705**	.790**	.688**	.514*	.651**
	Sig.	.418	.000		.002	.000	.001	.035	.003
	N	12	14	20	16	19	19	17	18
NORMS 2011	PC	-.359	.840**	.705**	1	.789**	.746**	.744**	.494*
	Sig.	.308	.001	.002		.000	.000	.000	.032
	N	10	12	16	21	19	21	20	19
NORMS 2012	PC	-.278	.852**	.790**	.789**	1	.635**	.775**	.736**
	Sig.	.357	.000	.000	.000		.000	.000	.000
	N	13	15	19	19	27	26	25	24
NORMS 2013	PC	-.188	.306	.688**	.746**	.635**	1	.530**	.572**
	Sig.	.539	.249	.001	.000	.000		.005	.002
	N	13	16	19	21	26	29	26	26
NORMS 2014	PC	-.291	.622*	.514*	.744**	.775**	.530**	1	.468*
	Sig.	.358	.013	.035	.000	.000	.005		.021
	N	12	15	17	20	25	26	27	24

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

**Table 24 Pearson correlation (PC) results between Cultural and Social Norms (NORMS) and SII, EIS dimensions and EIS indicators**

		NORMS 2007	NORMS 2008	NORMS 2009	NORMS 2010	NORMS 2011	NORMS 2012	NORMS 2013	NORMS 2014	NORMS 2015
SII	PC	.375	-.388	.479*	.385	.627**	.325	.053	.289	.403*
	Sig.	.125	.170	.044	.093	.002	.098	.784	.144	.037
	N	18	14	18	20	21	27	29	27	27
HUMAN RESOURCES	PC	.251	-.343	.254	.204	.567**	.200	-.054	.349	.284
	Sig.	.315	.229	.309	.389	.007	.317	.780	.074	.152
	N	18	14	18	20	21	27	29	27	27
RESEARCH SYSTEM	PC	.275	-.418	.485*	.382	.593**	.250	-.039	.224	.466*
	Sig.	.269	.137	.041	.096	.005	.208	.842	.262	.014
	N	18	14	18	20	21	27	29	27	27
INNOVATION FRIENDLY ENVIRONMENT	PC	.483*	-.006	.458	.307	.306	.228	-.051	.423*	.268
	Sig.	.042	.985	.056	.188	.177	.252	.794	.028	.177
	N	18	14	18	20	21	27	29	27	27
FINANCE SUPPORT	PC	.259	-.179	.389	.229	.421	.190	.068	.540**	.220
	Sig.	.299	.540	.110	.332	.057	.341	.727	.004	.269
	N	18	14	18	20	21	27	29	27	27
FIRM INVESTMENTS	PC	.455	-.581*	.573*	.455*	.440*	.518*	.280	.140	.399*
	Sig.	.058	.029	.013	.044	.046	.006	.141	.487	.039
	N	18	14	18	20	21	27	29	27	27
INNOVATORS	PC	.100	-.340	.377	.219	.499*	.137	.041	.083	.210
	Sig.	.694	.234	.123	.354	.021	.495	.833	.681	.294
	N	18	14	18	20	21	27	29	27	27
LINKAGES	PC	.161	-.443	.407	.428	.555**	.163	.089	.231	.169
	Sig.	.523	.113	.094	.060	.009	.415	.645	.246	.399
	N	18	14	18	20	21	27	29	27	27
INTELLECTUAL ASSETS	PC	.306	-.381	.385	.287	.449*	.304	-.013	.186	.355
	Sig.	.216	.179	.114	.220	.041	.123	.948	.353	.070
	N	18	14	18	20	21	27	29	27	27
EMPLOYMENT IMPACT	PC	.584*	-.131	.711**	.670**	.526*	.436*	.187	.219	.404*
	Sig.	.011	.655	.001	.001	.014	.023	.330	.272	.036
	N	18	14	18	20	21	27	29	27	27
SALES IMPACT	PC	.329	-.156	.016	.121	.404	.304	.057	.063	.428*
	Sig.	.183	.594	.951	.610	.069	.123	.770	.754	.026
	N	18	14	18	20	21	27	29	27	27
i111 DOCGRADS	PC	.117	-.291	-.103	-.047	.365	-.008	-.211	.058	.203
	Sig.	.644	.313	.683	.843	.104	.968	.271	.776	.311
	N	18	14	18	20	21	27	29	27	27

		NORMS 2007	NORMS 2008	NORMS 2009	NORMS 2010	NORMS 2011	NORMS 2012	NORMS 2013	NORMS 2014	NORMS 2015
i112 TEREDUC	PC	.193	-.194	.326	.436	.599*	.334	.172	.411*	.080
	Sig.	.474	.526	.218	.062	.004	.096	.381	.033	.696
	N	16	13	16	19	21	26	28	27	26
i113 LIFELONG	PC	.424	-.410	.651*	.404	.454*	.392*	-.009	.391*	.461*
	Sig.	.101	.164	.006	.087	.039	.048	.962	.044	.018
	N	16	13	16	19	21	26	28	27	26
i121 INTCOPUB	PC	.339	-.296	.510*	.396	.523*	.213	-.068	.285	.390*
	Sig.	.169	.304	.031	.084	.015	.285	.726	.149	.044
	N	18	14	18	20	21	27	29	27	27
i122 MOSTCITED	PC	.200	-.310	.293	.223	.578*	.218	-.045	.195	.498*
	Sig.	.426	.282	.238	.345	.006	.275	.818	.329	.008
	N	18	14	18	20	21	27	29	27	27
i123 FORDOCST	PC	.356	-.616*	.555*	.398	.563*	.267	-.028	.142	.441*
	Sig.	.177	.025	.026	.102	.010	.198	.889	.489	.027
	N	16	13	16	18	20	25	27	26	25
i131 BROADBAND	PC	.472	.517	.415	.082	.126	.212	.033	.387	.218
	Sig.	.076	.070	.124	.756	.595	.308	.872	.051	.294
	N	15	13	15	17	20	25	27	26	25
i132 OPPENTRE	PC	.426	-.104	.562*	.381	.422	.303	-.092	.355	.345
	Sig.	.078	.723	.015	.098	.057	.125	.635	.069	.078
	N	18	14	18	20	21	27	29	27	27
i211 PUBRD	PC	.040	-.297	.341	.135	.184	.053	-.151	.341	.152
	Sig.	.876	.303	.166	.571	.425	.794	.434	.082	.448
	N	18	14	18	20	21	27	29	27	27
i212 VENTCAP	PC	.294	.050	-.028	.056	.482*	.285	.320	.550*	.220
	Sig.	.269	.870	.916	.826	.031	.158	.097	.004	.280
	N	16	13	17	18	20	26	28	26	26
i221 BUSRD	PC	.451	-.331	.531*	.411	.374	.351	.066	.026	.451*
	Sig.	.061	.248	.023	.072	.095	.072	.733	.898	.018
	N	18	14	18	20	21	27	29	27	27
i222 NONRD	PC	-.046	-.576*	.088	-.076	.159	.287	.390*	.265	-.228
	Sig.	.867	.031	.746	.764	.492	.154	.040	.181	.262
	N	16	14	16	18	21	26	28	27	26
i223 ICTSKILLS	PC	.273	.406	.195	.164	.265	.119	-.125	-.114	.337
	Sig.	.325	.191	.470	.530	.273	.578	.543	.588	.107
	N	15	12	16	17	19	24	26	25	24
i311 PPINNOV	PC	.058	-.213	.297	.092	.449*	.039	.038	.128	.141
	Sig.	.818	.466	.231	.701	.041	.847	.846	.526	.482
	N	18	14	18	20	21	27	29	27	27
i312 MOINNOV	PC	.204	-.484	.502*	.335	.529*	.306	.063	.008	.358
	Sig.	.417	.079	.034	.149	.014	.120	.744	.967	.067
	N	18	14	18	20	21	27	29	27	27
i313 INHOUSE	PC	-.033	-.268	.223	.112	.451*	.058	.016	.101	.102
	Sig.	.899	.355	.389	.647	.040	.774	.936	.617	.613
	N	17	14	17	19	21	27	29	27	27
i321 COLLAB	PC	.041	.288	.310	.368	.372	.055	.056	.046	.110
	Sig.	.871	.319	.211	.111	.096	.785	.772	.821	.584
	N	18	14	18	20	21	27	29	27	27
i322 PPCOPUB	PC	.342	-.465	.515*	.412	.528*	.107	-.190	.134	.341
	Sig.	.165	.094	.029	.071	.014	.596	.324	.506	.082
	N	18	14	18	20	21	27	29	27	27
i323 COFUNDING	PC	-.078	-.554*	.063	.118	.319	.219	.366	.343	-.052
	Sig.	.759	.050	.805	.629	.158	.282	.055	.080	.800
	N	18	13	18	19	21	26	28	27	26
i331 PATENTS	PC	.500*	-.300	.489*	.395	.522*	.395*	.122	.223	.468*
	Sig.	.041	.319	.046	.085	.015	.042	.528	.264	.014
	N	17	13	17	20	21	27	29	27	27
i332 TRADEMARK	PC	.363	-.523	.572*	.523*	.337	.418*	.107	.182	.312
	Sig.	.139	.055	.013	.018	.135	.030	.581	.364	.113
	N	18	14	18	20	21	27	29	27	27
i333 DESIGNS	PC	-.003	-.343	-.016	-.174	.275	-.004	-.251	.082	.092
	Sig.	.990	.230	.950	.463	.227	.983	.189	.684	.647
	N	18	14	18	20	21	27	29	27	27
i411 KIAEMPL	PC	.538*	-.429	.800*	.692*	.683*	.513*	.180	.212	.488*
	Sig.	.021	.126	.000	.001	.001	.006	.349	.289	.010
	N	18	14	18	20	21	27	29	27	27
i412 HIGHGROW	PC	.730*	.422	-.157	.268	.249	.188	.143	.219	.108
	Sig.	.005	.224	.592	.333	.304	.389	.495	.293	.623
	N	13	10	14	15	19	23	25	25	23
i421 MHTEXPORT	PC	.236	-.068	-.273	-.210	-.046	-.004	-.105	-.235	.096
	Sig.	.346	.816	.273	.373	.843	.984	.586	.238	.635
	N	18	14	18	20	21	27	29	27	27
i422	PC	.453	.069	.466	.485*	.652*	.446*	.088	.255	.565*



		NORMS 2007	NORMS 2008	NORMS 2009	NORMS 2010	NORMS 2011	NORMS 2012	NORMS 2013	NORMS 2014	NORMS 2015
KISEXPORT	Sig.	.059	.814	.051	.030	.001	.020	.649	.199	.002
	N	18	14	18	20	21	27	29	27	27
i423 INNSALES	PC	.015	-.370	-.103	.016	.273	.198	.119	.069	.234
	Sig.	.953	.192	.685	.948	.232	.321	.538	.733	.240
	N	18	14	18	20	21	27	29	27	27

\*\*. Correlation is significant at the 0.01 level (2-tailed). \*. Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

### ***It is important to think new ideas and being creative***

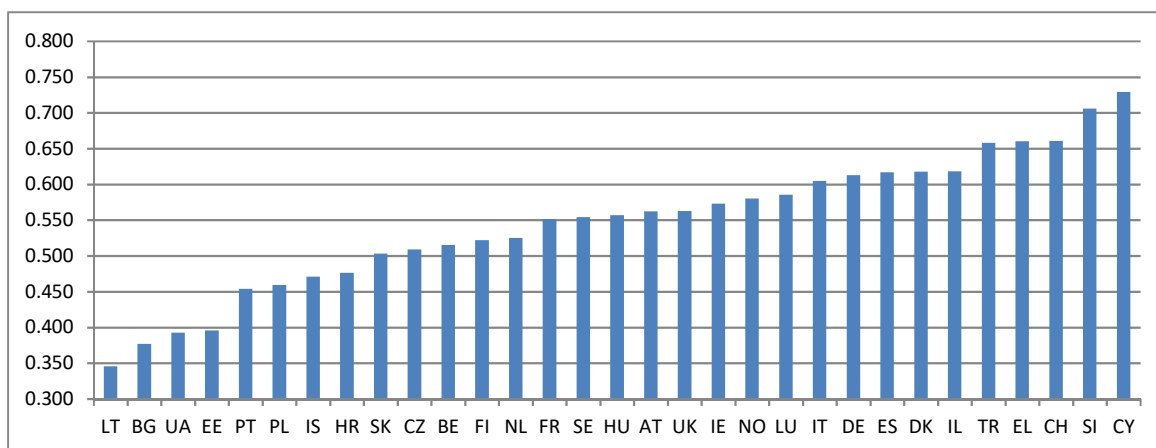
Data are taken from the European Social Survey. The indicator measures to what extent people agree to the statement that it is important to think new ideas and being creative. Data availability is weak with data missing for 34% of all observations, and in particular with no data for Latvia, Romania, FYR Macedonia and Serbia (Table 25).

"It is important to think new ideas and being creative"<sup>19</sup> is stable over time, as shown by high significant year-to-year correlation coefficients, but stability has decreased in 2014 and 2015 (Table 26). The indicator correlates positively with the SII, 2 EIS dimensions and 5 EIS indicators (Table 27).<sup>20</sup>

Based on the summary of key characteristics, it is recommended **not to include this indicator**.

<b>Data availability</b>	Limited
<b>Stability over time</b>	Relatively stable
<b>Correlation with EIS</b>	Moderate

**Figure 13: It is important to think new ideas and being creative**



Most recent data shown for all countries for which data are available.

<sup>19</sup> Data calculated as ratio of cumulated scores for answer categories 1-2 divided by the cumulated scores of all answer categories (1 Very much like me, 2 Like me, 3 Somewhat like me, 4 A little like me, 5 Not like me, 6 Not like me at all).

<sup>20</sup> Dimensions and indicators are counted if there are at least two significant correlations in the years 2010, 2012 or 2014.

**Table 25 Data availability It is important to think new ideas and being creative**

	ESS 1	ESS 2	ESS 3	ESS 4	ESS 5	ESS 6	ESS 7
	2002	2004	2006	2008	2010	2012	2014
BE	0.535	0.536	0.473	0.472	0.492	0.491	0.515
BG	n/a	n/a	0.354	0.359	0.350	0.377	n/a
CZ	0.508	0.491	n/a	0.548	0.549	0.536	0.509
DK	0.637	0.572	0.577	0.599	0.595	0.596	0.618
DE	0.573	0.559	0.568	0.583	0.598	0.598	0.613
EE	n/a	0.351	0.353	0.396	0.389	0.396	0.396
IE	0.569	0.538	0.571	0.640	0.526	0.604	0.573
EL	0.637	0.579	n/a	0.679	0.660	n/a	n/a
ES	0.603	0.536	0.575	0.541	0.608	0.644	0.617
FR	0.568	0.585	0.471	0.499	0.506	0.497	0.551
HR	n/a	n/a	n/a	0.488	0.476	n/a	n/a
IT	n/a	0.620	n/a	n/a	n/a	0.605	n/a
CY	n/a	n/a	0.706	0.729	0.752	0.729	n/a
LV	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LT	n/a	n/a	n/a	n/a	0.394	0.350	0.346
LU	n/a	0.585	n/a	n/a	n/a	n/a	n/a
HU	0.610	0.656	0.566	0.566	0.631	0.564	0.557
MT	n/a	n/a	n/a	n/a	n/a	n/a	n/a
NL	0.550	0.567	0.562	0.577	0.595	0.613	0.525
AT	0.579	0.581	0.563	n/a	n/a	n/a	0.562
PL	0.472	0.461	0.464	0.490	0.496	0.488	0.459
PT	0.429	0.342	0.367	0.374	0.404	0.408	0.454
RO	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SI	0.555	0.537	0.576	0.571	0.642	0.653	0.706
SK	n/a	0.466	0.529	0.503	0.497	0.503	n/a
FI	0.469	0.460	0.459	0.457	0.514	0.482	0.522
SE	0.431	0.451	0.440	0.474	0.495	0.560	0.554
UK	0.563	0.520	0.536	0.550	0.545	0.561	0.563
IS	n/a	0.442	n/a	n/a	n/a	0.471	n/a
IL	0.638	n/a	n/a	0.661	0.601	0.584	0.618
MK	n/a	n/a	n/a	n/a	n/a	n/a	n/a
NO	0.507	0.504	0.515	0.529	0.537	0.548	0.580
CH	0.646	0.625	0.611	0.612	0.633	0.653	0.661
RS	n/a	n/a	n/a	n/a	n/a	n/a	n/a
UA	n/a	0.298	0.368	0.394	0.357	0.392	n/a
TR	n/a	0.576	n/a	0.658	n/a	n/a	n/a

Data for the first 7 ESS rounds, data for round 8 available but not included in the combined ESS 1-7 data file.

**Table 26 It is important to think new ideas and being creative: stability over time**

		IDEAS 2004	IDEAS 2006	IDEAS 2008	IDEAS 2010	IDEAS 2012	IDEAS 2014
IDEAS 2002	PC	.879**	.877**	.831**	.809**	.687**	.678**
	Sig.	.000	.000	.000	.000	.002	.001
	N	19	17	19	19	18	19
IDEAS 2004	PC	1	.873**	.820**	.885**	.804**	.677**
	Sig.		.000	.000	.000	.000	.001
	N	26	20	22	21	22	19
IDEAS 2006	PC	.873**	1	.971**	.959**	.954**	.832**
	Sig.	.000		.000	.000	.000	.000
	N	20	22	21	21	21	18
IDEAS 2008	PC	.820**	.971**	1	.915**	.914**	.744**
	Sig.	.000	.000		.000	.000	.000
	N	22	21	26	25	23	19
IDEAS 2010	PC	.885**	.959**	.915**	1	.950**	.878**
	Sig.	.000	.000	.000		.000	.000
	N	21	21	25	26	24	20
IDEAS 2012	PC	.804**	.954**	.914**	.950**	1	.917**
	Sig.	.000	.000	.000	.000		.000
	N	22	21	23	24	26	20

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 27 Pearson correlation (PC) results between It is important to think new ideas and being creative (IDEAS) and SII, EIS dimensions and EIS indicators**

		IDEAS 2002	IDEAS 2004	IDEAS 2006	IDEAS 2008	IDEAS 2010	IDEAS 2012	IDEAS 2014
SII	PC	.091	.329	.384	.248	.359	.416	.493
	Sig.	.703	.101	.078	.221	.072	.034	.023
	N	20	26	22	26	26	26	21
HUMAN RESOURCES	PC	-.027	.112	.305	.095	.254	.344	.416
	Sig.	.911	.587	.167	.644	.210	.086	.061
	N	20	26	22	26	26	26	21
RESEARCH SYSTEM	PC	.135	.293	.375	.244	.403	.451	.457
	Sig.	.570	.146	.085	.229	.041	.021	.037
	N	20	26	22	26	26	26	21
INNOVATION FRIENDLY ENVIRONMENT	PC	-.337	-.230	-.120	-.188	-.107	-.091	.086
	Sig.	.146	.269	.604	.367	.611	.667	.711
	N	20	25	21	25	25	25	21
FINANCE SUPPORT	PC	-.292	-.068	.029	-.070	-.012	-.049	-.267
	Sig.	.211	.741	.896	.734	.955	.811	.242
	N	20	26	22	26	26	26	21
FIRM INVESTMENTS	PC	.177	.266	.259	.285	.251	.267	.532
	Sig.	.456	.190	.244	.158	.216	.187	.013
	N	20	26	22	26	26	26	21
INNOVATORS	PC	.033	.352	.374	.379	.335	.351	.318
	Sig.	.890	.078	.087	.056	.094	.079	.161
	N	20	26	22	26	26	26	21
LINKAGES	PC	.203	.339	.391	.288	.352	.266	.326
	Sig.	.391	.090	.072	.154	.077	.189	.149
	N	20	26	22	26	26	26	21
INTELLECTUAL ASSETS	PC	.118	.277	.270	.098	.315	.432	.409
	Sig.	.619	.170	.224	.636	.117	.028	.066
	N	20	26	22	26	26	26	21
EMPLOYMENT IMPACT	PC	.228	.110	.200	.153	.178	.223	.378
	Sig.	.333	.593	.373	.456	.385	.273	.091
	N	20	26	22	26	26	26	21
SALES IMPACT	PC	.379	.495	.537	.370	.449	.576	.553
	Sig.	.099	.010	.010	.063	.021	.002	.009
	N	20	26	22	26	26	26	21
i111 DOCGRADES	PC	.021	.145	.250	-.005	.194	.377	.654
	Sig.	.929	.478	.263	.980	.341	.058	.001
	N	20	26	22	26	26	26	21
i112 TEREDUC	PC	.070	-.051	.400	.315	.201	.164	-.055
	Sig.	.776	.808	.072	.134	.346	.444	.818
	N	19	25	21	24	24	24	20
i113 LIFELONG	PC	-.045	-.067	.038	-.041	.134	.158	.324
	Sig.	.853	.750	.872	.850	.533	.461	.163
	N	19	25	21	24	24	24	20
i121 INTCOPUB	PC	-.057	.120	.347	.173	.363	.389	.402
	Sig.	.810	.558	.113	.398	.068	.050	.071
	N	20	26	22	26	26	26	21
i122 MOSTCITED	PC	.241	.415	.493	.341	.500	.599	.534
	Sig.	.306	.035	.020	.088	.009	.001	.013
	N	20	26	22	26	26	26	21
i123 FORDOCST	PC	.239	.233	.142	.094	.196	.217	.330
	Sig.	.339	.272	.539	.670	.371	.309	.156
	N	18	24	21	23	23	24	20
i131 BROADBAND	PC	-.446	-.287	-.258	-.317	-.258	-.198	-.045
	Sig.	.064	.185	.272	.141	.235	.378	.855
	N	18	23	20	23	23	22	19
i132 OPPENTRE	PC	-.121	.132	.179	.115	.209	.187	.230
	Sig.	.611	.521	.426	.577	.305	.361	.316
	N	20	26	22	26	26	26	21
i211 PUBRD	PC	-.168	.015	.053	-.033	.066	.015	-.022
	Sig.	.479	.944	.816	.874	.749	.940	.924
	N	20	26	22	26	26	26	21
i212 VENTCAP	PC	-.321	-.089	-.019	-.121	-.113	-.066	-.456
	Sig.	.168	.679	.932	.563	.582	.753	.038
	N	20	24	22	25	26	25	21
i221 BUSRD	PC	.146	.260	.159	.104	.239	.299	.623
	Sig.	.538	.200	.479	.612	.240	.138	.003
	N	20	26	22	26	26	26	21
i222 NONRD	PC	-.004	.070	-.089	.082	-.183	-.219	-.196
	Sig.	.986	.740	.694	.696	.381	.304	.408
	N	19	25	22	25	25	24	20
i223	PC	-.087	.056	.363	.208	.309	.388	.586

		IDEAS 2002	IDEAS 2004	IDEAS 2006	IDEAS 2008	IDEAS 2010	IDEAS 2012	IDEAS 2014
ICTSKILLS	Sig.	.731	.800	.115	.353	.151	.068	.008
	N	18	23	20	22	23	23	19
i311 PPINNOV	PC	-.173	.267	.304	.271	.255	.256	.146
	Sig.	.466	.187	.168	.181	.208	.206	.529
	N	20	26	22	26	26	26	21
i312 MOINNOV	PC	.312	.465	.447	.493	.422	.458	.544
	Sig.	.180	.017	.037	.010	.032	.019	.011
	N	20	26	22	26	26	26	21
i313 INHOUSE	PC	-.029	.308	.334	.322	.279	.322	.209
	Sig.	.903	.135	.128	.109	.168	.117	.364
	N	20	25	22	26	26	25	21
i321 COLLAB	PC	.002	.144	.281	.246	.249	.125	.018
	Sig.	.993	.483	.205	.226	.220	.542	.937
	N	20	26	22	26	26	26	21
i322 PPCOPUB	PC	.198	.302	.437	.219	.434	.420	.631
	Sig.	.403	.134	.042	.282	.027	.032	.002
	N	20	26	22	26	26	26	21
i323 COFUNDING	PC	.257	.255	.165	.158	.059	-.009	.045
	Sig.	.274	.219	.475	.450	.781	.965	.846
	N	20	25	21	25	25	25	21
i331 PATENTS	PC	.111	.281	.252	.187	.301	.389	.533
	Sig.	.641	.165	.259	.361	.135	.049	.013
	N	20	26	22	26	26	26	21
i332 TRADEMARK	PC	.284	.166	.402	.232	.424	.446	.268
	Sig.	.225	.418	.064	.254	.031	.022	.241
	N	20	26	22	26	26	26	21
i333 DESIGNS	PC	-.052	.245	-.005	-.203	.017	.144	.147
	Sig.	.827	.228	.983	.320	.936	.484	.525
	N	20	26	22	26	26	26	21
i411 KIAEMPL	PC	.326	.208	.466	.354	.435	.507	.558
	Sig.	.161	.309	.029	.076	.026	.008	.009
	N	20	26	22	26	26	26	21
i412 HIGHGROW	PC	.009	.047	-.143	-.059	-.189	-.164	.018
	Sig.	.972	.835	.536	.793	.388	.454	.939
	N	18	22	21	22	23	23	20
i421 MHTEXPORT	PC	.117	.390	.422	.169	.322	.428	.342
	Sig.	.622	.049	.050	.410	.109	.029	.130
	N	20	26	22	26	26	26	21
i422 KISEXPORT	PC	.087	.177	.320	.277	.330	.452	.413
	Sig.	.715	.386	.147	.171	.100	.020	.063
	N	20	26	22	26	26	26	21
i423 INNSALES	PC	.535	.416	.405	.353	.341	.370	.413
	Sig.	.015	.035	.062	.077	.089	.063	.063
	N	20	26	22	26	26	26	21

\*\*. Correlation is significant at the 0.01 level (2-tailed). \*. Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

### ***Most people can be trusted***

Data are taken from the European Social Survey. The indicator measures the extent to which people believe that most people in their country can be trusted. Data availability is weak with data missing for 33% of all observations, in particular with no data for Latvia, Romania, FYR Macedonia, and Serbia (Table 28).

"Most people can be trusted"<sup>21</sup> is relatively stable over time, as shown by high significant year-to-year correlation coefficients (Table 29). The indicator correlates

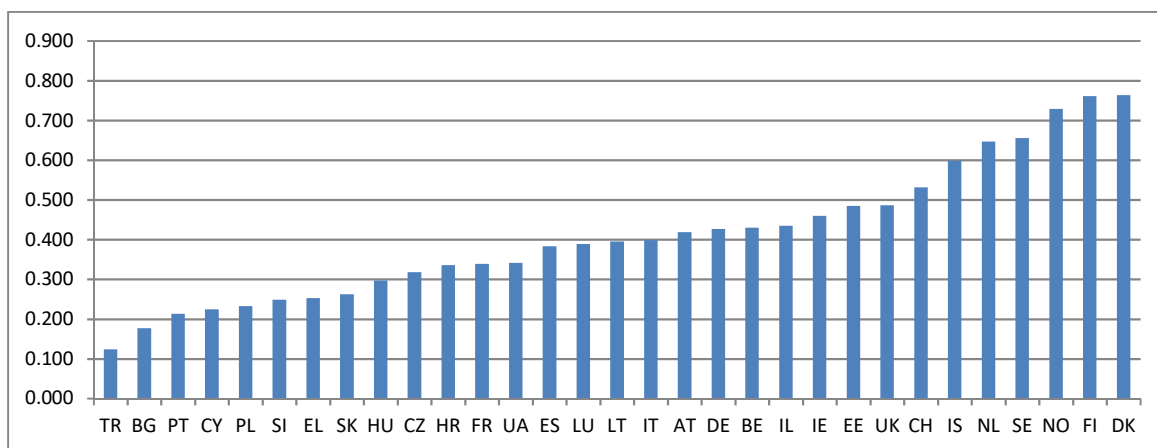
<sup>21</sup> Data calculated as ratio of cumulated scores for answer categories 6-10 divided by the cumulated scores of all answer categories (category 0 = You can't be too careful, category 10 = Most people can be trusted).

positively with the SII, 8 EIS dimensions and 18 EIS indicators, showing the importance of trust in a society for doing business and being innovative (Table 30).<sup>22</sup>

Based on the summary of key characteristics, it is recommended to **include this indicator**.

<b>Data availability</b>	Limited
<b>Stability over time</b>	Stable
<b>Correlation with EIS</b>	Strong

**Figure 14: Most people can be trusted**



Most recent data shown for all countries for which data are available.

**Table 28 Data availability Most people can be trusted**

	ESS 1	ESS 2	ESS 3	ESS 4	ESS 5	ESS 6	ESS 7
	2002	2004	2006	2008	2010	2012	2014
BE	0.402	0.398	0.423	0.457	0.432	0.459	0.430
BG	n/a	n/a	0.188	0.185	0.192	0.177	n/a
CZ	0.276	0.282	n/a	0.370	0.352	0.313	0.318
DK	0.746	0.721	0.772	0.753	0.757	0.785	0.763
DE	0.331	0.365	0.367	0.387	0.339	0.389	0.427
EE	n/a	0.425	0.443	0.466	0.508	0.483	0.485
IE	0.508	0.573	0.473	0.496	0.439	0.456	0.460
EL	0.213	0.243	n/a	0.241	0.253	n/a	n/a
ES	0.409	0.396	0.417	0.380	0.419	0.443	0.383
FR	0.281	0.291	0.289	0.292	0.271	0.280	0.339
HR	n/a	n/a	n/a	0.281	0.336	n/a	n/a
IT	0.337	0.297	n/a	n/a	n/a	0.399	n/a
CY	n/a	n/a	0.283	0.361	0.254	0.224	n/a
LV	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LT	n/a	n/a	n/a	n/a	0.348	0.462	0.395
LU	0.374	0.389	n/a	n/a	n/a	n/a	n/a
HU	0.233	0.223	0.298	0.259	0.315	0.392	0.297
MT	n/a	n/a	n/a	n/a	n/a	n/a	n/a
NL	0.584	0.620	0.607	0.631	0.658	0.644	0.646
AT	0.420	0.432	0.427	n/a	n/a	n/a	0.419
PL	0.189	0.182	0.236	0.261	0.300	0.262	0.233
PT	0.229	0.212	0.272	0.197	0.190	0.201	0.213
RO	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SI	0.242	0.277	0.281	0.290	0.240	0.347	0.248

<sup>22</sup> Dimensions and indicators are counted if there are at least two significant correlations in the years 2010, 2012 or 2014.

	ESS 1	ESS 2	ESS 3	ESS 4	ESS 5	ESS 6	ESS 7
	2002	2004	2006	2008	2010	2012	2014
SK	n/a	0.198	0.279	0.246	0.248	0.263	n/a
FI	0.709	0.718	0.727	0.697	0.717	0.744	0.761
SE	0.611	0.612	0.665	0.666	0.683	0.625	0.656
UK	0.431	0.420	0.476	0.467	0.485	0.478	0.486
IS	n/a	0.688	n/a	n/a	n/a	0.598	n/a
IL	0.399	n/a	n/a	0.466	0.424	0.455	0.435
MK	n/a	n/a	n/a	n/a	n/a	n/a	n/a
NO	0.723	0.732	0.772	0.733	0.739	0.750	0.729
CH	0.514	0.532	0.544	0.526	0.526	0.536	0.531
RS	n/a	n/a	n/a	n/a	n/a	n/a	n/a
UA	n/a	0.282	0.269	0.258	0.282	0.341	n/a
TR	n/a	0.168	n/a	0.124	n/a	n/a	n/a

Data for the first 7 ESS rounds, data for round 8 available but not included in the combined ESS 1-7 data file.

**Table 29 Most people can be trusted (TRUST): stability over time**

		TRUST 2004	TRUST 2006	TRUST 2008	TRUST 2010	TRUST 2012	TRUST 2014
TRUST 2002	PC	.991**	.992**	.982**	.971**	.967**	.980**
	Sig.	.000	.000	.000	.000	.000	.000
	N	21	17	19	19	19	19
TRUST 2004	PC	1	.975**	.977**	.955**	.950**	.969**
	Sig.		.000	.000	.000	.000	.000
	N	26	20	22	21	22	19
TRUST 2006	PC	.975**	1	.983**	.982**	.975**	.982**
	Sig.	.000		.000	.000	.000	.000
	N	20	22	21	21	21	18
TRUST 2008	PC	.977**	.983**	1	.976**	.956**	.983**
	Sig.	.000	.000		.000	.000	.000
	N	22	21	26	25	23	19
TRUST 2010	PC	.955**	.982**	.976**	1	.970**	.977**
	Sig.	.000	.000	.000		.000	.000
	N	21	21	25	26	24	20
TRUST 2012	PC	.950**	.975**	.956**	.970**	1	.971**
	Sig.	.000	.000	.000	.000		.000
	N	22	21	23	24	26	20

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed)

**Table 30 Pearson correlation (PC) results between Most people can be trusted (TRUST) and SII, EIS dimensions and EIS indicators**

		TRUST 2002	TRUST 2004	TRUST 2006	TRUST 2008	TRUST 2010	TRUST 2012	TRUST 2014
SII	PC	.722**	.743**	.738**	.786**	.706**	.694**	.695**
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	22	26	22	26	26	26	21
HUMAN RESOURCES	PC	.767**	.787**	.803**	.818**	.753**	.723**	.733**
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	22	26	22	26	26	26	21
RESEARCH SYSTEM	PC	.667**	.724**	.731**	.780**	.685**	.655**	.649**
	Sig.	.001	.000	.000	.000	.000	.000	.001
	N	22	26	22	26	26	26	21
INNOVATION FRIENDLY ENVIRONMENT	PC	.808**	.809**	.876**	.788**	.811**	.822**	.805**
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	22	25	21	25	25	25	21
FINANCE SUPPORT	PC	.739**	.716**	.763**	.722**	.741**	.704**	.731**
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	22	26	22	26	26	26	21
FIRM INVESTMENTS	PC	.318	.425*	.499*	.411*	.415*	.437*	.243
	Sig.	.149	.031	.018	.037	.035	.025	.289
	N	22	26	22	26	26	26	21
INNOVATORS	PC	.465*	.543**	.548**	.519**	.437*	.486*	.438*
	Sig.	.029	.004	.008	.007	.026	.012	.047
	N	22	26	22	26	26	26	21
LINKAGES	PC	.555**	.633**	.645**	.673**	.620**	.681**	.579**
	Sig.	.007	.001	.001	.000	.001	.000	.006
	N	22	26	22	26	26	26	21
INTELLECTUAL ASSETS	PC	.402	.469*	.436*	.601**	.482*	.364	.462*
	Sig.	.064	.016	.042	.001	.013	.068	.035

		TRUST 2002	TRUST 2004	TRUST 2006	TRUST 2008	TRUST 2010	TRUST 2012	TRUST 2014
	N	22	26	22	26	26	26	21
EMPLOYMENT IMPACT	PC	.284	.493*	.336	.455*	.339	.314	.252
	Sig.	.201	.011	.126	.020	.090	.119	.270
	N	22	26	22	26	26	26	21
SALES IMPACT	PC	.079	.086	.179	.322	.219	.092	.056
	Sig.	.727	.675	.424	.109	.283	.654	.811
	N	22	26	22	26	26	26	21
i111 DOCGRADS	PC	.571*	.478*	.561*	.592*	.507*	.446*	.492*
	Sig.	.005	.013	.007	.001	.008	.022	.024
	N	22	26	22	26	26	26	21
i112 TEREDUC	PC	.476*	.585*	.433*	.586*	.379	.353	.390
	Sig.	.029	.002	.050	.003	.068	.091	.089
	N	21	25	21	24	24	24	20
i113 LIFELONG	PC	.771*	.799*	.813*	.806*	.803*	.776*	.775*
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	21	25	21	24	24	24	20
i121 INTCOPUB	PC	.823*	.859*	.854*	.892*	.813*	.774*	.804*
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	22	26	22	26	26	26	21
i122 MOSTCITED	PC	.642*	.656*	.659*	.722*	.606*	.559*	.575*
	Sig.	.001	.000	.001	.000	.001	.003	.006
	N	22	26	22	26	26	26	21
i123 FORDOCST	PC	.350	.449*	.474*	.541*	.474*	.439*	.399
	Sig.	.130	.028	.030	.008	.022	.032	.081
	N	20	24	21	23	23	24	20
i131 BROADBAND	PC	.608*	.578*	.649*	.576*	.608*	.627*	.505*
	Sig.	.004	.004	.002	.004	.002	.002	.027
	N	20	23	20	23	23	22	19
i132 OPPENTRE	PC	.796*	.796*	.849*	.824*	.816*	.773*	.820*
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	22	26	22	26	26	26	21
i211 PUBRD	PC	.588*	.546*	.686*	.643*	.636*	.622*	.632*
	Sig.	.004	.004	.000	.000	.000	.001	.002
	N	22	26	22	26	26	26	21
i212 VENTCAP	PC	.598*	.597*	.549*	.560*	.554*	.488*	.489*
	Sig.	.003	.002	.008	.004	.003	.013	.025
	N	22	24	22	25	26	25	21
i221 BUSRD	PC	.434*	.568*	.539*	.597*	.520*	.518*	.381
	Sig.	.044	.002	.010	.001	.007	.007	.088
	N	22	26	22	26	26	26	21
i222 NONRD	PC	-.253	-.298	-.112	-.295	-.148	-.092	-.264
	Sig.	.268	.147	.619	.152	.481	.668	.262
	N	21	25	22	25	25	24	20
i223 ICTSKILLS	PC	.600*	.576*	.595*	.650*	.547*	.543*	.458*
	Sig.	.005	.004	.006	.001	.007	.007	.049
	N	20	23	20	22	23	23	19
i311 PPINNOV	PC	.482*	.568*	.564*	.525*	.453*	.486*	.437*
	Sig.	.023	.002	.006	.006	.020	.012	.048
	N	22	26	22	26	26	26	21
i312 MOINNOV	PC	.341	.402*	.468*	.397*	.350	.405*	.327
	Sig.	.121	.042	.028	.044	.080	.040	.148
	N	22	26	22	26	26	26	21
i313 INHOUSE	PC	.476*	.573*	.553*	.557*	.439*	.476*	.471*
	Sig.	.025	.003	.008	.003	.025	.016	.031
	N	22	25	22	26	26	25	21
i321 COLLAB	PC	.456*	.583*	.561*	.621*	.518*	.582*	.468*
	Sig.	.033	.002	.007	.001	.007	.002	.032
	N	22	26	22	26	26	26	21
i322 PPCOPUB	PC	.697*	.736*	.714*	.755*	.689*	.691*	.623*
	Sig.	.000	.000	.000	.000	.000	.000	.003
	N	22	26	22	26	26	26	21
i323 COFUNDING	PC	.185	.128	.280	.213	.241	.322	.185
	Sig.	.411	.543	.220	.307	.246	.116	.422
	N	22	25	21	25	25	25	21
i331 PATENTS	PC	.646*	.723*	.723*	.743*	.682*	.667*	.637*
	Sig.	.001	.000	.000	.000	.000	.000	.002
	N	22	26	22	26	26	26	21
i332 TRADEMARK	PC	.194	.368	.126	.367	.177	.083	.246
	Sig.	.386	.064	.576	.065	.387	.688	.282
	N	22	26	22	26	26	26	21
i333 DESIGNS	PC	.101	.129	.114	.279	.204	.003	.169
	Sig.	.655	.531	.613	.167	.318	.989	.463
	N	22	26	22	26	26	26	21



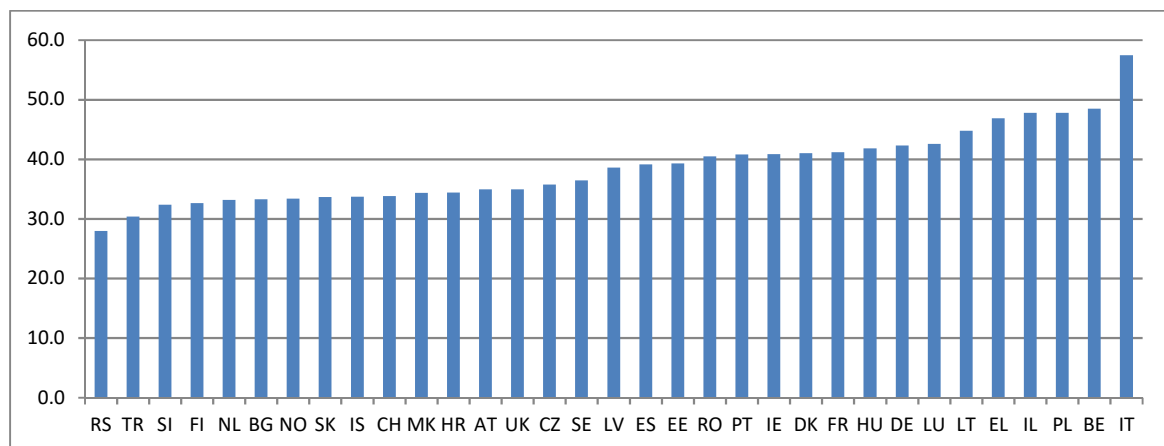
		TRUST 2002	TRUST 2004	TRUST 2006	TRUST 2008	TRUST 2010	TRUST 2012	TRUST 2014
i411	PC	.455*	.663*	.598*	.668*	.523*	.500*	.477*
KIAEMPL	Sig.	.033	.000	.003	.000	.006	.009	.029
	N	22	26	22	26	26	26	21
i412	PC	-.008	-.081	-.050	-.068	.003	-.026	-.019
HIGHGROW	Sig.	.974	.720	.830	.763	.990	.907	.938
	N	20	22	21	22	23	23	20
i421	PC	-.284	-.293	-.191	.007	-.065	-.235	-.365
MHTEXPORT	Sig.	.200	.147	.395	.974	.752	.248	.104
	N	22	26	22	26	26	26	21
i422	PC	.588*	.670*	.610*	.713*	.564*	.509*	.595*
KISEXPORT	Sig.	.004	.000	.003	.000	.003	.008	.004
	N	22	26	22	26	26	26	21
i423	PC	-.153	-.162	.006	.006	-.010	-.040	-.175
INNSALES	Sig.	.495	.428	.979	.977	.961	.845	.448
	N	22	26	22	26	26	26	21

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

### Fear of failure

Data are taken from the Global Entrepreneurship Monitor. Data availability is weak with data missing for 36% of all observations, in particular with no data for Cyprus, Malta, and Ukraine (Table 31).

**Figure 15: Fear of failure**



Most recent data shown for all countries for which data are available.

Fear of failure is not very stable over time, only in the most recent years, year-to-year correlation coefficients are high (Table 32). Fear of failure correlates negatively with 2 EIS dimensions and 4 EIS indicators (Table 33).<sup>23</sup> For the most recent scores, negative correlations are seen for the dimension Human resources and the indicator New doctorate graduates. Based on the summary of key characteristics, it is recommended **not to include this indicator**.

<b>Data availability</b>	Limited
<b>Stability over time</b>	Relatively unstable
<b>Correlation with EIS</b>	Moderate

<sup>23</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

**Table 31 Data availability Fear of Failure**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BE	36.2	n/a	n/a	27.7	35.1	40.7	40.8	46.6	49.4	48.5
BG	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	33.3
CZ	31.2	n/a	n/a	n/a	n/a	34.6	n/a	35.8	n/a	n/a
DK	38.5	29.1	24.7	37.2	31.5	40.5	39.3	n/a	41.0	n/a
DE	34.3	29.8	30.1	37.2	33.7	42.0	41.9	38.6	39.9	42.3
EE	n/a	n/a	n/a	n/a	n/a	n/a	34.5	38.8	41.8	39.3
IE	34.5	53.9	34.1	n/a	33.4	33.2	35.4	40.4	39.3	40.9
EL	48.4	33.8	48.3	44.6	50.9	37.8	61.3	49.3	61.6	46.9
ES	44.3	29.1	45.5	45.4	36.4	38.9	41.8	36.3	38.0	39.2
FR	42.8	28.2	42.3	46.6	40.5	37.1	42.8	41.1	41.2	n/a
HR	29.9	27.6	27.5	35.1	31.2	34.3	36.0	35.2	30.3	34.4
IT	38.1	17.4	32.0	39.2	36.8	n/a	57.7	48.6	49.1	57.5
CY	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LV	45.4	n/a	n/a	39.7	39.9	41.0	36.7	41.6	n/a	38.6
LT	n/a	n/a	n/a	n/a	n/a	39.9	35.8	41.7	44.8	n/a
LU	n/a	n/a	n/a	n/a	n/a	n/a	n/a	42.9	42.0	42.6
HU	15.1	29.0	37.9	33.3	42.4	34.9	34.3	44.8	42.0	41.8
MT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
NL	31.9	36.7	31.8	28.7	23.8	35.1	30.5	36.8	34.8	33.2
AT	n/a	n/a	n/a	n/a	n/a	n/a	36.0	n/a	34.9	n/a
PL	n/a	45.8	37.5	n/a	n/a	42.9	43.5	46.7	51.1	47.8
PT	n/a	46.4	28.6	n/a	29.7	39.6	42.3	40.1	38.4	40.8
RO	n/a	n/a	n/a	52.8	41.1	36.1	40.9	37.3	41.3	40.5
SI	27.7	18.3	26.4	29.7	27.6	31.1	27.3	29.6	29.0	32.4
SK	n/a	n/a	n/a	n/a	n/a	31.8	38.3	33.2	36.0	33.7
FI	36.5	31.0	36.1	25.9	28.6	32.0	36.5	36.7	36.8	32.6
SE	27.7	24.1	32.0	n/a	28.9	34.6	32.6	36.6	36.5	36.5
UK	33.2	42.0	32.6	31.7	30.3	36.1	36.0	36.4	36.8	34.9
IS	39.9	40.6	43.8	36.1	33.7	n/a	n/a	n/a	n/a	n/a
IL	n/a	35.9	44.4	37.3	46.7	n/a	46.8	51.8	n/a	47.8
MK	n/a	n/a	n/a	n/a	30.9	n/a	39.4	35.6	n/a	34.3
NO	25.0	40.5	26.4	24.6	26.6	40.5	39.4	35.3	37.6	33.4
CH	n/a	n/a	n/a	28.6	27.0	30.6	32.3	28.2	29.0	33.8
RS	n/a	n/a	n/a	28.0	n/a	n/a	n/a	n/a	n/a	n/a
UA	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TR	26.6	n/a	n/a	n/a	25.0	22.5	30.4	30.4	n/a	n/a

**Table 32 Fear of failure (FEAR): stability over time**

		FEAR FAIL 2007	FEAR FAIL 2008	FEAR FAIL 2009	FEAR FAIL 2010	FEAR FAIL 2011	FEAR FAIL 2012	FEAR FAIL 2013	FEAR FAIL 2014	FEAR FAIL 2015
FEAR FAIL 2006	PC	.057	.554*	.650**	.476*	.419	.599**	.398	.507*	.336
	Sig.	.834	.026	.006	.039	.083	.009	.102	.045	.221
	N	16	16	16	19	18	18	18	16	15
FEAR FAIL 2007	PC	1	.115	-.247	-.079	.294	-.040	.137	.127	-.057
	Sig.		.638	.375	.755	.269	.874	.599	.627	.834
	N	19	19	15	18	16	18	17	17	16
FEAR FAIL 2008	PC	.115	1	.605*	.752**	.041	.505*	.615**	.598*	.433
	Sig.	.638		.017	.000	.880	.033	.009	.011	.094
	N	19	19	15	18	16	18	17	17	16
FEAR FAIL 2009	PC	-.247	.605*	1	.692**	.272	.507*	.313	.402	.426
	Sig.	.375	.017		.001	.308	.032	.222	.123	.100
	N	15	15	20	19	16	18	17	16	16
FEAR FAIL 2010	PC	-.079	.752**	.692**	1	.394	.693**	.786**	.784**	.663**
	Sig.	.755	.000	.001		.085	.000	.000	.000	.001
	N	18	18	19	24	20	23	22	19	20
FEAR FAIL 2011	PC	.294	.041	.272	.394	1	.520*	.664**	.592**	.647**
	Sig.	.269	.880	.308	.085		.011	.001	.005	.003
	N	16	16	16	20	24	23	23	21	19
FEAR FAIL 2012	PC	-.040	.505*	.507*	.693**	.520*	1	.719**	.796**	.766**
	Sig.	.874	.033	.032	.000	.011		.000	.000	.000
	N	18	18	18	23	23	28	26	24	23
FEAR FAIL 2013	PC	.137	.615**	.313	.786**	.664**	.719**	1	.909**	.872**
	Sig.	.599	.009	.222	.000	.001	.000		.000	.000
	N	17	17	17	22	23	26	28	23	24

		FEAR FAIL 2007	FEAR FAIL 2008	FEAR FAIL 2009	FEAR FAIL 2010	FEAR FAIL 2011	FEAR FAIL 2012	FEAR FAIL 2013	FEAR FAIL 2014	FEAR FAIL 2015
FEAR FAIL 2014	PC	.127	.598*	.402	.784**	.592**	.796**	.909**	1	.809**
	Sig.	.627	.011	.123	.000	.005	.000	.000		.000
	N	17	17	16	19	21	24	23	25	21

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

**Table 33 Pearson correlation (PC) results between Fear of failure (FEAR) and SII, EIS dimensions and EIS indicators**

		FEAR FAIL 2006	FEAR FAIL 2007	FEAR FAIL 2008	FEAR FAIL 2009	FEAR FAIL 2010	FEAR FAIL 2011	FEAR FAIL 2012	FEAR FAIL 2013	FEAR FAIL 2014	FEAR FAIL 2015
SII	PC	-.020	.058	-.226	-.534*	-.384	-.020	-.252	-.145	-.370	-.149
	Sig.	.934	.813	.353	.015	.064	.927	.196	.461	.068	.477
	N	20	19	19	20	24	24	28	28	25	25
HUMAN RESOURCES	PC	.038	-.014	-.355	-.475*	-.459*	-.002	-.352	-.337	-.477*	-.414*
	Sig.	.873	.954	.136	.034	.024	.994	.067	.079	.016	.039
	N	20	19	19	20	24	24	28	28	25	25
RESEARCH SYSTEM	PC	.112	.147	-.136	-.434	-.315	.026	-.124	-.053	-.247	-.071
	Sig.	.638	.547	.578	.056	.134	.904	.528	.789	.234	.738
	N	20	19	19	20	24	24	28	28	25	25
INNOVATION FRIENDLY ENVIRONMENT	PC	-.015	.090	-.255	-.302	-.456*	.134	-.402*	-.217	-.312	-.283
	Sig.	.949	.716	.292	.195	.025	.532	.034	.267	.128	.171
	N	20	19	19	20	24	24	28	28	25	25
FINANCE SUPPORT	PC	.083	.087	-.208	-.435	-.444*	.089	-.309	-.211	-.254	-.216
	Sig.	.729	.724	.392	.055	.030	.681	.109	.282	.221	.299
	N	20	19	19	20	24	24	28	28	25	25
FIRM INVESTMENTS	PC	-.402	-.024	-.062	-.541*	-.243	-.256	-.238	-.125	-.440*	-.053
	Sig.	.079	.921	.802	.014	.252	.228	.223	.528	.028	.801
	N	20	19	19	20	24	24	28	28	25	25
INNOVATORS	PC	.101	.163	-.197	-.526*	-.403	-.125	-.025	-.102	-.148	.006
	Sig.	.670	.506	.420	.017	.051	.560	.899	.604	.480	.978
	N	20	19	19	20	24	24	28	28	25	25
LINKAGES	PC	-.040	-.054	-.104	-.559*	-.355	-.017	-.282	-.190	-.270	-.207
	Sig.	.866	.826	.670	.010	.088	.936	.146	.332	.192	.321
	N	20	19	19	20	24	24	28	28	25	25
INTELLECTUAL ASSETS	PC	.135	-.317	-.192	-.248	-.193	.131	-.065	.102	-.239	.084
	Sig.	.571	.186	.430	.293	.367	.541	.743	.606	.250	.689
	N	20	19	19	20	24	24	28	28	25	25
EMPLOYMENT IMPACT	PC	-.118	.426	.189	-.340	.095	.111	-.072	.234	-.234	.013
	Sig.	.621	.069	.439	.142	.659	.607	.716	.231	.259	.953
	N	20	19	19	20	24	24	28	28	25	25
SALES IMPACT	PC	-.104	.060	.052	-.074	.002	-.145	-.118	-.070	-.243	.010
	Sig.	.663	.808	.833	.756	.992	.500	.549	.723	.241	.963
	N	20	19	19	20	24	24	28	28	25	25
i111 DOCGRADS	PC	-.076	-.202	-.590**	-.371	-.427*	-.080	-.282	-.440*	-.606**	-.429*
	Sig.	.752	.408	.008	.107	.037	.709	.146	.019	.001	.033
	N	20	19	19	20	24	24	28	28	25	25
i112 TEREDUC	PC	.201	.476*	.029	-.497*	-.269	.219	-.283	-.007	-.088	-.237
	Sig.	.396	.046	.910	.036	.214	.303	.153	.972	.677	.265
	N	20	18	18	18	23	24	27	27	25	24
i113 LIFELONG	PC	.018	-.130	-.149	-.462	-.443*	-.080	-.299	-.311	-.391	-.336
	Sig.	.941	.607	.556	.054	.034	.711	.129	.114	.054	.109
	N	20	18	18	18	23	24	27	27	25	24
i121 INTCOPUB	PC	-.050	.079	-.295	-.561*	-.435*	.020	-.264	-.171	-.359	-.216
	Sig.	.834	.747	.221	.010	.034	.927	.175	.385	.078	.301
	N	20	19	19	20	24	24	28	28	25	25
i122 MOSTCITED	PC	.140	.109	-.167	-.345	-.276	.057	-.027	-.024	-.206	.027
	Sig.	.557	.658	.495	.137	.192	.793	.892	.904	.324	.899
	N	20	19	19	20	24	24	28	28	25	25
i123 FORDOCST	PC	.275	.206	.103	-.285	-.243	-.003	-.113	-.008	-.150	-.034
	Sig.	.255	.427	.695	.251	.276	.989	.581	.971	.483	.876
	N	19	17	17	18	22	23	26	26	24	23
i131 BROADBAND	PC	-.075	.128	-.367	-.294	-.509*	.139	-.470*	-.178	-.289	-.260
	Sig.	.760	.625	.148	.253	.019	.527	.015	.384	.172	.231
	N	19	17	17	17	21	23	26	26	24	23
i132 OPPENTRE	PC	-.003	-.012	-.198	-.255	-.302	.102	-.196	-.151	-.253	-.207
	Sig.	.991	.961	.417	.278	.151	.634	.318	.444	.222	.321
	N	20	19	19	20	24	24	28	28	25	25

		FEAR FAIL 2006	FEAR FAIL 2007	FEAR FAIL 2008	FEAR FAIL 2009	FEAR FAIL 2010	FEAR FAIL 2011	FEAR FAIL 2012	FEAR FAIL 2013	FEAR FAIL 2014	FEAR FAIL 2015
i211 PUBRD	PC	.101	-.167	-.225	-.422	-.340	.113	-.103	-.185	-.181	-.133
	Sig.	.673	.494	.354	.064	.104	.598	.601	.346	.387	.525
i212 VENTCAP	N	20	19	19	20	24	24	28	28	25	25
	PC	-.049	.338	-.297	-.347	-.461*	.089	-.459*	-.132	-.246	-.249
i221 BUSRD	Sig.	.848	.170	.232	.146	.031	.685	.016	.512	.236	.229
	N	18	18	18	19	22	23	27	27	25	25
i222 NONRD	PC	-.200	-.247	-.091	-.376	-.144	-.074	-.182	-.010	-.385	-.019
	Sig.	.397	.309	.711	.102	.503	.730	.353	.961	.057	.930
i223 ICTSKILLS	N	20	19	19	20	24	24	28	28	25	25
	PC	-.390	-.086	-.120	-.317	-.280	-.263	-.210	-.284	-.064	-.075
i311 PPINNOV	Sig.	.098	.743	.647	.199	.207	.214	.292	.152	.760	.727
	N	19	17	17	18	22	24	27	27	25	24
i312 MOINNOV	PC	-.257	.202	-.424	-.731**	-.608**	-.124	-.285	-.308	-.410*	-.240
	Sig.	.287	.422	.080	.001	.003	.583	.167	.134	.047	.269
i313 INHOUSE	N	19	18	18	18	21	22	25	25	24	23
	PC	.043	.217	-.268	-.549*	-.510*	-.087	-.068	-.153	-.134	-.065
i321 COLLAB	Sig.	.858	.373	.268	.012	.011	.687	.729	.437	.524	.758
	N	20	19	19	20	24	24	28	28	25	25
i322 PPCOPUB	PC	.177	.219	-.091	-.428	-.277	-.191	.023	-.084	-.195	.041
	Sig.	.455	.368	.712	.059	.189	.370	.908	.673	.351	.846
i323 COFUNDING	N	20	19	19	20	24	24	28	28	25	25
	PC	.059	-.005	-.255	-.531*	-.332	-.088	-.022	-.050	-.097	.044
i331 PATENTS	Sig.	.811	.985	.306	.019	.122	.682	.912	.800	.643	.833
	N	19	18	18	19	23	24	28	28	25	25
i332 TRADEMARK	PC	.039	.237	.002	-.513*	-.218	.084	-.096	.036	-.035	-.121
	Sig.	.871	.328	.992	.021	.306	.695	.628	.856	.868	.565
i333 DESIGNS	N	20	19	19	20	24	24	28	28	25	25
	PC	-.054	-.125	-.195	-.445*	-.348	-.043	-.232	-.229	-.388	-.202
i411 KIAEMPL	Sig.	.823	.611	.423	.049	.096	.843	.234	.240	.055	.334
	N	20	19	19	20	24	24	28	28	25	25
i412 HIGHGROW	PC	-.078	-.238	-.041	-.314	-.252	-.076	-.311	-.269	-.187	-.228
	Sig.	.745	.327	.869	.178	.247	.722	.115	.174	.372	.284
i421 MHTEXPORT	N	20	19	19	20	23	24	27	27	25	24
	PC	-.089	-.223	-.093	-.490*	-.227	-.066	-.167	-.014	-.376	-.052
i422 KISEXPORT	Sig.	.710	.358	.704	.033	.285	.760	.394	.945	.064	.804
	N	20	19	19	19	24	24	28	28	25	25
i423 INNSALES	PC	.335	-.248	.088	-.227	-.020	.151	-.071	.157	-.227	.076
	Sig.	.149	.306	.720	.335	.928	.482	.721	.424	.275	.717
i423 INNSALES	N	20	19	19	20	24	24	28	28	25	25
	PC	.199	-.287	-.370	-.057	-.221	.313	.084	.131	-.020	.193
i423 INNSALES	Sig.	.400	.234	.119	.811	.299	.137	.671	.508	.923	.355
	N	20	19	19	20	24	24	28	28	25	25
i423 INNSALES	PC	.056	.205	.115	-.489*	-.063	-.008	-.067	.139	-.289	.058
	Sig.	.816	.399	.638	.029	.769	.971	.734	.479	.161	.785
i423 INNSALES	N	20	19	19	20	24	24	28	28	25	25
	PC	-.405	.548*	.169	-.136	.045	-.113	-.220	.038	.012	-.197
i423 INNSALES	Sig.	.107	.028	.532	.616	.855	.616	.302	.861	.954	.379
	N	17	16	16	16	19	22	24	24	24	22
i423 INNSALES	PC	-.334	-.317	-.120	.117	.054	-.151	-.198	-.064	-.271	.086
	Sig.	.150	.186	.625	.624	.802	.480	.313	.747	.191	.682
i423 INNSALES	N	20	19	19	20	24	24	28	28	25	25
	PC	.084	.369	-.062	-.278	-.095	.195	-.010	.160	-.050	.063
i423 INNSALES	Sig.	.724	.120	.801	.235	.657	.362	.960	.416	.811	.763
	N	20	19	19	20	24	24	28	28	25	25
i423 INNSALES	PC	.047	.098	.311	-.028	.045	-.362	-.063	-.262	-.210	-.116
	Sig.	.843	.691	.195	.906	.834	.082	.749	.178	.313	.581
i423 INNSALES	N	20	19	19	20	24	24	28	28	25	25

\*\*. Correlation is significant at the 0.01 level (2-tailed). \*. Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

## 5.2.4 Financial system

### Strength of Investor protection

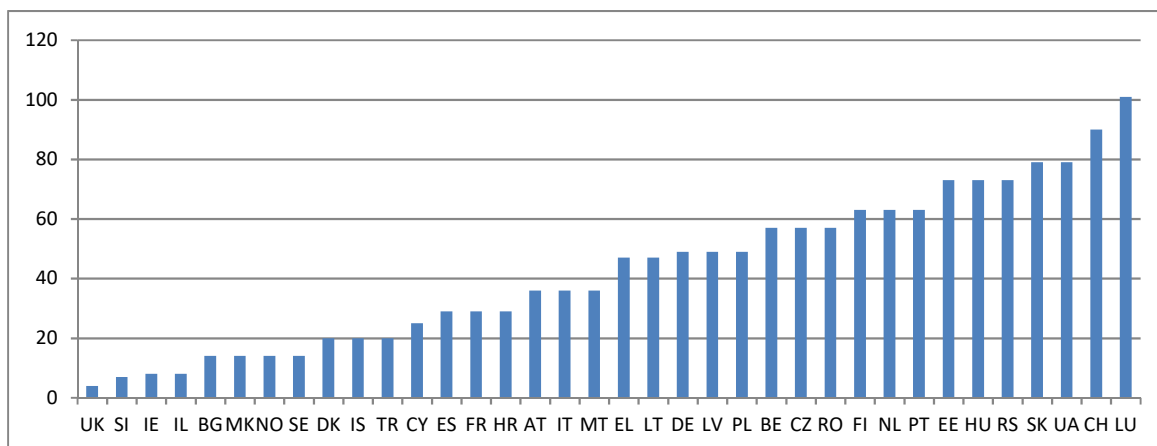
Data are obtained from the World Economic Forum's Global Competitiveness Index and data availability is 100%. Higher values indicate stronger minority investor protection.

Strength of Investor protection is stable over time, as shown by high significant year-to-year correlation coefficients, but stability has decreased in 2015 and 2016 (Table 34). Strength of Investor protection correlates with no indicator, the most recent positive correlation is between Strength of Investor protection in 2014 (Table 35).<sup>24</sup>

Based on the summary of key characteristics, it is recommended **not to include this indicator**.

<b>Data availability</b>	Full
<b>Stability over time</b>	Relatively stable
<b>Correlation with EIS</b>	None

Figure 16: Strength of investor protection



Most recent data shown for all countries for which data are available.

Table 34 Strength of Investor protection (PROTECT): stability over time

		PROTECT T 2008	PROTECT T 2009	PROTECT T 2010	PROTECT T 2011	PROTECT T 2012	PROTECT T 2013	PROTECT T 2014	PROTECT T 2015	PROTECT T 2016
PROTECT 2007	PC	.890**	.883**	.783**	.783**	.816**	.737**	.701**	.451**	.307
	Sig.	.000	.000	.000	.000	.000	.000	.000	.006	.068
	N	36	36	36	36	36	36	36	36	36
PROTECT 2008	PC	1	.995**	.897**	.894**	.926**	.871**	.823**	.652**	.521**
	Sig.		.000	.000	.000	.000	.000	.000	.000	.001
	N	36	36	36	36	36	36	36	36	36
PROTECT 2009	PC	.995**	1	.897**	.894**	.929**	.878**	.842**	.676**	.561**
	Sig.	.000		.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
PROTECT 2010	PC	.897**	.897**	1	.996**	.954**	.898**	.866**	.647**	.564**
	Sig.	.000	.000		.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
PROTECT 2011	PC	.894**	.894**	.996**	1	.960**	.904**	.871**	.645**	.580**
	Sig.	.000	.000	.000		.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
PROTECT	PC	.926**	.929**	.954**	.960**	1	.944**	.904**	.667**	.627**

<sup>24</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

2012	Sig.	.000	.000	.000	.000		.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
PROTECT 2013	PC	.871**	.878**	.898**	.904**	.944**	1	.978**	.767**	.697**
	Sig.	.000	.000	.000	.000	.000		.000	.000	.000
PROTECT 2014	N	36	36	36	36	36	36	36	36	36
	PC	.823**	.842**	.866**	.871**	.904**	.978**	1	.779**	.708**
PROTECT 2015	Sig.	.000	.000	.000	.000	.000	.000		.000	.000
	N	36	36	36	36	36	36	36	36	36
PROTECT 2016	PC	.652**	.676**	.647**	.645**	.667**	.767**	.779**	1	.852**
	Sig.	.000	.000	.000	.000	.000	.000	.000		.000
PROTECT 2017	N	36	36	36	36	36	36	36	36	36
	PC	.823**	.842**	.866**	.871**	.904**	.978**	.978**	.779**	.708**
PROTECT 2018	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 35 Pearson correlation (PC) results between Strength of Investor protection (PROTECT) and SII, EIS dimensions and EIS indicators**

		PRO-TECT 2007	PRO-TECT 2008	PRO-TECT 2009	PRO-TECT 2010	PRO-TECT 2011	PRO-TECT 2012	PRO-TECT 2013	PRO-TECT 2014	PRO-TECT 2015	PRO-TECT 2016
SII	PC	-.129	-.063	-.061	.002	-.024	-.024	-.057	-.053	-.065	-.068
	Sig.	.455	.713	.724	.992	.889	.890	.742	.758	.707	.693
	N	36	36	36	36	36	36	36	36	36	36
HUMAN RESOURCES	PC	-.116	-.068	-.055	.007	-.022	-.028	-.078	-.055	-.074	-.097
	Sig.	.502	.695	.749	.966	.899	.870	.652	.752	.666	.574
	N	36	36	36	36	36	36	36	36	36	36
RESEARCH SYSTEM	PC	-.166	-.070	-.066	.020	-.001	-.015	-.055	-.053	-.067	-.025
	Sig.	.333	.685	.702	.908	.996	.933	.751	.760	.699	.886
	N	36	36	36	36	36	36	36	36	36	36
INNOVATION FRIENDLY ENVIRONMENT	PC	-.240	-.143	-.125	-.156	-.182	-.172	-.138	-.098	.066	-.018
	Sig.	.165	.411	.474	.370	.296	.322	.430	.576	.704	.918
	N	35	35	35	35	35	35	35	35	35	35
FINANCE SUPPORT	PC	-.001	.028	.058	.135	.114	.112	.073	.079	.103	.099
	Sig.	.995	.872	.737	.432	.507	.517	.673	.648	.551	.567
	N	36	36	36	36	36	36	36	36	36	36
FIRM INVESTMENTS	PC	.026	-.008	-.028	-.047	-.066	-.039	-.091	-.111	-.193	-.193
	Sig.	.879	.964	.873	.785	.701	.822	.597	.520	.260	.260
	N	36	36	36	36	36	36	36	36	36	36
INNOVATORS	PC	-.023	.042	.017	.065	.050	.015	-.044	-.088	-.123	-.090
	Sig.	.896	.808	.922	.708	.772	.932	.797	.612	.476	.600
	N	36	36	36	36	36	36	36	36	36	36
LINKAGES	PC	.113	.071	.066	.089	.071	.051	-.040	-.071	-.059	-.125
	Sig.	.510	.681	.700	.604	.683	.769	.816	.681	.732	.469
	N	36	36	36	36	36	36	36	36	36	36
INTELLECTUAL ASSETS	PC	-.279	-.171	-.160	-.032	-.046	-.058	-.004	.041	-.002	.013
	Sig.	.100	.319	.352	.855	.789	.739	.983	.812	.992	.941
	N	36	36	36	36	36	36	36	36	36	36
EMPLOYMENT IMPACT	PC	-.237	-.177	-.172	-.129	-.151	-.142	-.056	-.009	.048	-.056
	Sig.	.163	.302	.316	.454	.380	.408	.746	.960	.781	.745
	N	36	36	36	36	36	36	36	36	36	36
SALES IMPACT	PC	-.065	-.014	-.012	-.002	-.017	.036	.001	-.002	-.030	.022
	Sig.	.709	.936	.944	.992	.920	.834	.997	.992	.863	.897
	N	36	36	36	36	36	36	36	36	36	36
i111 DOCGRADS	PC	.043	-.033	-.029	-.043	-.065	.014	-.061	-.033	-.090	-.124
	Sig.	.803	.848	.869	.801	.708	.935	.723	.848	.603	.471
	N	36	36	36	36	36	36	36	36	36	36
i112 TEREDUC	PC	-.305	-.120	-.118	.043	.021	-.111	-.144	-.140	-.061	-.057
	Sig.	.084	.507	.515	.814	.908	.539	.424	.436	.736	.753
	N	33	33	33	33	33	33	33	33	33	33
i113 LIFELONG	PC	-.030	.025	.048	.057	.027	.039	.033	.065	.019	.037
	Sig.	.868	.888	.790	.751	.880	.828	.855	.719	.917	.839
	N	33	33	33	33	33	33	33	33	33	33
i121 INTCOPUB	PC	-.176	-.110	-.098	.005	-.022	-.060	-.104	-.084	-.055	-.058
	Sig.	.304	.523	.571	.978	.898	.726	.545	.627	.748	.735
	N	36	36	36	36	36	36	36	36	36	36
i122 MOSTCITED	PC	-.176	-.144	-.146	-.037	-.053	-.055	-.090	-.096	-.160	-.097
	Sig.	.304	.401	.395	.828	.759	.748	.600	.578	.350	.574
	N	36	36	36	36	36	36	36	36	36	36
i123 FORDOCST	PC	-.064	.137	.136	.147	.130	.139	.111	.108	.098	.159
	Sig.	.724	.448	.449	.413	.472	.439	.538	.550	.587	.377
	N	33	33	33	33	33	33	33	33	33	33
i131 BROADBAND	PC	-.343	-.192	-.179	-.272	-.296	-.243	-.201	-.166	.159	.059
	Sig.	.055	.292	.326	.133	.100	.181	.270	.363	.386	.747

		PRO- TECT 2007	PRO- TECT 2008	PRO- TECT 2009	PRO- TECT 2010	PRO- TECT 2011	PRO- TECT 2012	PRO- TECT 2013	PRO- TECT 2014	PRO- TECT 2015	PRO- TECT 2016
	N	32	32	32	32	32	32	32	32	32	32
i132	PC	-.254	-.205	-.188	-.122	-.147	-.156	-.146	-.123	-.138	-.157
OPPENTRE	Sig.	.141	.237	.279	.484	.401	.370	.403	.481	.429	.367
	N	35	35	35	35	35	35	35	35	35	35
i211	PC	.141	.173	.198	.230	.204	.245	.198	.190	.194	.190
PUBRD	Sig.	.412	.312	.248	.178	.232	.150	.247	.267	.256	.266
	N	36	36	36	36	36	36	36	36	36	36
i212	PC	-.231	-.186	-.155	-.040	-.049	-.078	-.091	-.064	-.004	.012
VENTCAP	Sig.	.189	.293	.381	.822	.783	.660	.608	.717	.980	.948
	N	34	34	34	34	34	34	34	34	34	34
i221	PC	-.013	-.071	-.072	-.081	-.106	-.054	-.130	-.113	-.157	-.192
BUSRD	Sig.	.941	.682	.675	.640	.537	.756	.450	.512	.362	.263
	N	36	36	36	36	36	36	36	36	36	36
i222	PC	.278	.248	.236	.160	.154	.160	.155	.107	-.013	.035
NONRD	Sig.	.111	.158	.180	.367	.385	.366	.383	.548	.944	.842
	N	34	34	34	34	34	34	34	34	34	34
i223	PC	-.119	-.084	-.112	-.074	-.094	-.078	-.105	-.114	-.121	-.155
ICTSKILLS	Sig.	.518	.649	.543	.686	.610	.672	.567	.536	.509	.397
	N	32	32	32	32	32	32	32	32	32	32
i311	PC	-.021	.020	.002	.008	-.007	-.053	-.113	-.151	-.122	-.118
PPINNOV	Sig.	.903	.907	.991	.961	.966	.758	.512	.381	.477	.491
	N	36	36	36	36	36	36	36	36	36	36
i312	PC	-.066	.030	-.005	.022	.017	.013	-.045	-.101	-.223	-.140
MOINNOV	Sig.	.701	.863	.977	.900	.922	.942	.794	.558	.192	.414
	N	36	36	36	36	36	36	36	36	36	36
i313	PC	.009	.070	.050	.155	.134	.101	.052	.018	.013	.030
INHOUSE	Sig.	.960	.690	.776	.375	.443	.564	.766	.916	.942	.865
	N	35	35	35	35	35	35	35	35	35	35
i321	PC	-.103	-.128	-.135	-.088	-.105	-.167	-.293	-.329*	-.227	-.289
COLLAB	Sig.	.551	.457	.433	.610	.543	.331	.083	.050	.183	.087
	N	36	36	36	36	36	36	36	36	36	36
i322	PC	.099	.023	.025	.057	.034	.029	-.026	-.008	-.094	-.122
PPCOPUB	Sig.	.565	.894	.883	.742	.845	.867	.881	.964	.584	.480
	N	36	36	36	36	36	36	36	36	36	36
i323	PC	.373*	.379*	.372*	.279	.273	.294	.261	.208	.261	.158
COFUNDING	Sig.	.030	.027	.030	.110	.118	.091	.136	.239	.135	.371
	N	34	34	34	34	34	34	34	34	34	34
i331	PC	-.086	-.100	-.100	-.065	-.097	-.061	-.095	-.076	-.131	-.142
PATENTS	Sig.	.624	.566	.568	.709	.581	.726	.588	.665	.451	.416
	N	35	35	35	35	35	35	35	35	35	35
i332	PC	-.369*	-.228	-.216	.001	-.006	-.101	-.010	.033	.035	.066
TRADEMARK	Sig.	.027	.181	.206	.997	.972	.556	.953	.846	.841	.701
	N	36	36	36	36	36	36	36	36	36	36
i333	PC	-.237	-.099	-.083	-.011	-.010	.022	.096	.143	.068	.139
DESIGNS	Sig.	.165	.566	.630	.948	.952	.900	.578	.406	.693	.420
	N	36	36	36	36	36	36	36	36	36	36
i411	PC	-.230	-.118	-.121	-.012	-.033	-.069	-.027	.005	-.003	-.008
KIAEMPL	Sig.	.178	.492	.482	.943	.849	.690	.874	.975	.986	.961
	N	36	36	36	36	36	36	36	36	36	36
i412	PC	-.070	-.041	-.049	-.208	-.228	-.135	-.002	-.015	.113	-.096
HIGHGROW	Sig.	.718	.833	.800	.280	.234	.484	.992	.940	.560	.620
	N	29	29	29	29	29	29	29	29	29	29
i421	PC	-.024	-.017	-.010	-.028	-.043	.016	.068	.105	.118	.097
MHTEXPORT	Sig.	.891	.923	.954	.873	.802	.926	.693	.541	.494	.574
	N	36	36	36	36	36	36	36	36	36	36
i422	PC	-.362*	-.224	-.218	-.140	-.160	-.170	-.220	-.200	-.143	-.062
KISEXPORT	Sig.	.030	.189	.202	.416	.350	.320	.198	.242	.404	.718
	N	36	36	36	36	36	36	36	36	36	36
i423	PC	.246	.208	.199	.160	.163	.227	.155	.096	-.029	.018
INNSALES	Sig.	.147	.224	.245	.351	.344	.183	.367	.578	.867	.919
	N	36	36	36	36	36	36	36	36	36	36

\*\*. Correlation is significant at the 0.01 level (2-tailed). \*. Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.



## Strength of legal rights

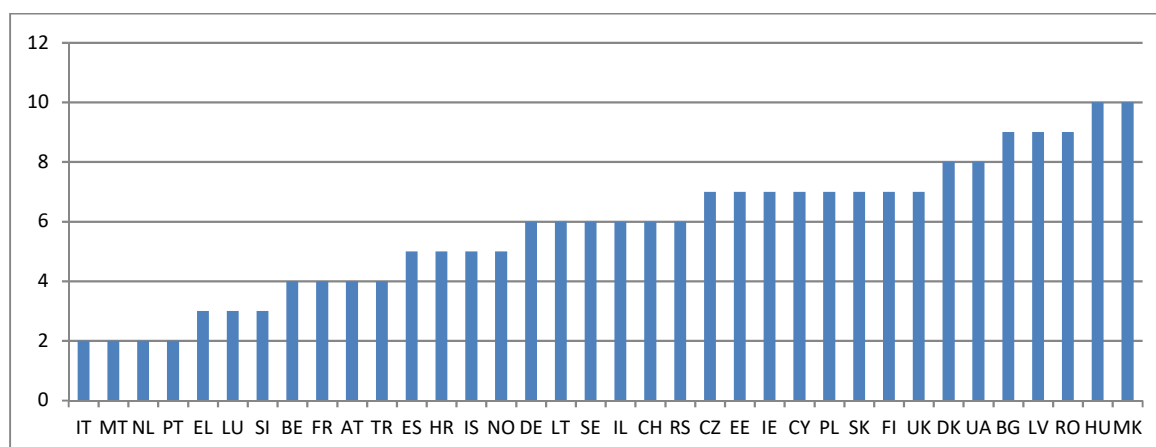
Data are obtained from the World Bank's Doing Business database. The Strength of legal rights index measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending. The index ranges from 0 to 12, with higher scores indicating that these laws are better designed to expand access to credit. Data are available for 2012-2017 for all countries.

Strength of legal rights is highly stable over time, as shown by high significant year-to-year correlation coefficients (Table 36). Strength of legal rights correlates negatively with the EIS dimensions Attractive research systems and Innovators, and the EIS indicators Most-cited scientific publications, Product or process innovators, Marketing or organisational innovators, and SMEs innovating in-house (Table 37).<sup>25</sup>

Based on the summary of key characteristics, it is recommended **not to include this indicator**.

<b>Data availability</b>	Full
<b>Stability over time</b>	Highly stable
<b>Correlation with EIS</b>	Weak

**Figure 17: Strength of legal rights**



Most recent data shown for all countries for which data are available.

**Table 36 Strength of legal rights (RIGHTS): stability over time**

		RIGHTS 2014	RIGHTS 2015	RIGHTS 2016	RIGHTS 2017
RIGHTS 2013	PC	.945**	.945**	.911**	.897**
	Sig.	.000	.000	.000	.000
	N	36	36	36	36
RIGHTS 2014	PC	1	1.000**	.959**	.948**
	Sig.		.000	.000	.000
	N	36	36	36	36
RIGHTS 2015	PC	1.000**	1	.959**	.948**
	Sig.	.000		.000	.000
	N	36	36	36	36
RIGHTS 2016	PC	.959**	.959**	1	.990**
	Sig.	.000	.000		.000
	N	36	36	36	36

\*\* . Correlation is significant at the 0.01 level (2-tailed).

<sup>25</sup> Dimensions and indicators are counted if there are at least two significant correlations.

**Table 37 Pearson correlation results between Strength of legal rights (RIGHTS) and SII, EIS dimensions and EIS indicators**

		RIGHTS 2013	RIGHTS 2014	RIGHTS 2015	RIGHTS 2016	RIGHTS 2017
SII	PC	-.198	-.226	-.226	-.281	-.312
	Sig.	.247	.186	.186	.097	.064
	N	36	36	36	36	36
HUMAN RESOURCES	PC	.018	-.049	-.049	-.113	-.152
	Sig.	.917	.775	.775	.512	.377
	N	36	36	36	36	36
RESEARCH SYSTEM	PC	-.247	-.283	-.283	-.331*	-.372*
	Sig.	.146	.094	.094	.049	.026
	N	36	36	36	36	36
INNOVATION FRIENDLY ENVIRONMENT	PC	-.017	-.054	-.054	-.106	-.113
	Sig.	.924	.757	.757	.545	.517
	N	35	35	35	35	35
FINANCE SUPPORT	PC	-.087	-.116	-.116	-.206	-.213
	Sig.	.614	.499	.499	.228	.212
	N	36	36	36	36	36
FIRM INVESTMENTS	PC	-.152	-.157	-.157	-.188	-.175
	Sig.	.376	.361	.361	.273	.307
	N	36	36	36	36	36
INNOVATORS	PC	-.449**	-.499**	-.499**	-.490**	-.502**
	Sig.	.006	.002	.002	.002	.002
	N	36	36	36	36	36
LINKAGES	PC	-.181	-.199	-.199	-.231	-.246
	Sig.	.291	.244	.244	.176	.148
	N	36	36	36	36	36
INTELLECTUAL ASSETS	PC	-.183	-.228	-.228	-.294	-.339*
	Sig.	.286	.181	.181	.081	.043
	N	36	36	36	36	36
EMPLOYMENT IMPACT	PC	.029	.066	.066	-.041	-.095
	Sig.	.868	.702	.702	.812	.581
	N	36	36	36	36	36
SALES IMPACT	PC	.008	.070	.070	.061	.040
	Sig.	.964	.685	.685	.723	.817
	N	36	36	36	36	36
i111 DOGRADS	PC	.086	.037	.037	-.025	-.063
	Sig.	.620	.832	.832	.885	.716
	N	36	36	36	36	36
i112 TEREDUC	PC	.095	-.003	-.003	-.054	-.091
	Sig.	.597	.987	.987	.765	.615
	N	33	33	33	33	33
i113 LIFELONG	PC	-.043	-.084	-.084	-.134	-.156
	Sig.	.811	.642	.642	.459	.386
	N	33	33	33	33	33
i121 INTCOPUB	PC	-.152	-.190	-.190	-.241	-.282
	Sig.	.375	.267	.267	.156	.096
	N	36	36	36	36	36
i122 MOSTCITED	PC	-.296	-.329	-.329	-.379*	-.420*
	Sig.	.080	.050	.050	.022	.011
	N	36	36	36	36	36
i123 FORDOCST	PC	-.240	-.273	-.273	-.308	-.344
	Sig.	.178	.124	.124	.081	.050
	N	33	33	33	33	33
i131 BROADBAND	PC	-.021	-.055	-.055	-.076	-.072
	Sig.	.908	.767	.767	.679	.696
	N	32	32	32	32	32
i132 OPPENTRE	PC	-.058	-.081	-.081	-.147	-.164
	Sig.	.741	.645	.645	.400	.346
	N	35	35	35	35	35
i211 PUBRD	PC	-.168	-.191	-.191	-.272	-.293
	Sig.	.326	.265	.265	.108	.083
	N	36	36	36	36	36
i212 VENTCAP	PC	.106	.080	.080	.007	.007
	Sig.	.550	.654	.654	.968	.968
	N	34	34	34	34	34
i221 BUSRD	PC	-.067	-.059	-.059	-.121	-.141
	Sig.	.696	.732	.732	.484	.412
	N	36	36	36	36	36
i222 NONRD	PC	-.009	.000	.000	.014	.069
	Sig.	.962	.998	.998	.938	.699
	N	34	34	34	34	34
i223 ICTSKILLS	PC	-.295	-.315	-.315	-.330	-.330
	Sig.	.101	.079	.079	.065	.065

		RIGHTS 2013	RIGHTS 2014	RIGHTS 2015	RIGHTS 2016	RIGHTS 2017
	N	32	32	32	32	32
i311 PPINNOV	PC	-.454**	-.497**	-.497**	-.438**	-.449**
	Sig.	.005	.002	.002	.008	.006
	N	36	36	36	36	36
i312 MOINNOV	PC	-.412*	-.474**	-.474**	-.462**	-.462**
	Sig.	.012	.003	.003	.005	.005
	N	36	36	36	36	36
i313 INHOUSE	PC	-.399*	-.438**	-.438**	-.485**	-.507**
	Sig.	.017	.009	.009	.003	.002
	N	35	35	35	35	35
i321 COLLAB	PC	-.225	-.256	-.256	-.255	-.282
	Sig.	.186	.131	.131	.133	.095
	N	36	36	36	36	36
i322 PPCOPUB	PC	-.100	-.100	-.100	-.148	-.178
	Sig.	.561	.561	.561	.390	.298
	N	36	36	36	36	36
i323 COFUNDING	PC	-.058	-.081	-.081	-.081	-.057
	Sig.	.745	.648	.648	.648	.751
	N	34	34	34	34	34
i331 PATENTS	PC	-.112	-.141	-.141	-.209	-.233
	Sig.	.523	.420	.420	.228	.177
	N	35	35	35	35	35
i332 TRADEMARK	PC	-.141	-.189	-.189	-.241	-.290
	Sig.	.412	.270	.270	.157	.086
	N	36	36	36	36	36
i333 DESIGNS	PC	-.184	-.223	-.223	-.269	-.306
	Sig.	.284	.192	.192	.113	.070
	N	36	36	36	36	36
i411 KIAEMPL	PC	-.139	-.163	-.163	-.244	-.296
	Sig.	.419	.341	.341	.152	.080
	N	36	36	36	36	36
i412 HIGHGROW	PC	.121	.228	.228	.228	.228
	Sig.	.532	.233	.233	.233	.233
	N	29	29	29	29	29
i421 MHTEXPORT	PC	-.038	.087	.087	.121	.106
	Sig.	.826	.613	.613	.483	.538
	N	36	36	36	36	36
i422 KISEXPORT	PC	.100	.059	.059	.013	-.020
	Sig.	.561	.731	.731	.942	.910
	N	36	36	36	36	36
i423 INNSALES	PC	-.048	.004	.004	.001	.002
	Sig.	.782	.983	.983	.997	.989
	N	36	36	36	36	36

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

### Country Credit Rating

Data are obtained from the Institutional Investor Magazine<sup>26</sup>. Institutional Investor's Country Credit ratings are based on information provided by senior economists and sovereign-risk analysts at leading global banks and money management and securities firms. The respondents have graded each country on a scale of zero to 100, with 100 representing the least likelihood of default. Data are available for all countries for 2015 and 2016<sup>27</sup>.

Time series are too short to evaluate stability of the indicator over time, but results between 2015 and 2016 are highly correlated (Table 38). Country Credit Rating correlates positively with the SII, all EIS dimensions and 23 EIS indicators (Table 39).

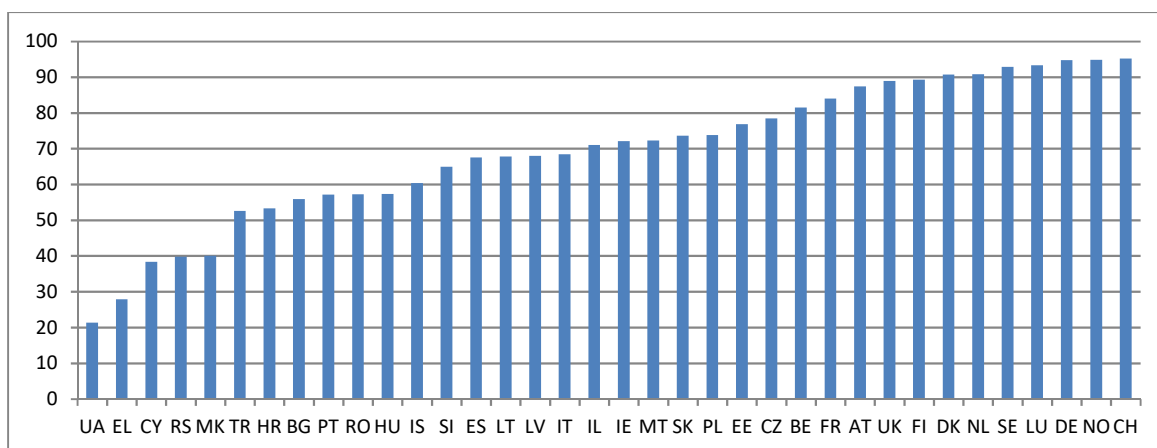
<sup>26</sup> <http://www.institutionalinvestor.com/Research/6150/Global-Rankings.html#.WS17FMkIHow>

<sup>27</sup> Data are for free for the most recent year. Access to data for multiple years requires a paid subscription.

Based on the summary of key characteristics, it is recommended to **include this indicator**.

<b>Data availability</b>	Full
<b>Stability over time</b>	--
<b>Correlation with EIS</b>	Strong

**Figure 18: Country Credit Rating**



Most recent data shown for all countries for which data are available.

**Table 38 Country Credit Rating: stability over time**

		CREDITRATING_2016
CREDITRATING_2015	Pearson Correlation	.995**
	Sig. (2-tailed)	.000
	N	36

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 39 Pearson correlation (PC) results between Country Credit Rating and SII, EIS dimensions and EIS indicators**

		CREDIT RATING 2015	CREDIT RATING 2016
SII	PC	.791**	.789**
	Sig.	.000	.000
	N	36	36
HUMAN RESOURCES	PC	.704**	.701**
	Sig.	.000	.000
	N	36	36
RESEARCH SYSTEM	PC	.681**	.681**
	Sig.	.000	.000
	N	36	36
INNOVATION FRIENDLY ENVIRONMENT	PC	.637**	.644**
	Sig.	.000	.000
	N	35	35
FINANCE SUPPORT	PC	.709**	.698**
	Sig.	.000	.000
	N	36	36
FIRM INVESTMENTS	PC	.501**	.480**
	Sig.	.002	.003
	N	36	36
INNOVATORS	PC	.465**	.451**
	Sig.	.004	.006
	N	36	36
LINKAGES	PC	.626**	.611**
	Sig.	.000	.000
	N	36	36
INTELLECTUAL ASSETS	PC	.652**	.652**

		CREDIT RATING 2015	CREDIT RATING 2016
	Sig.	.000	.000
	N	36	36
EMPLOYMENT IMPACT	PC	.416*	.452**
	Sig.	.012	.006
	N	36	36
SALES IMPACT	PC	.537**	.559**
	Sig.	.001	.000
	N	36	36
i111 DOCGRADES	PC	.604**	.605**
	Sig.	.000	.000
	N	36	36
i112 TEREDUC	PC	.319	.321
	Sig.	.070	.068
	N	33	33
i113 LIFELONG	PC	.663**	.656**
	Sig.	.000	.000
	N	33	33
i121 INTCOPUB	PC	.645**	.649**
	Sig.	.000	.000
	N	36	36
i122 MOSTCITED	PC	.674**	.677**
	Sig.	.000	.000
	N	36	36
i123 FORDOCST	PC	.637**	.649**
	Sig.	.000	.000
	N	33	33
i131 BROADBAND	PC	.557**	.553**
	Sig.	.001	.001
	N	32	32
i132 OPPENTRE	PC	.688**	.692**
	Sig.	.000	.000
	N	35	35
i211 PUBRD	PC	.721**	.696**
	Sig.	.000	.000
	N	36	36
i212 VENTCAP	PC	.516**	.522**
	Sig.	.002	.002
	N	34	34
i221 BUSRD	PC	.647**	.636**
	Sig.	.000	.000
	N	36	36
i222 NONRD	PC	-.084	-.110
	Sig.	.637	.537
	N	34	34
i223 ICTSKILLS	PC	.526**	.522**
	Sig.	.002	.002
	N	32	32
i311 PPINNOV	PC	.421*	.410*
	Sig.	.011	.013
	N	36	36
i312 MOINNOV	PC	.457**	.442**
	Sig.	.005	.007
	N	36	36
i313 INHOUSE	PC	.465**	.445**
	Sig.	.005	.007
	N	35	35
i321 COLLAB	PC	.435**	.426**
	Sig.	.008	.010
	N	36	36
i322 PPCOPUB	PC	.594**	.598**
	Sig.	.000	.000
	N	36	36
i323 COFUNDING	PC	.386*	.347*
	Sig.	.024	.044
	N	34	34
i331 PATENTS	PC	.706**	.694**
	Sig.	.000	.000
	N	35	35
i332 TRADEMARK	PC	.353*	.368*
	Sig.	.035	.027
	N	36	36
i333 DESIGNS	PC	.511**	.510**
	Sig.	.001	.001
	N	36	36

		CREDIT RATING 2015	CREDIT RATING 2016
i411 KIAEMPL	PC	.462**	.478**
	Sig.	.005	.003
	N	36	36
i412 HIGHGROW	PC	.136	.176
	Sig.	.480	.361
	N	29	29
i421 MHTEXPORT	PC	.360*	.386*
	Sig.	.031	.020
	N	36	36
i422 KISEXPORT	PC	.499**	.510**
	Sig.	.002	.001
	N	36	36
i423 INNSALES	PC	.275	.282
	Sig.	.104	.095
	N	36	36

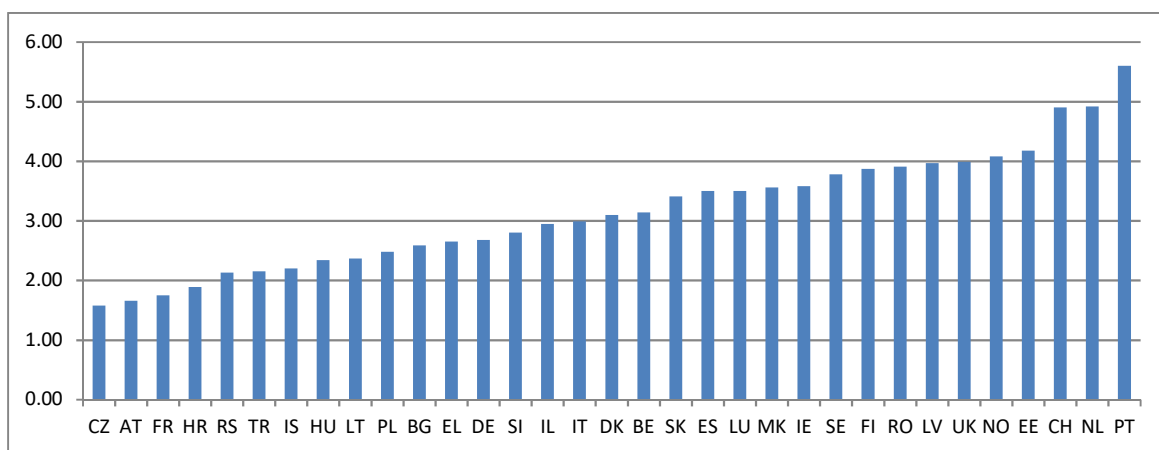
\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

## 5.2.6 Educational and research system

### *Basic-school entrepreneurial education and training*

Data are taken from the Global Entrepreneurship Monitor. The indicator measures the extent to which training in creating or managing SMEs is incorporated within the education and training system at primary and secondary school levels. Data availability is weak with data missing for 40% of all observations, and in particular with no data for Cyprus, Malta, and Ukraine (Table 40).

**Figure 19: Basic-school entrepreneurial education and training**



Most recent data shown for all countries for which data are available.

The indicator is relatively stable over time, as shown by relatively high significant year-to-year correlation coefficients (Table 41). The indicator correlates positively with the SII, 4 EIS innovation dimensions (Human resources, Research system, Innovation-friendly environment, and Finance and support) and 8 EIS indicators (Table 42).<sup>28</sup>

<sup>28</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

Based on the summary of key characteristics, one would recommend not to include this indicator. But given the importance of entrepreneurship and the possible impact of government educational policies to improve entrepreneurial skills, it is recommended to **include this indicator**.

<b>Data availability</b>	Limited
<b>Stability over time</b>	Relatively stable
<b>Correlation with EIS</b>	Strong

**Table 40 Data availability Basic-school entrepreneurial education and training**

	2007	2008	2009	2010	2011	2012	2013	2014	2015
BE	2.27	n/a	2.11	n/a	n/a	n/a	1.99	1.95	3.14
BG	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.59
CZ	n/a	n/a	n/a	n/a	1.70	n/a	1.58	n/a	n/a
DK	2.76	2.48	2.93	n/a	n/a	2.61	n/a	3.10	n/a
DE	n/a	1.87	1.98	2.07	1.92	2.07	1.94	2.13	2.68
EE	n/a	n/a	n/a	n/a	n/a	1.98	2.25	2.63	4.18
IE	2.64	2.59	n/a	2.22	1.95	2.07	2.01	2.09	3.58
EL	n/a	1.78	1.65	1.92	1.94	1.63	1.69	1.50	2.65
ES	1.88	1.93	1.73	1.59	1.56	1.53	1.37	1.84	3.50
FR	n/a	n/a	n/a	1.58	1.55	1.96	1.73	1.75	n/a
HR	2.13	2.17	2.07	2.11	1.88	1.95	1.86	1.68	1.89
IT	1.95	1.83	1.79	1.53	n/a	1.86	1.71	1.68	2.99
CY	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LV	n/a	n/a	2.30	2.82	2.32	2.87	2.73	2.51	3.97
LT	n/a	n/a	n/a	n/a	2.00	2.02	2.39	2.37	n/a
LU	n/a	n/a	n/a	n/a	n/a	n/a	2.21	2.13	3.50
HU	n/a	n/a	2.00	1.83	1.44	1.60	1.91	1.68	2.34
MT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
NL	n/a	n/a	2.37	n/a	2.88	n/a	3.05	2.85	4.92
AT	1.74	n/a	n/a	n/a	n/a	1.72	n/a	1.66	n/a
PL	n/a	n/a	n/a	n/a	2.02	1.64	1.84	1.75	2.48
PT	n/a	n/a	n/a	1.70	1.73	1.76	2.17	2.04	5.60
RO	2.25	n/a	n/a	n/a	n/a	2.11	2.32	2.34	3.91
SI	2.30	2.42	2.32	2.17	1.80	2.13	2.06	1.77	2.80
SK	n/a	n/a	n/a	n/a	1.99	2.08	1.93	2.21	3.41
FI	2.57	2.52	2.32	2.35	2.34	2.47	2.66	2.28	3.87
SE	n/a	n/a	n/a	2.05	2.30	2.39	2.33	2.55	3.78
UK	2.30	n/a	1.75	2.00	2.21	2.35	2.17	2.44	3.99
IS	2.05	n/a	2.14	2.20	n/a	n/a	n/a	n/a	n/a
IL	2.21	n/a	2.26	1.93	n/a	2.37	2.03	n/a	2.95
MK	n/a	2.20	n/a	2.19	n/a	2.30	2.27	n/a	3.56
NO	2.66	2.63	2.48	2.33	2.53	2.69	2.60	2.48	4.08
CH	2.01	n/a	2.51	2.25	2.60	2.30	2.36	2.56	4.90
RS	2.43	2.04	2.13	n/a	n/a	n/a	n/a	n/a	n/a
UA	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TR	2.05	1.87	n/a	2.21	2.19	2.07	2.29	2.04	2.15

**Table 41 Basic-school entrepreneurial education and training (BASIC SCHOOL): stability over time**

		BASIC SCHOOL 2008	BASIC SCHOOL 2009	BASIC SCHOOL 2010	BASIC SCHOOL 2011	BASIC SCHOOL 2012	BASIC SCHOOL 2013	BASIC SCHOOL 2014	BASIC SCHOOL 2015
BASIC SCHOOL 2007	PC	.877**	.670*	.626*	.335	.788**	.624*	.649*	.266
	Sig.	.001	.012	.029	.379	.001	.023	.012	.380
	N	10	13	12	9	14	13	14	13
BASIC SCHOOL 2008	PC	1	.861**	.690*	.473	.759**	.651*	.594	.598
	Sig.		.001	.019	.198	.004	.030	.054	.052
	N	13	10	11	9	12	11	11	11
BASIC SCHOOL 2009	PC	.861**	1	.699**	.645*	.719**	.758**	.749**	.494
	Sig.	.001		.005	.023	.004	.001	.001	.061
	N	10	18	14	12	14	15	15	15
BASIC	PC	.690*	.699**	1	.736**	.783**	.814**	.613**	.101

		BASIC SCHOOL 2008	BASIC SCHOOL 2009	BASIC SCHOOL 2010	BASIC SCHOOL 2011	BASIC SCHOOL 2012	BASIC SCHOOL 2013	BASIC SCHOOL 2014	BASIC SCHOOL 2015
SCHOOL 2010	Sig.	.019	.005		.001	.000	.000	.009	.690
	N	11	14	20	16	19	19	17	18
BASIC SCHOOL 2011	PC	.473	.645*	.736**	1	.779**	.837**	.825**	.487*
	Sig.	.198	.023	.001		.000	.000	.000	.040
	N	9	12	16	21	19	21	20	18
BASIC SCHOOL 2012	PC	.759**	.719**	.783**	.779**	1	.810**	.768**	.338
	Sig.	.004	.004	.000	.000		.000	.000	.124
	N	12	14	19	19	26	24	24	22
BASIC SCHOOL 2013	PC	.651*	.758**	.814**	.837**	.810**	1	.818**	.560**
	Sig.	.030	.001	.000	.000	.000		.000	.004
	N	11	15	19	21	24	28	25	25
BASIC SCHOOL 2014	PC	.594	.749**	.613**	.825**	.768**	.818**	1	.715**
	Sig.	.054	.001	.009	.000	.000	.000		.000
	N	11	15	17	20	24	25	27	23

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

**Table 42 Pearson correlation (PC) results between Basic-school entrepreneurial education and training (BASIC SCHOOL) and SII, EIS dimensions and EIS indicators**

		BASIC SCHOOL 2007	BASIC SCHOOL 2008	BASIC SCHOOL 2009	BASIC SCHOOL 2010	BASIC SCHOOL 2011	BASIC SCHOOL 2012	BASIC SCHOOL 2013	BASIC SCHOOL 2014	BASIC SCHOOL 2015
SII	PC	.211	.589*	.512*	.086	.509*	.362	.270	.430*	.423*
	Sig.	.417	.034	.030	.719	.018	.069	.165	.025	.031
	N	17	13	18	20	21	26	28	27	26
HUMAN RESOURCES	PC	.378	.744**	.624**	.175	.511*	.444*	.350	.560**	.527**
	Sig.	.134	.004	.006	.461	.018	.023	.068	.002	.006
	N	17	13	18	20	21	26	28	27	26
RESEARCH SYSTEM	PC	.173	.607*	.424	-.031	.507*	.314	.235	.391*	.516**
	Sig.	.506	.028	.079	.896	.019	.118	.229	.044	.007
	N	17	13	18	20	21	26	28	27	26
INNOVATION FRIENDLY ENVIRONMENT	PC	.352	.658*	.677**	.356	.538*	.599**	.617**	.698**	.584**
	Sig.	.166	.014	.002	.123	.012	.001	.000	.000	.002
	N	17	13	18	20	21	26	28	27	26
FINANCE SUPPORT	PC	.177	.367	.510*	.205	.625**	.328	.424*	.640**	.499**
	Sig.	.497	.218	.031	.386	.002	.102	.025	.000	.009
	N	17	13	18	20	21	26	28	27	26
FIRM INVESTMENTS	PC	-.027	.335	.370	.142	.296	.255	.047	.104	-.024
	Sig.	.918	.264	.131	.550	.192	.210	.813	.607	.909
	N	17	13	18	20	21	26	28	27	26
INNOVATORS	PC	.160	.386	.255	.050	.398	.197	.163	.097	.286
	Sig.	.540	.193	.307	.833	.074	.334	.409	.630	.157
	N	17	13	18	20	21	26	28	27	26
LINKAGES	PC	.058	.441	.370	.223	.605**	.351	.351	.347	.269
	Sig.	.826	.131	.130	.344	.004	.079	.067	.076	.183
	N	17	13	18	20	21	26	28	27	26
INTELLECTUAL ASSETS	PC	-.077	.205	.421	-.145	.352	.162	.122	.292	.250
	Sig.	.770	.502	.082	.542	.117	.428	.535	.139	.217
	N	17	13	18	20	21	26	28	27	26
EMPLOYMENT IMPACT	PC	.264	.486	.178	.008	.213	.214	.043	.294	.167
	Sig.	.306	.092	.481	.973	.353	.293	.826	.137	.414
	N	17	13	18	20	21	26	28	27	26
SALES IMPACT	PC	.113	.156	-.069	-.227	-.029	.047	-.166	.125	.203
	Sig.	.666	.610	.785	.336	.900	.819	.400	.535	.319
	N	17	13	18	20	21	26	28	27	26
i111 DOCGRADES	PC	.394	.562*	.403	.020	.272	.333	.115	.383*	.362
	Sig.	.117	.045	.097	.932	.233	.097	.560	.048	.069
	N	17	13	18	20	21	26	28	27	26
i112 TEREDUC	PC	.422	.747**	.484	.323	.438*	.306	.304	.372	.389
	Sig.	.117	.005	.058	.177	.047	.137	.123	.056	.055
	N	15	12	16	19	21	25	27	27	25
i113 LIFELONG	PC	.261	.602*	.691**	.138	.531*	.470*	.418*	.567**	.544**
	Sig.	.348	.038	.003	.573	.013	.018	.030	.002	.005
	N	15	12	16	19	21	25	27	27	25
i121 INTCOPUB	PC	.293	.762**	.615**	.172	.573**	.405*	.358	.493**	.507**
	Sig.	.254	.002	.007	.470	.007	.040	.061	.009	.008
	N	17	13	18	20	21	26	28	27	26
i122	PC	.151	.382	.241	-.214	.407	.182	.125	.312	.479*



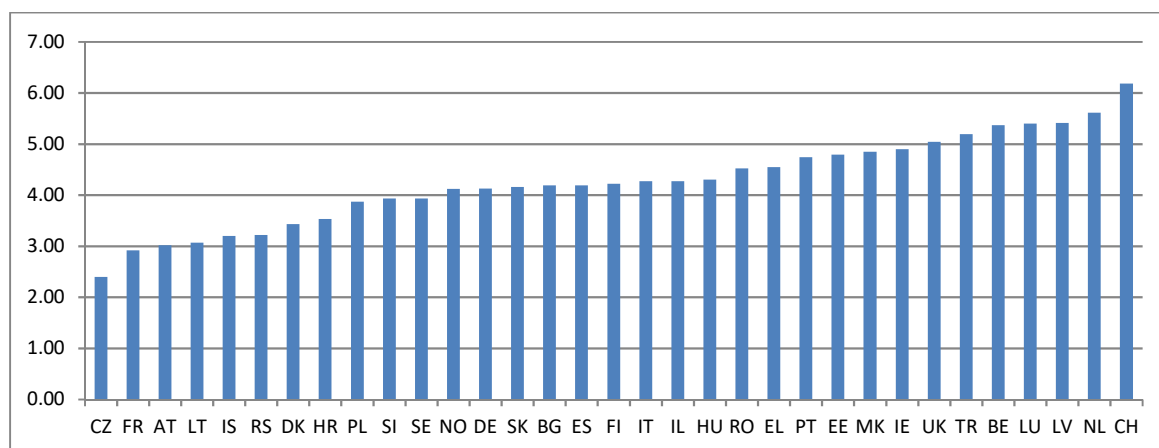
		BASIC SCHOOL 2007	BASIC SCHOOL 2008	BASIC SCHOOL 2009	BASIC SCHOOL 2010	BASIC SCHOOL 2011	BASIC SCHOOL 2012	BASIC SCHOOL 2013	BASIC SCHOOL 2014	BASIC SCHOOL 2015
MOSTCITED	Sig.	.564	.198	.336	.365	.067	.374	.526	.113	.013
	N	17	13	18	20	21	26	28	27	26
i123 FORDOCST	PC	.026	.644*	.290	-.088	.427	.278	.178	.294	.506*
	Sig.	.924	.024	.276	.729	.061	.188	.383	.145	.012
i131 BROADBAND	N	16	12	16	18	20	24	26	26	24
	PC	.393	.616*	.644**	.351	.411	.476*	.582**	.589**	.578**
i132 OPPENTRE	Sig.	.165	.025	.009	.167	.072	.019	.002	.002	.003
	N	14	13	15	17	20	24	26	26	24
i132 OPPENTRE	PC	.356	.595*	.648**	.245	.541*	.604**	.452*	.626**	.448*
	Sig.	.161	.032	.004	.297	.011	.001	.016	.000	.022
i211 PUBRD	N	17	13	18	20	21	26	28	27	26
	PC	.148	.187	.580*	.031	.451*	.246	.209	.495**	.398*
i212 VENTCAP	Sig.	.570	.542	.012	.895	.040	.227	.287	.009	.044
	N	17	13	18	20	21	26	28	27	26
i221 BUSRD	PC	.319	.623*	.274	.325	.470*	.305	.515**	.540**	.511**
	Sig.	.246	.031	.288	.189	.037	.138	.006	.004	.009
i222 NONRD	N	15	12	17	18	20	25	27	26	25
	PC	.034	.463	.459	-.023	.215	.247	.056	.177	.086
i223 ICTSKILLS	Sig.	.898	.111	.056	.922	.350	.224	.777	.377	.675
	N	17	13	18	20	21	26	28	27	26
i311 PPINNOV	PC	-.218	-.466	-.050	.221	.057	-.059	-.044	-.064	-.303
	Sig.	.435	.108	.854	.377	.807	.778	.829	.752	.142
i312 MOINNOV	N	15	13	16	18	21	25	27	27	25
	PC	.262	.766**	.403	.245	.265	.258	.104	.061	.171
i313 INHOUSE	Sig.	.365	.004	.122	.343	.272	.235	.622	.772	.434
	N	14	12	16	17	19	23	25	25	23
i321 COLLAB	PC	.182	.462	.246	.057	.421	.183	.241	.137	.365
	Sig.	.484	.112	.325	.812	.057	.371	.216	.495	.067
i322 PPCOPUB	N	17	13	18	20	21	26	28	27	26
	PC	.067	.243	.197	.041	.324	.229	.054	.039	.197
i323 COFUNDING	Sig.	.799	.424	.432	.865	.152	.261	.784	.848	.335
	N	17	13	18	20	21	26	28	27	26
i331 PATENTS	PC	.234	.333	.281	.021	.388	.150	.157	.101	.245
	Sig.	.383	.267	.275	.933	.082	.465	.426	.615	.227
i332 TRADEMARK	N	16	13	17	19	21	26	28	27	26
	PC	.198	.695**	.074	.069	.369	.221	.221	.156	.235
i333 DESIGNS	Sig.	.446	.008	.771	.771	.099	.279	.259	.438	.247
	N	17	13	18	20	21	26	28	27	26
i411 KIAEMPL	PC	.129	.560*	.538*	.066	.458*	.309	.210	.364	.324
	Sig.	.622	.047	.021	.784	.037	.124	.283	.062	.106
i412 HIGHGROW	N	17	13	18	20	21	26	28	27	26
	PC	-.269	-.252	.200	.402	.497*	.237	.406*	.256	.104
i421 MHTEXPORT	Sig.	.297	.429	.427	.088	.022	.254	.036	.197	.620
	N	17	12	18	19	21	25	27	27	25
i422 KISEXPORT	PC	.211	.399	.484*	-.036	.426	.321	.219	.354	.212
	Sig.	.433	.199	.049	.879	.054	.110	.263	.070	.298
i423 INNSALES	N	16	12	17	20	21	26	28	27	26
	PC	-.186	.185	.352	-.057	.286	.137	.105	.258	.272
i423 INNSALES	Sig.	.475	.546	.151	.811	.208	.504	.594	.194	.179
	N	17	13	18	20	21	26	28	27	26
i423 INNSALES	PC	-.149	-.027	.289	-.298	.176	-.059	-.028	.146	.144
	Sig.	.568	.930	.245	.202	.445	.774	.888	.469	.481
i423 INNSALES	N	17	13	18	20	21	26	28	27	26
	PC	.154	.511	.325	.031	.431	.297	.119	.289	.274
i423 INNSALES	Sig.	.556	.075	.188	.897	.051	.140	.546	.143	.176
	N	17	13	18	20	21	26	28	27	26
i423 INNSALES	PC	.477	.421	-.110	.097	-.028	.048	.003	.141	-.095
	Sig.	.099	.259	.708	.730	.909	.832	.990	.502	.675
i423 INNSALES	N	13	9	14	15	19	22	24	25	22
	PC	-.177	-.061	-.080	-.325	-.367	-.189	-.324	-.117	-.110
i423 INNSALES	Sig.	.496	.844	.753	.162	.102	.356	.093	.561	.592
	N	17	13	18	20	21	26	28	27	26
i423 INNSALES	PC	.524*	.494	.327	.101	.412	.457*	.256	.425*	.398*
	Sig.	.031	.086	.185	.672	.064	.019	.188	.027	.044
i423 INNSALES	N	17	13	18	20	21	26	28	27	26
	PC	-.149	-.216	-.358	-.272	-.135	-.187	-.331	-.086	.116
i423 INNSALES	Sig.	.568	.478	.145	.246	.560	.361	.085	.671	.574
	N	17	13	18	20	21	26	28	27	26

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

### Post-school entrepreneurial education and training

Data are taken from the Global Entrepreneurship Monitor. The indicator measures the extent to which training in creating or managing SMEs is incorporated within the education and training system in higher education such as vocational, college and business schools. Data availability is weak with data missing for 39% of all observations, and in particular with no data for Cyprus, Malta, and Ukraine (Table 43).

**Figure 20: Post-school entrepreneurial education and training**



Most recent data shown for all countries for which data are available.

The indicator is relatively stable over time, as shown by relatively high significant year-to-year correlation coefficients (Table 44). The indicator correlates positively with the SII, 4 EIS innovation dimensions (Human resources, Research system, Finance and support, and Linkages and entrepreneurship) and 7 EIS indicators (Table 45).<sup>29</sup>

Based on the summary of key characteristics, it is recommended **not to include this indicator**.

<b>Data availability</b>	Limited
<b>Stability over time</b>	Relatively stable
<b>Correlation with EIS</b>	Moderate

**Table 43 Data availability Post-school entrepreneurial education and training**

	2007	2008	2009	2010	2011	2012	2013	2014	2015
BE	3.35	n/a	3.08	n/a	n/a	3.02	3.09	2.75	5.37
BG	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.19
CZ	n/a	n/a	n/a	n/a	2.59	n/a	2.40	n/a	n/a
DK	2.21	2.38	2.80	n/a	n/a	2.65	n/a	3.43	n/a
DE	n/a	2.77	2.67	2.83	2.68	2.88	2.59	2.81	4.13
EE	n/a	n/a	n/a	n/a	n/a	2.71	3.04	2.99	4.79
IE	3.06	2.86	n/a	2.88	2.87	2.83	2.78	2.95	4.90
EL	n/a	2.50	2.44	2.51	2.64	2.44	2.56	2.31	4.55
ES	2.78	2.79	2.65	2.26	2.34	2.34	2.25	2.61	4.19
FR	n/a	n/a	n/a	3.14	2.98	3.24	2.69	2.92	n/a
HR	2.74	2.79	2.92	2.76	2.73	2.65	2.63	2.35	3.53
IT	3.24	2.68	2.99	2.82	n/a	2.46	2.60	2.33	4.27

<sup>29</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

	2007	2008	2009	2010	2011	2012	2013	2014	2015
CY	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LV	n/a	n/a	2.80	3.25	2.69	3.17	3.30	3.17	5.41
LT	n/a	n/a	n/a	n/a	2.75	2.57	2.77	3.07	n/a
LU	n/a	n/a	n/a	n/a	n/a	n/a	2.93	2.90	5.40
HU	n/a	n/a	3.17	2.89	2.69	2.74	2.80	2.82	4.30
MT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
NL	n/a	n/a	3.00	n/a	3.21	n/a	3.34	3.17	5.61
AT	3.02	n/a	n/a	n/a	n/a	3.05	n/a	3.02	n/a
PL	n/a	n/a	n/a	n/a	2.46	2.49	2.38	2.54	3.87
PT	n/a	n/a	n/a	2.87	2.81	2.59	2.95	3.04	4.74
RO	2.92	n/a	n/a	n/a	n/a	2.58	2.93	2.68	4.52
SI	2.96	2.97	2.87	2.98	2.64	2.64	2.81	2.34	3.93
SK	n/a	n/a	n/a	n/a	2.62	2.79	2.77	2.98	4.16
FI	2.72	2.86	2.77	2.98	2.77	2.87	2.94	2.70	4.22
SE	n/a	n/a	n/a	2.27	2.84	2.47	2.35	2.75	3.93
UK	2.76	n/a	2.22	2.60	2.60	2.92	2.58	3.02	5.04
IS	3.16	n/a	3.76	3.20	n/a	n/a	n/a	n/a	n/a
IL	2.91	n/a	3.28	2.90	n/a	3.28	3.04	n/a	4.27
MK	n/a	2.76	n/a	3.04	n/a	2.86	3.05	n/a	4.85
NO	2.98	2.80	2.96	2.54	2.63	2.90	2.62	2.56	4.12
CH	3.29	n/a	3.43	3.25	3.50	3.44	3.36	3.42	6.18
RS	2.97	2.90	3.22	n/a	n/a	n/a	n/a	n/a	n/a
UA	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TR	2.56	2.66	n/a	2.52	2.60	2.89	2.93	2.88	5.19

**Table 44 Post-school entrepreneurial education and training (POST SCHOOL): stability over time**

		POST SCHOOL 2008	POST SCHOOL 2009	POST SCHOOL 2010	POST SCHOOL 2011	POST SCHOOL 2012	POST SCHOOL 2013	POST SCHOOL 2014	POST SCHOOL 2015
POST SCHOOL 2007	PC	.672*	.539	.621*	.736*	.322	.389	-.226	.413
	Sig.	.033	.057	.031	.024	.243	.189	.438	.161
	N	10	13	12	9	15	13	14	13
POST SCHOOL 2008	PC	1	.450	.471	.201	.285	.203	-.417	-.368
	Sig.		.192	.144	.604	.369	.549	.202	.265
	N	13	10	11	9	12	11	11	11
POST SCHOOL 2009	PC	.450	1	.622*	.663*	.499	.582*	.211	.222
	Sig.	.192		.018	.019	.058	.023	.450	.427
	N	10	18	14	12	15	15	15	15
POST SCHOOL 2010	PC	.471	.622*	1	.602*	.681**	.806**	.445	.447
	Sig.	.144	.018		.014	.001	.000	.074	.063
	N	11	14	20	16	19	19	17	18
POST SCHOOL 2011	PC	.201	.663*	.602*	1	.667**	.690**	.613**	.659**
	Sig.	.604	.019	.014		.002	.001	.004	.003
	N	9	12	16	21	19	21	20	18
POST SCHOOL 2012	PC	.285	.499	.681**	.667**	1	.679**	.549**	.628**
	Sig.	.369	.058	.001	.002		.000	.004	.001
	N	12	15	19	19	27	25	25	23
POST SCHOOL 2013	PC	.203	.582*	.806**	.690**	.679**	1	.628**	.736**
	Sig.	.549	.023	.000	.001	.000		.001	.000
	N	11	15	19	21	25	28	25	25
POST SCHOOL 2014	PC	-.417	.211	.445	.613**	.549**	.628**	1	.758**
	Sig.	.202	.450	.074	.004	.004	.001		.000
	N	11	15	17	20	25	25	27	23

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

**Table 45 Pearson correlation (PC) results between Post-school entrepreneurial education and training (POST SCHOOL) and SII, EIS dimensions and EIS indicators**

		POST SCHOO L 2007	POST SCHOO L 2008	POST SCHOO L 2009	POST SCHOO L 2010	POST SCHOO L 2011	POST SCHOO L 2012	POST SCHOO L 2013	POST SCHOO L 2014	POST SCHOO L 2015
SII	PC	.145	-.054	.168	.082	.649**	.424*	.142	.439*	.341
	Sig.	.578	.860	.505	.732	.001	.027	.472	.022	.088
	N	17	13	18	20	21	27	28	27	26
HUMAN RESOURCES	PC	-.076	-.022	-.017	.031	.570**	.238	.072	.420*	.232
	Sig.	.771	.942	.945	.898	.007	.233	.714	.029	.254
	N	17	13	18	20	21	27	28	27	26
RESEARCH SYSTEM	PC	.217	-.262	.159	.046	.654**	.370	.182	.382*	.460*
	Sig.	.403	.387	.529	.849	.001	.057	.354	.049	.018
	N	17	13	18	20	21	27	28	27	26
INNOVATION FRIENDLY ENVIRONMENT	PC	-.176	-.164	.268	.091	.342	.150	.221	.491**	.280
	Sig.	.499	.592	.282	.703	.129	.455	.259	.009	.167
	N	17	13	18	20	21	27	28	27	26
FINANCE SUPPORT	PC	-.103	-.216	.121	.022	.499*	.222	.105	.554**	.253
	Sig.	.695	.478	.633	.926	.021	.267	.595	.003	.212
	N	17	13	18	20	21	27	28	27	26
FIRM INVESTMENTS	PC	.136	.302	.411	.055	.422	.530**	.066	.205	.048
	Sig.	.604	.316	.090	.819	.057	.004	.738	.306	.815
	N	17	13	18	20	21	27	28	27	26
INNOVATORS	PC	.397	-.005	.221	.104	.624**	.361	.145	.187	.374
	Sig.	.114	.987	.377	.662	.003	.064	.461	.350	.060
	N	17	13	18	20	21	27	28	27	26
LINKAGES	PC	.238	-.081	.179	.107	.592**	.444*	.221	.311	.306
	Sig.	.358	.794	.477	.654	.005	.020	.259	.114	.128
	N	17	13	18	20	21	27	28	27	26
INTELLECTUAL ASSETS	PC	.016	-.192	.041	.093	.526*	.249	.109	.328	.169
	Sig.	.952	.531	.872	.695	.014	.210	.581	.094	.410
	N	17	13	18	20	21	27	28	27	26
EMPLOYMENT IMPACT	PC	.204	.148	.366	.093	.353	.305	-.021	.330	.076
	Sig.	.431	.630	.135	.698	.117	.122	.914	.093	.711
	N	17	13	18	20	21	27	28	27	26
SALES IMPACT	PC	.141	.169	-.215	.045	.273	.383*	-.028	.331	.279
	Sig.	.591	.582	.391	.851	.231	.049	.889	.091	.168
	N	17	13	18	20	21	27	28	27	26
i111 DOCGRADES	PC	-.135	.114	-.328	-.076	.389	.120	-.057	.224	-.024
	Sig.	.606	.711	.184	.751	.082	.550	.774	.260	.909
	N	17	13	18	20	21	27	28	27	26
i112 TEREDUC	PC	.118	.100	.053	.030	.372	.225	.099	.360	.369
	Sig.	.676	.756	.846	.902	.096	.268	.623	.065	.070
	N	15	12	16	19	21	26	27	27	25
i113 LIFELONG	PC	-.115	-.162	.372	.127	.592**	.306	.152	.426*	.265
	Sig.	.684	.615	.155	.604	.005	.129	.449	.027	.200
	N	15	12	16	19	21	26	27	27	25
i121 INTCOPUB	PC	.127	-.115	.299	.021	.564**	.225	.152	.323	.290
	Sig.	.627	.708	.228	.931	.008	.260	.441	.101	.151
	N	17	13	18	20	21	27	28	27	26
i122 MOSTCITED	PC	.193	-.238	-.083	-.072	.551**	.303	.090	.313	.402*
	Sig.	.457	.434	.743	.764	.010	.124	.647	.112	.042
	N	17	13	18	20	21	27	28	27	26
i123 FORDOCST	PC	.301	-.444	.169	.173	.721**	.544**	.252	.460*	.635**
	Sig.	.257	.148	.532	.492	.000	.005	.214	.018	.001
	N	16	12	16	18	20	25	26	26	24
i131 BROADBAND	PC	-.310	-.028	.074	-.063	.257	.052	.351	.484*	.346
	Sig.	.281	.927	.795	.812	.274	.804	.079	.012	.098
	N	14	13	15	17	20	25	26	26	24
i132 OPPENTRE	PC	-.157	-.280	.276	.101	.391	.242	.028	.383*	.143
	Sig.	.547	.354	.267	.672	.080	.225	.888	.048	.485
	N	17	13	18	20	21	27	28	27	26
i211 PUBRD	PC	-.127	-.322	.080	-.098	.352	.138	-.064	.394*	.088
	Sig.	.626	.284	.752	.681	.118	.491	.747	.042	.668
	N	17	13	18	20	21	27	28	27	26
i212 VENTCAP	PC	-.121	.078	-.205	.072	.410	.236	.269	.508**	.366
	Sig.	.667	.809	.429	.777	.073	.247	.176	.008	.072
	N	15	12	17	18	20	26	27	26	25
i221 BUSRD	PC	.109	.032	.270	.097	.461*	.432*	.049	.218	-.005
	Sig.	.677	.918	.278	.683	.035	.025	.804	.274	.980
	N	17	13	18	20	21	27	28	27	26
i222 NONRD	PC	.112	.193	.424	.004	.119	.114	-.065	.027	-.001
	Sig.	.692	.528	.102	.989	.606	.578	.749	.892	.996
	N	15	13	16	18	21	26	27	27	25

		POST SCHOO L 2007	POST SCHOO L 2008	POST SCHOO L 2009	POST SCHOO L 2010	POST SCHOO L 2011	POST SCHOO L 2012	POST SCHOO L 2013	POST SCHOO L 2014	POST SCHOO L 2015
i223 ICTSKILLS	PC	-.040	.305	-.019	-.216	.085	.379	-.068	.093	.071
	Sig.	.891	.334	.944	.404	.728	.068	.746	.659	.747
	N	14	12	16	17	19	24	25	25	23
i311 PPINNOV	PC	.373	-.006	.192	.106	.616**	.263	.163	.197	.373
	Sig.	.140	.985	.446	.655	.003	.185	.407	.325	.060
	N	17	13	18	20	21	27	28	27	26
i312 MOINNOV	PC	.289	-.098	.154	.116	.542*	.512*	.166	.218	.415*
	Sig.	.260	.750	.542	.628	.011	.006	.400	.274	.035
	N	17	13	18	20	21	27	28	27	26
i313 INHOUSE	PC	.433	.055	.204	.013	.619**	.264	.081	.125	.277
	Sig.	.094	.858	.432	.956	.003	.183	.681	.533	.170
	N	16	13	17	19	21	27	28	27	26
i321 COLLAB	PC	.184	.005	-.046	-.091	.188	.244	.026	.110	.179
	Sig.	.479	.986	.856	.704	.413	.220	.897	.585	.383
	N	17	13	18	20	21	27	28	27	26
i322 PPCOPUB	PC	.122	-.233	.366	.184	.647**	.318	.112	.332	.218
	Sig.	.642	.444	.135	.437	.002	.106	.570	.091	.285
	N	17	13	18	20	21	27	28	27	26
i323 COFUNDING	PC	.253	.091	.063	.163	.443*	.439*	.409*	.254	.377
	Sig.	.328	.778	.805	.505	.044	.025	.034	.201	.063
	N	17	12	18	19	21	26	27	27	25
i331 PATENTS	PC	.020	.054	.247	.011	.533*	.379	.082	.272	.071
	Sig.	.940	.868	.339	.964	.013	.051	.680	.171	.731
	N	16	12	17	20	21	27	28	27	26
i332 TRADEMARK	PC	.171	-.017	.244	.247	.529*	.286	.244	.327	.249
	Sig.	.511	.956	.329	.294	.014	.148	.211	.096	.220
	N	17	13	18	20	21	27	28	27	26
i333 DESIGNS	PC	-.093	-.388	-.220	.025	.316	-.023	-.035	.256	.117
	Sig.	.723	.191	.381	.918	.163	.910	.861	.198	.569
	N	17	13	18	20	21	27	28	27	26
i411 KIAEMPL	PC	.333	.156	.457	.155	.629**	.440*	.141	.289	.293
	Sig.	.192	.612	.056	.514	.002	.022	.475	.144	.147
	N	17	13	18	20	21	27	28	27	26
i412 HIGHGROW	PC	-.185	.006	-.260	-.190	-.121	-.002	-.205	.242	-.039
	Sig.	.545	.988	.368	.497	.623	.992	.336	.244	.863
	N	13	9	14	15	19	23	24	25	22
i421 MHTEXPORT	PC	-.005	.232	-.163	.077	.036	.148	-.109	.150	-.060
	Sig.	.985	.445	.517	.748	.876	.460	.582	.454	.772
	N	17	13	18	20	21	27	28	27	26
i422 KISEXPORT	PC	.134	-.096	.000	.045	.391	.378	.130	.330	.388
	Sig.	.607	.754	1.000	.850	.080	.052	.509	.093	.050
	N	17	13	18	20	21	27	28	27	26
i423 INNSALES	PC	.153	.278	-.277	-.022	.172	.295	-.099	.212	.237
	Sig.	.559	.358	.266	.925	.457	.135	.618	.289	.243
	N	17	13	18	20	21	27	28	27	26

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

### ***Total R&D personnel in the Business enterprise sector (Full time equivalent % of the labour force)***

Data are taken from Eurostat. Data availability is good with data being available for most Member States, except for France (Table 46). Data for several other European countries are not available from Eurostat but could be extracted from other sources, e.g. OECD or UNESCO Institute for Statistics.

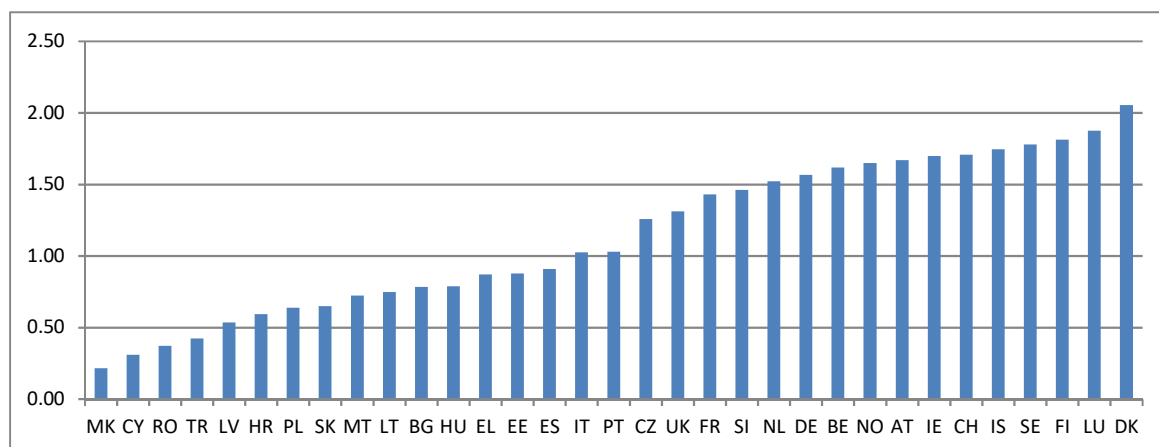
R&D personnel in the business sector is very stable over time, in particular in the most recent years as shown by high significant year-to-year correlation coefficients, but stability has decreased in 2014 and 2015 (Table 47). The indicator correlates

positively and highly with the SII (correlation coefficients of at least 0.900), all 10 EIS dimensions and 21 EIS indicators (Table 48).<sup>30</sup>

Based on the summary of key characteristics, it is recommended to **include this indicator**.

<b>Data availability</b>	Very good
<b>Stability over time</b>	Relatively stable
<b>Correlation with EIS</b>	Strong

**Figure 21: Total R&D personnel in the Business enterprise sector (Full time equivalent % of the labour force)**



Most recent data shown for all countries for which data are available.

**Table 46 Data availability Total R&D personnel in the Business enterprise sector (Full time equivalent % of the labour force)**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
EU	1.02	1.05	1.05	1.08	1.11	1.13	1.15	1.17	1.21	1.22
BE	1.23	1.23	1.25	1.24	1.31	1.38	1.39	1.48	1.58	1.62
BG	0.49	0.49	0.53	0.49	0.51	0.51	0.53	0.58	0.69	0.78
CZ	0.96	0.98	0.98	1.01	1.08	1.17	1.19	1.24	1.28	1.26
DK	1.63	2.01	1.93	1.97	2.01	2.03	2.04	2.06	2.08	2.05
DE	1.24	1.28	1.30	1.37	1.42	1.46	1.44	1.48	1.56	1.57
EE	0.75	0.76	0.82	0.80	0.86	0.89	0.89	0.89	0.86	0.88
IE	0.82	0.90	0.90	0.92	1.02	1.07	1.14	1.35	1.67	1.70
EL	0.73	n/a	n/a	n/a	0.76	0.77	0.88	0.91	1.05	0.87
ES	0.90	0.94	0.96	0.96	0.92	0.90	0.88	0.88	0.88	0.91
FR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.43	n/a	n/a
HR	0.54	0.56	0.58	0.58	0.58	0.57	0.58	0.54	0.57	0.59
IT	0.87	0.91	0.94	0.93	0.94	0.97	0.99	1.00	1.04	1.02
CY	0.32	0.31	0.32	0.32	0.31	0.29	0.29	0.30	0.30	0.31
LV	0.57	0.60	0.51	0.54	0.54	0.56	0.55	0.59	0.58	0.54
LT	0.84	0.84	0.80	0.82	0.77	0.72	0.77	0.82	0.74	0.75
LU	2.18	2.18	2.08	2.17	2.22	1.93	1.98	2.03	1.91	1.88
HU	0.62	0.66	0.72	0.75	0.81	0.84	0.89	0.85	0.82	0.79
MT	0.52	0.56	0.54	0.64	0.77	0.80	0.73	0.76	0.74	0.72
NL	1.09	1.07	1.01	1.17	1.37	1.41	1.41	1.43	1.48	1.52
AT	1.31	1.42	1.37	1.45	1.46	1.54	1.55	1.63	1.65	1.67
PL	0.45	0.44	0.43	0.48	0.50	0.53	0.55	0.61	0.64	n/a
PT	0.68	0.92	0.91	0.92	0.97	0.93	0.93	0.94	0.97	1.03

<sup>30</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
RO	0.31	0.32	0.30	0.29	0.34	0.35	0.37	0.35	0.35	0.37
SI	1.03	1.14	1.22	1.27	1.53	1.50	1.54	1.50	1.43	1.46
SK	0.58	0.58	0.60	0.67	0.68	0.67	0.64	0.65	0.65	0.65
FI	2.13	2.12	2.12	2.12	2.07	2.05	2.02	1.99	1.92	1.81
SE	1.59	1.66	1.61	1.60	1.61	1.66	1.63	1.67	1.66	1.78
UK	1.14	1.12	1.13	1.14	1.15	1.14	1.20	1.26	1.30	1.31
IS	1.72	1.77	1.98	n/a	1.90	n/a	1.56	n/a	1.63	1.75
IL	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MK	0.15	0.14	0.12	0.15	0.12	0.18	0.16	0.21	0.21	n/a
NO	1.38	1.41	1.43	1.43	1.45	1.46	1.48	1.53	1.59	1.65
CH	n/a	n/a	n/a	n/a	n/a	1.71	n/a	n/a	n/a	n/a
RS	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
UA	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TR	0.29	0.29	0.31	0.33	0.36	0.40	0.41	0.41	0.42	n/a

**Table 47 Total R&D personnel in the Business enterprise sector (Full time equivalent % of the labour force): stability over time**

		R&D PERS 2008	R&D PERS 2009	R&D PERS 2010	R&D PERS 2011	R&D PERS 2012	R&D PERS 2013	R&D PERS 2014	R&D PERS 2015	R&D PERS 2016
R&D PERS 2007	PC	.989**	.986**	.987**	.972**	.956**	.953**	.951**	.914**	.887**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	31	31	30	32	31	32	31	32	29
R&D PERS 2008	PC	1	.994**	.996**	.983**	.972**	.968**	.965**	.933**	.908**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	31	31	30	31	30	31	30	31	28
R&D PERS 2009	PC	.994**	1	.997**	.985**	.976**	.964**	.968**	.929**	.906**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	31	31	30	31	30	31	30	31	28
R&D PERS 2010	PC	.996**	.997**	1	.992**	.983**	.982**	.975**	.943**	.914**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	30	30	30	30	30	30	30	30	27
R&D PERS 2011	PC	.983**	.985**	.992**	1	.993**	.987**	.985**	.950**	.934**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	31	31	30	32	31	32	31	32	29
R&D PERS 2012	PC	.972**	.976**	.983**	.993**	1	.998**	.992**	.968**	.954**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	30	30	30	31	32	31	31	31	28
R&D PERS 2013	PC	.968**	.964**	.982**	.987**	.998**	1	.996**	.976**	.960**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	31	31	30	32	31	32	31	32	29
R&D PERS 2014	PC	.965**	.968**	.975**	.985**	.992**	.996**	1	.989**	.978**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	30	30	30	31	31	31	32	31	28
R&D PERS 2015	PC	.933**	.929**	.943**	.950**	.968**	.976**	.989**	1	.993**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	31	31	30	32	31	32	31	32	29

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

**Table 48 Pearson correlation (PC) results between Total R&D personnel in the Business enterprise sector (Full time equivalent % of the labour force) and SII, EIS dimensions and EIS indicators**

		R&D PERS 2007	R&D PERS 2008	R&D PERS 2009	R&D PERS 2010	R&D PERS 2011	R&D PERS 2012	R&D PERS 2013	R&D PERS 2014	R&D PERS 2015	R&D PERS 2016
SII	PC	.860**	.867**	.860**	.874**	.883**	.899**	.903**	.916**	.921**	.919**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
HUMAN RESOURCES	PC	.794**	.815**	.804**	.818**	.811**	.833**	.830**	.835**	.823**	.799**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
RESEARCH SYSTEM	PC	.812**	.820**	.813**	.812**	.832**	.831**	.835**	.846**	.857**	.838**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
INNOVATION FRIENDLY ENVIRONMENT	PC	.746**	.790**	.781**	.750**	.755**	.736**	.719**	.705**	.678**	.693**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
FINANCE	PC	.693**	.692**	.694**	.666**	.674**	.686**	.677**	.664**	.651**	.623**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29

		R&D PERS 2007	R&D PERS 2008	R&D PERS 2009	R&D PERS 2010	R&D PERS 2011	R&D PERS 2012	R&D PERS 2013	R&D PERS 2014	R&D PERS 2015	R&D PERS 2016
SUPPORT	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
FIRM INVESTMENTS	PC	.589**	.594**	.615**	.596**	.616**	.664**	.653**	.645**	.667**	.772**
	Sig.	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000
INNOVATORS	N	32	31	31	30	32	32	32	32	32	29
	PC	.634**	.648**	.647**	.637**	.644**	.664**	.659**	.681**	.724**	.766**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
LINKAGES	PC	.642**	.632**	.647**	.619**	.655**	.693**	.688**	.680**	.698**	.693**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
INTELLECTUAL ASSETS	PC	.613**	.626**	.599**	.676**	.644**	.699**	.637**	.652**	.600**	.516**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.004
	N	32	31	31	30	32	32	32	32	32	29
EMPLOYMENT IMPACT	PC	.485**	.472**	.479**	.448*	.523**	.496**	.506**	.511**	.564**	.470**
	Sig.	.005	.007	.006	.013	.002	.004	.003	.003	.001	.010
	N	32	31	31	30	32	32	32	32	32	29
SALES IMPACT	PC	.300	.280	.267	.384*	.326	.461**	.384*	.473**	.438*	.407**
	Sig.	.095	.127	.147	.036	.068	.008	.030	.006	.012	.029
	N	32	31	31	30	32	32	32	32	32	29
i111 DOCGRADES	PC	.521**	.556**	.548**	.648**	.582**	.719**	.647**	.688**	.662**	.597**
	Sig.	.002	.001	.001	.000	.000	.000	.000	.000	.000	.001
	N	32	31	31	30	32	32	32	32	32	29
i112 TEREDUC	PC	.418*	.408*	.388*	.387*	.381*	.381*	.370*	.403*	.402*	.358
	Sig.	.017	.023	.031	.035	.032	.031	.037	.022	.023	.056
	N	32	31	31	30	32	32	32	32	32	29
i113 LIFELONG	PC	.832**	.852**	.852**	.831**	.838**	.839**	.823**	.808**	.768**	.763**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
i121 INTCOPUB	PC	.832**	.846**	.849**	.832**	.856**	.855**	.844**	.835**	.841**	.832**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
i122 MOSTCITED	PC	.666**	.680**	.672**	.705**	.707**	.758**	.740**	.763**	.783**	.735**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
i123 FORDOCST	PC	.745**	.739**	.721**	.718**	.739**	.722**	.727**	.738**	.751**	.730**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	31	31	31	30	31	31	31	31	31	28
i131 BROADBAND	PC	.550**	.596**	.572**	.572**	.562**	.558**	.539**	.509**	.498**	.539**
	Sig.	.001	.001	.001	.001	.001	.001	.002	.003	.004	.003
	N	31	30	30	30	31	31	31	32	31	28
i132 OPPENTRE	PC	.773**	.794**	.797**	.762**	.770**	.767**	.743**	.746**	.710**	.694**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	31	30	30	29	31	31	31	31	31	28
i211 PUBRD	PC	.701**	.718**	.707**	.726**	.707**	.752**	.731**	.718**	.692**	.646**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
i212 VENTCAP	PC	.371*	.346	.343	.326	.315	.329	.322	.341	.325	.257
	Sig.	.043	.066	.068	.085	.090	.071	.083	.061	.079	.186
	N	30	29	29	29	30	31	30	31	30	28
i221 BUSRD	PC	.724**	.746**	.756**	.760**	.772**	.838**	.824**	.824**	.829**	.830**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
i222 NONRD	PC	-.287	-.300	-.288	-.300	-.319	-.170	-.294	-.301	-.297	-.126
	Sig.	.117	.107	.123	.108	.080	.351	.108	.095	.105	.524
	N	31	30	30	30	31	32	31	32	31	28
i223 ICTSKILLS	PC	.670**	.676**	.675**	.706**	.700**	.732**	.722**	.728**	.749**	.752**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	31	30	30	29	31	30	31	31	31	29
i311 PPINNOV	PC	.558**	.568**	.568**	.546**	.564**	.587**	.579**	.594**	.639**	.742**
	Sig.	.001	.001	.001	.002	.001	.000	.001	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
i312 MOINNOV	PC	.589**	.611**	.607**	.605**	.602**	.614**	.607**	.633**	.674**	.742**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
i313 INHOUSE	PC	.636**	.644**	.648**	.654**	.646**	.688**	.673**	.701**	.731**	.702**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	31	30	30	30	31	32	31	32	31	28
i321 COLLAB	PC	.586**	.580**	.598**	.555**	.574**	.535**	.601**	.608**	.642**	.637**
	Sig.	.000	.001	.000	.001	.001	.002	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
i322	PC	.735**	.761**	.782**	.757**	.793**	.824**	.805**	.816**	.811**	.807**



		R&D PERS 2007	R&D PERS 2008	R&D PERS 2009	R&D PERS 2010	R&D PERS 2011	R&D PERS 2012	R&D PERS 2013	R&D PERS 2014	R&D PERS 2015	R&D PERS 2016
PPCOPUB	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
i323 COFUNDING	PC	.130	.090	.085	.128	.109	.235	.150	.151	.126	.164
	Sig.	.484	.636	.654	.507	.560	.203	.420	.418	.499	.396
i331 PATENTS	N	31	30	30	29	31	31	31	31	31	29
	PC	.783**	.790**	.787**	.811**	.808**	.867**	.846**	.845**	.839**	.826**
i332 TRADEMARK	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
i333 DESIGNS	PC	.368*	.360*	.343	.370*	.382*	.384*	.331	.314	.280	.120
	Sig.	.038	.047	.059	.044	.031	.030	.064	.080	.121	.534
i411 KIAEMPL	N	32	31	31	30	32	32	32	32	32	29
	PC	.357*	.379*	.338	.473**	.390*	.484**	.388*	.436*	.356*	.289
i412 HIGHGROW	Sig.	.045	.036	.063	.008	.027	.005	.028	.013	.045	.128
	N	32	31	31	30	32	32	32	32	32	29
i421 MHTEXPORT	PC	.710**	.694**	.694**	.680**	.728**	.709**	.703**	.712**	.735**	.670**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
i422 KISEXPORT	N	32	31	31	30	32	32	32	32	32	29
	PC	.619**	.605**	.591**	.592**	.601**	.599**	.610**	.641**	.681**	.651**
i423 INNSALES	Sig.	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000
	N	32	31	31	30	32	32	32	32	32	29
i423 INNSALES	PC	.010	.002	.014	.082	.030	.178	.091	.162	.150	.122
	Sig.	.957	.993	.941	.668	.872	.331	.620	.377	.413	.527
	N	32	31	31	30	32	32	32	32	32	29

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

## 5.2.7 Government, governance and regulatory quality

### Rule of Law

Data are extracted from the World Bank and are available for all countries included in the EIS. Rule of law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.

Rule of Law is highly stable over time, as shown by high significant year-to-year correlation coefficients (Table 49). Rule of Law correlates highly positively with the SII, all EIS dimensions and 22 EIS indicators (Table 50).<sup>31 32</sup>

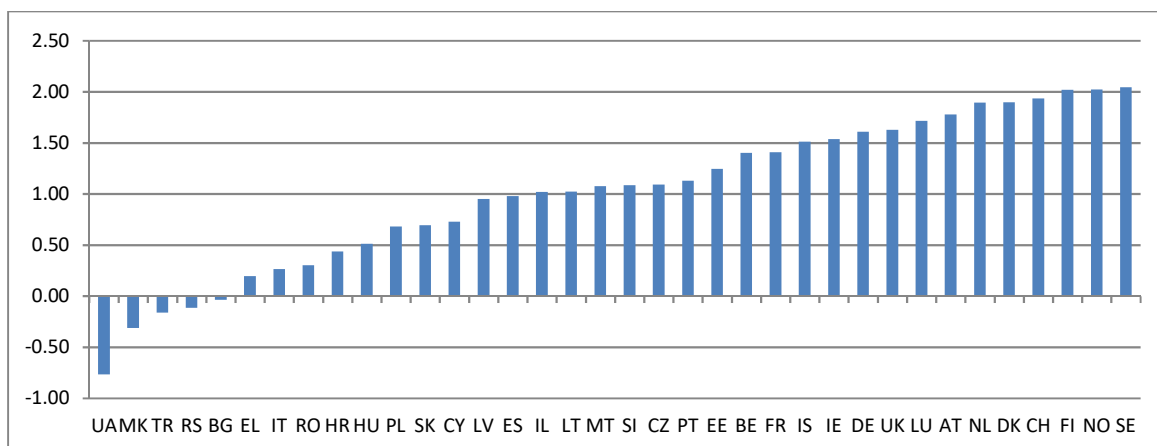
Based on the summary of key characteristics, it is recommended to **include this indicator**.

<b>Data availability</b>	Full
<b>Stability over time</b>	Highly stable
<b>Correlation with EIS</b>	Strong

**Figure 22: Rule of Law**

<sup>31</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

<sup>32</sup> The only EIS indicators that do not correlate with Rule of Law are: Non-R&D innovation expenditures, Private co-funding of public R&D expenditures, Employment fast-growing enterprises in innovative sectors, Medium and high-tech product exports, and Sales of new-to-market and new-to-firm product innovations.



Most recent data shown for all countries for which data are available.

**Table 49 Rule of Law: stability over time**

		RULE LAW 2008	RULE LAW 2009	RULE LAW 2010	RULE LAW 2011	RULE LAW 2012	RULE LAW 2013	RULE LAW 2014	RULE LAW 2015	RULE LAW 2016
RULE LAW 2007	PC	.998**	.993**	.991**	.985**	.982**	.979**	.963**	.957**	.947**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
RULE LAW 2008	PC	1	.995**	.993**	.988**	.985**	.982**	.965**	.959**	.948**
	Sig.		.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
RULE LAW 2009	PC	.995**	1	.999**	.995**	.994**	.992**	.979**	.974**	.965**
	Sig.	.000		.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
RULE LAW 2010	PC	.993**	.999**	1	.997**	.996**	.994**	.982**	.978**	.968**
	Sig.	.000	.000		.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
RULE LAW 2011	PC	.988**	.995**	.997**	1	.997**	.996**	.986**	.983**	.975**
	Sig.	.000	.000	.000		.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
RULE LAW 2012	PC	.985**	.994**	.996**	.997**	1	.999**	.993**	.990**	.981**
	Sig.	.000	.000	.000	.000		.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
RULE LAW 2013	PC	.982**	.992**	.994**	.996**	.999**	1	.994**	.991**	.983**
	Sig.	.000	.000	.000	.000	.000		.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
RULE LAW 2014	PC	.965**	.979**	.982**	.986**	.993**	.994**	1	.998**	.987**
	Sig.	.000	.000	.000	.000	.000	.000		.000	.000
	N	36	36	36	36	36	36	36	36	36
RULE LAW 2015	PC	.959**	.974**	.978**	.983**	.990**	.991**	.998**	1	.989**
	Sig.	.000	.000	.000	.000	.000	.000	.000		.000
	N	36	36	36	36	36	36	36	36	36

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

**Table 50 Pearson correlation (PC) results between Rule of Law and SII, EIS dimensions and EIS indicators**

		RULE LAW 2007	RULE LAW 2008	RULE LAW 2009	RULE LAW 2010	RULE LAW 2011	RULE LAW 2012	RULE LAW 2013	RULE LAW 2014	RULE LAW 2015	RULE LAW 2016
SII	PC	.883**	.876**	.887**	.890**	.899**	.900**	.900**	.914**	.914**	.903**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
HUMAN RESOURCES	PC	.791**	.790**	.810**	.810**	.815**	.820**	.819**	.837**	.843**	.854**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
RESEARCH SYSTEM	PC	.856**	.852**	.858**	.861**	.862**	.860**	.861**	.865**	.861**	.840**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
INNOVATION FRIENDLY ENVIRONMENT	PC	.704**	.709**	.727**	.725**	.733**	.738**	.742**	.741**	.746**	.771**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35	35	35
FINANCE SUPPORT	PC	.733**	.732**	.735**	.743**	.754**	.760**	.761**	.781**	.784**	.799**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
FIRM INVESTMENTS	PC	.441**	.433**	.440**	.448**	.474**	.476**	.482**	.506**	.514**	.505**
	Sig.	.007	.008	.007	.006	.003	.003	.003	.002	.001	.002
	N	36	36	36	36	36	36	36	36	36	36
INNOVATORS	PC	.658**	.648**	.652**	.655**	.653**	.663**	.662**	.670**	.666**	.625**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
LINKAGES	PC	.692**	.686**	.687**	.691**	.704**	.708**	.708**	.726**	.723**	.728**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
INTELLECTUAL ASSETS	PC	.709**	.704**	.708**	.704**	.702**	.703**	.702**	.700**	.698**	.674**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
EMPLOYMENT IMPACT	PC	.555**	.542**	.535**	.537**	.542**	.529**	.527**	.516**	.533**	.522**
	Sig.	.000	.001	.001	.001	.001	.001	.001	.001	.001	.001
	N	36	36	36	36	36	36	36	36	36	36
SALES IMPACT	PC	.485**	.484**	.498**	.505**	.518**	.493**	.491**	.508**	.505**	.483**
	Sig.	.003	.003	.002	.002	.001	.002	.002	.002	.002	.003
	N	36	36	36	36	36	36	36	36	36	36
i111 DOCGRADES	PC	.528**	.519**	.546**	.540**	.556**	.553**	.554**	.580**	.585**	.624**
	Sig.	.001	.001	.001	.001	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i112 TEREDUC	PC	.580**	.594**	.619**	.631**	.618**	.631**	.626**	.624**	.635**	.602**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	33	33	33	33	33	33	33	33	33	33
i113 LIFELONG	PC	.776**	.778**	.786**	.787**	.792**	.792**	.794**	.801**	.797**	.807**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	33	33	33	33	33	33	33	33	33	33
i121 INTCOPUB	PC	.845**	.845**	.854**	.853**	.860**	.860**	.861**	.866**	.867**	.855**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i122 MOSTCITED	PC	.860**	.853**	.855**	.857**	.854**	.849**	.848**	.847**	.838**	.808**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i123 FORDOCST	PC	.707**	.701**	.716**	.724**	.722**	.725**	.725**	.736**	.728**	.716**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	33	33	33	33	33	33	33	33	33	33
i131 BROADBAND	PC	.481**	.486**	.527**	.522**	.536**	.544**	.547**	.552**	.562**	.606**
	Sig.	.005	.005	.002	.002	.002	.001	.001	.001	.001	.000
	N	32	32	32	32	32	32	32	32	32	32
i132 OPPENTRE	PC	.790**	.793**	.787**	.788**	.789**	.791**	.795**	.793**	.793**	.799**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35	35	35
i211 PUBRD	PC	.641**	.638**	.634**	.639**	.665**	.662**	.666**	.688**	.698**	.722**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i212 VENTCAP	PC	.597**	.597**	.616**	.626**	.615**	.634**	.629**	.650**	.645**	.655**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	34	34	34	34	34	34	34	34	34	34
i221 BUSRD	PC	.629**	.620**	.625**	.625**	.649**	.643**	.647**	.662**	.665**	.668**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i222 NONRD	PC	-.306	-.317	-.309	-.300	-.286	-.268	-.263	-.235	-.224	-.218
	Sig.	.078	.068	.075	.085	.101	.125	.133	.181	.203	.215
	N	34	34	34	34	34	34	34	34	34	34

		RULE LAW 2007	RULE LAW 2008	RULE LAW 2009	RULE LAW 2010	RULE LAW 2011	RULE LAW 2012	RULE LAW 2013	RULE LAW 2014	RULE LAW 2015	RULE LAW 2016
i223 ICTSKILLS	PC	.698**	.695**	.711**	.711**	.721**	.721**	.720**	.725**	.715**	.705**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	32	32	32	32	32	32	32	32	32
i311 PPINNOV	PC	.613**	.604**	.616**	.618**	.616**	.631**	.630**	.642**	.634**	.592**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i312 MOINNOV	PC	.600**	.590**	.591**	.598**	.596**	.597**	.600**	.610**	.601**	.559**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i313 INHOUSE	PC	.638**	.626**	.625**	.625**	.626**	.635**	.633**	.635**	.638**	.609**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35	35	35
i321 COLLAB	PC	.635**	.631**	.635**	.643**	.647**	.649**	.650**	.661**	.657**	.628**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i322 PPCOPUB	PC	.737**	.731**	.728**	.723**	.736**	.731**	.729**	.736**	.730**	.734**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i323 COFUNDING	PC	.160	.156	.157	.160	.176	.196	.197	.230	.231	.275
	Sig.	.367	.378	.375	.365	.320	.267	.265	.191	.188	.115
	N	34	34	34	34	34	34	34	34	34	34
i331 PATENTS	PC	.725**	.718**	.725**	.727**	.742**	.738**	.740**	.751**	.753**	.749**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35	35	35
i332 TRADEMARK	PC	.547**	.549**	.549**	.547**	.533**	.533**	.528**	.521**	.524**	.486**
	Sig.	.001	.001	.001	.001	.001	.001	.001	.001	.001	.003
	N	36	36	36	36	36	36	36	36	36	36
i333 DESIGNS	PC	.455**	.446**	.450**	.441**	.435**	.443**	.443**	.435**	.427**	.408**
	Sig.	.005	.006	.006	.007	.008	.007	.007	.008	.009	.013
	N	36	36	36	36	36	36	36	36	36	36
i411 KIAEMPL	PC	.672**	.664**	.662**	.664**	.665**	.661**	.659**	.660**	.669**	.632**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i412 HIGHGROW	PC	.091	.075	.065	.057	.051	.034	.030	-.002	.006	.017
	Sig.	.639	.699	.736	.769	.792	.860	.876	.993	.975	.932
	N	29	29	29	29	29	29	29	29	29	29
i421 MHTEXPORT	PC	.159	.165	.183	.184	.201	.180	.179	.183	.178	.181
	Sig.	.354	.337	.284	.282	.239	.293	.296	.285	.300	.290
	N	36	36	36	36	36	36	36	36	36	36
i422 KISEXPORT	PC	.638**	.637**	.650**	.653**	.651**	.647**	.648**	.668**	.668**	.617**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i423 INNSALES	PC	.217	.209	.208	.219	.232	.204	.199	.213	.210	.212
	Sig.	.204	.221	.224	.199	.173	.233	.244	.213	.219	.214
	N	36	36	36	36	36	36	36	36	36	36

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

## Government Effectiveness

Data are extracted from the World Bank and are available for all countries included in the EIS. Government effectiveness captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.

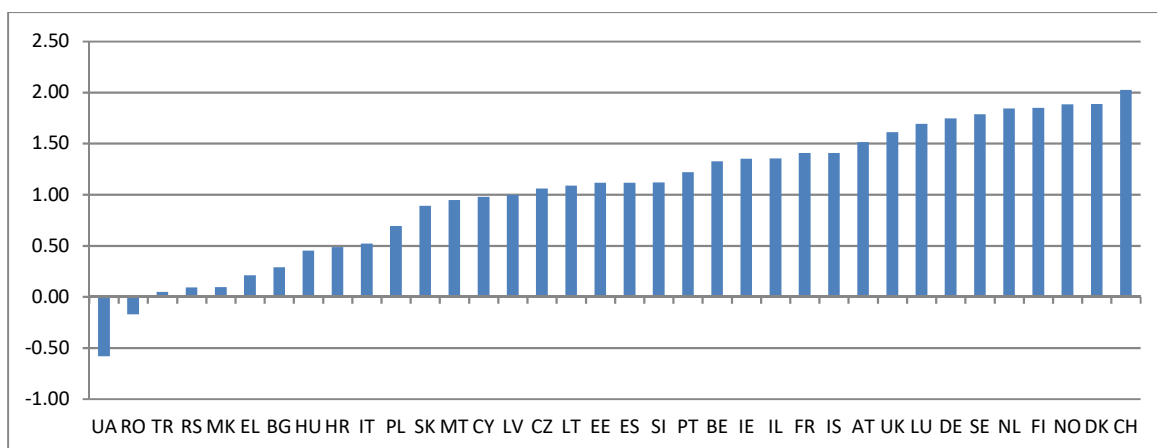
Government Effectiveness is highly stable over time, as shown by high significant year-to-year correlation coefficients (Table 51). Government Effectiveness correlates highly positively with the SII, all EIS dimensions and 22 EIS indicators (Table 52).<sup>33 34</sup>

<sup>33</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

Based on the summary of key characteristics, it is recommended to **include this indicator**.

<b>Data availability</b>	Full
<b>Stability over time</b>	Highly stable
<b>Correlation with EIS</b>	Strong

**Figure 23: Government Effectiveness**



Most recent data shown for all countries for which data are available.

**Table 51 Government Effectiveness (GOV EFFEC): stability over time**

		GOV EFFEC 2008	GOV EFFEC 2009	GOV EFFEC 2010	GOV EFFEC 2011	GOV EFFEC 2012	GOV EFFEC 2013	GOV EFFEC 2014	GOV EFFEC 2015	GOV EFFEC 2016
GOV EFFEC 2007	PC	.992**	.986**	.987**	.986**	.982**	.980**	.970**	.953**	.954**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV EFFEC 2008	PC	1	.991**	.990**	.988**	.980**	.980**	.968**	.950**	.956**
	Sig.		.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV EFFEC 2009	PC	.991**	1	.996**	.995**	.988**	.990**	.970**	.958**	.966**
	Sig.	.000		.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV EFFEC 2010	PC	.990**	.996**	1	.998**	.991**	.992**	.974**	.961**	.965**
	Sig.	.000	.000		.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV EFFEC 2011	PC	.988**	.995**	.998**	1	.994**	.993**	.975**	.962**	.965**
	Sig.	.000	.000	.000		.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV EFFEC 2012	PC	.980**	.988**	.991**	.994**	1	.996**	.986**	.972**	.974**
	Sig.	.000	.000	.000	.000		.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV EFFEC 2013	PC	.980**	.990**	.992**	.993**	.996**	1	.981**	.971**	.973**
	Sig.	.000	.000	.000	.000	.000		.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV EFFEC 2014	PC	.968**	.970**	.974**	.975**	.986**	.981**	1	.989**	.986**
	Sig.	.000	.000	.000	.000	.000	.000		.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV EFFEC 2015	PC	.950**	.958**	.961**	.962**	.972**	.971**	.989**	1	.995**
	Sig.	.000	.000	.000	.000	.000	.000	.000		.000
	N	36	36	36	36	36	36	36	36	36

<sup>34</sup> The only EIS indicators that do not correlate with Rule of Law are: Non-R&D innovation expenditures, Private co-funding of public R&D expenditures, Employment fast-growing enterprises in innovative sectors, Medium and high-tech product exports, and Sales of new-to-market and new-to-firm product innovations.

\*\*. Correlation is significant at the 0.01 level (2-tailed).

**Table 52 Pearson correlation (PC) results between Government Effectiveness (GOV EFFEC) and SII, EIS dimensions and EIS indicators**

		GOV EFFEC 2007	GOV EFFEC 2008	GOV EFFEC 2009	GOV EFFEC 2010	GOV EFFEC 2011	GOV EFFEC 2012	GOV EFFEC 2013	GOV EFFEC 2014	GOV EFFEC 2015	GOV EFFEC 2016
SII	PC	.914**	.898**	.898**	.890**	.888**	.893**	.879**	.909**	.899**	.900**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
HUMAN RESOURCES	PC	.851**	.845**	.846**	.829**	.828**	.840**	.828**	.863**	.851**	.856**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
RESEARCH SYSTEM	PC	.885**	.872**	.867**	.858**	.859**	.848**	.846**	.850**	.838**	.834**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
INNOVATION FRIENDLY ENVIRONMENT	PC	.676**	.655**	.667**	.651**	.653**	.681**	.686**	.681**	.701**	.699**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35	35	35
FINANCE SUPPORT	PC	.728**	.710**	.711**	.713**	.705**	.716**	.711**	.746**	.752**	.749**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
FIRM INVESTMENTS	PC	.519**	.503**	.497**	.498**	.481**	.497**	.464**	.520**	.512**	.517**
	Sig.	.001	.002	.002	.002	.003	.002	.004	.001	.001	.001
	N	36	36	36	36	36	36	36	36	36	36
INNOVATORS	PC	.671**	.652**	.654**	.637**	.634**	.640**	.628**	.652**	.625**	.621**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
LINKAGES	PC	.735**	.701**	.701**	.698**	.691**	.694**	.681**	.724**	.713**	.707**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
INTELLECTUAL ASSETS	PC	.714**	.721**	.738**	.741**	.736**	.726**	.720**	.689**	.677**	.710**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
EMPLOYMENT IMPACT	PC	.571**	.568**	.552**	.554**	.567**	.568**	.547**	.560**	.569**	.559**
	Sig.	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
SALES IMPACT	PC	.490**	.494**	.471**	.473**	.483**	.475**	.460**	.525**	.522**	.508**
	Sig.	.002	.002	.004	.004	.003	.003	.005	.001	.001	.002
	N	36	36	36	36	36	36	36	36	36	36
i111 DOCGRADES	PC	.598**	.591**	.608**	.580**	.577**	.600**	.592**	.631**	.620**	.640**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i112 TEREDUC	PC	.635**	.628**	.619**	.632**	.645**	.643**	.633**	.659**	.670**	.632**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	33	33	33	33	33	33	33	33	33	33
i113 LIFELONG	PC	.791**	.798**	.791**	.775**	.764**	.762**	.760**	.769**	.754**	.773**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	33	33	33	33	33	33	33	33	33	33
i121 INTCOPUB	PC	.896**	.885**	.883**	.873**	.874**	.864**	.855**	.853**	.834**	.838**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i122 MOSTCITED	PC	.860**	.844**	.836**	.832**	.834**	.825**	.826**	.825**	.806**	.805**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i123 FORDOCST	PC	.724**	.714**	.715**	.701**	.704**	.695**	.698**	.716**	.728**	.714**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	33	33	33	33	33	33	33	33	33	33
i131 BROADBAND	PC	.454**	.427**	.467**	.449**	.461**	.511**	.518**	.513**	.554**	.546**
	Sig.	.009	.015	.007	.010	.008	.003	.002	.003	.001	.001
	N	32	32	32	32	32	32	32	32	32	32
i132 OPPENTRE	PC	.774**	.766**	.755**	.749**	.741**	.743**	.744**	.743**	.744**	.750**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35	35	35
i211 PUBRD	PC	.672**	.656**	.673**	.665**	.648**	.651**	.645**	.684**	.683**	.705**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i212 VENTCAP	PC	.586**	.577**	.576**	.594**	.602**	.617**	.627**	.632**	.653**	.622**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	34	34	34	34	34	34	34	34	34	34
i221 BUSRD	PC	.692**	.675**	.675**	.673**	.657**	.660**	.646**	.657**	.649**	.663**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

		GOV EFFEC 2007	GOV EFFEC 2008	GOV EFFEC 2009	GOV EFFEC 2010	GOV EFFEC 2011	GOV EFFEC 2012	GOV EFFEC 2013	GOV EFFEC 2014	GOV EFFEC 2015	GOV EFFEC 2016
	N	36	36	36	36	36	36	36	36	36	36
i222 NONRD	PC	-.288	-.301	-.295	-.304	-.314	-.290	-.319	-.220	-.209	-.213
	Sig.	.098	.083	.090	.080	.070	.097	.066	.212	.235	.226
	N	34	34	34	34	34	34	34	34	34	34
i223 ICTSKILLS	PC	.778**	.769**	.779**	.777**	.770**	.776**	.760**	.759**	.710**	.721**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	32	32	32	32	32	32	32	32	32	32
i311 PPINNOV	PC	.627**	.613**	.619**	.597**	.596**	.603**	.597**	.611**	.590**	.584**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i312 MOINNOV	PC	.607**	.595**	.588**	.574**	.568**	.572**	.558**	.597**	.578**	.571**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i313 INHOUSE	PC	.652**	.623**	.632**	.622**	.621**	.629**	.614**	.628**	.593**	.594**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35	35	35
i321 COLLAB	PC	.684**	.662**	.652**	.659**	.652**	.634**	.627**	.628**	.629**	.611**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i322 PPCOPUB	PC	.795**	.775**	.767**	.748**	.743**	.739**	.731**	.745**	.713**	.720**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i323 COFUNDING	PC	.164	.118	.133	.139	.133	.171	.150	.256	.263	.257
	Sig.	.355	.507	.454	.434	.453	.334	.399	.143	.133	.142
	N	34	34	34	34	34	34	34	34	34	34
i331 PATENTS	PC	.770**	.751**	.757**	.758**	.748**	.757**	.739**	.751**	.735**	.748**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35	35	35
i332 TRADEMARK	PC	.566**	.597**	.599**	.611**	.614**	.585**	.580**	.534**	.525**	.552**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.001	.001	.000
	N	36	36	36	36	36	36	36	36	36	36
i333 DESIGNS	PC	.411*	.416*	.451**	.446**	.439**	.433**	.439**	.400*	.395*	.437**
	Sig.	.013	.012	.006	.006	.007	.008	.007	.016	.017	.008
	N	36	36	36	36	36	36	36	36	36	36
i411 KIAEMPL	PC	.716**	.716**	.701**	.705**	.713**	.705**	.681**	.695**	.680**	.675**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i412 HIGHGROW	PC	-.009	-.027	-.050	-.069	-.042	-.013	-.045	.002	.013	-.004
	Sig.	.965	.891	.796	.723	.828	.946	.818	.993	.948	.985
	N	29	29	29	29	29	29	29	29	29	29
i421 MHTEXPORT	PC	.162	.190	.178	.185	.187	.181	.174	.191	.180	.192
	Sig.	.345	.267	.298	.280	.276	.291	.309	.265	.294	.261
	N	36	36	36	36	36	36	36	36	36	36
i422 KISEXPORT	PC	.662**	.633**	.631**	.633**	.651**	.641**	.632**	.653**	.665**	.632**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i423 INNSALES	PC	.200	.211	.176	.172	.175	.172	.156	.254	.246	.239
	Sig.	.243	.217	.305	.316	.307	.316	.364	.135	.148	.161
	N	36	36	36	36	36	36	36	36	36	36

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

## Barriers to entrepreneurship

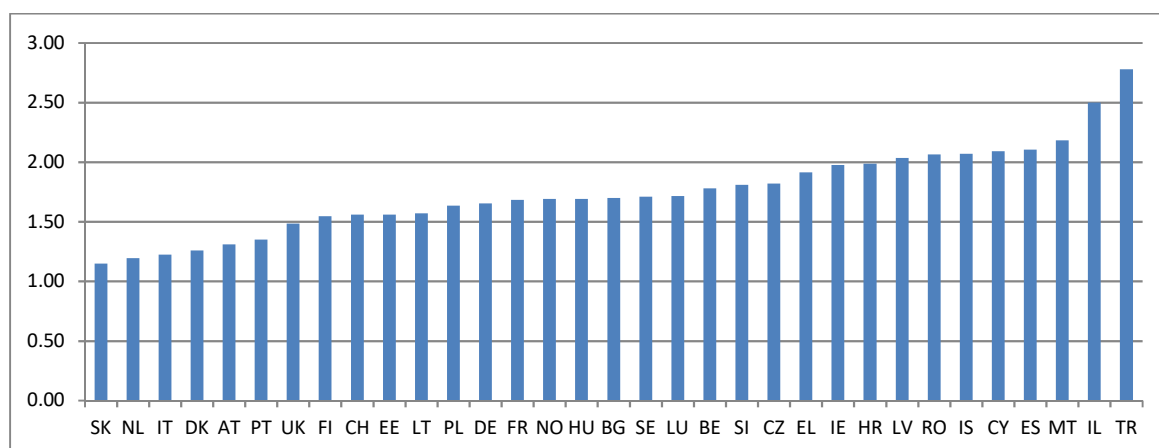
Data are available from the OECD's "Indicators of Product Market Regulation" database. Most recent data are available for 2008 and 2013 only and not for all countries (Table 53).

Time series are too short to evaluate stability of the indicator over time, but results between 2008 and 2013 are highly correlated (Table 54). The 2008 data for Barriers to entrepreneurship correlate negatively with the SII, 4 EIS dimensions and 12 EIS indicators, the 2013 data for Barriers to entrepreneurship correlate negatively with 2 EIS dimensions and 3 EIS indicators (Table 55).

Based on the summary of key characteristics, it is recommended **not to include this indicator**.

<b>Data availability</b>	Limited
<b>Stability over time</b>	--
<b>Correlation with EIS</b>	Moderate

**Figure 24: Barriers to entrepreneurship**



Most recent data shown for all countries for which data are available.

**Table 53 Data availability Barriers to entrepreneurship**

	2008	2013		2008	2013		2008	2013		2008	2013
EU	n/a	n/a	FR	1.74	1.68	AT	1.46	1.31	IL	2.57	2.50
BE	2.12	1.78	HR	n/a	1.99	PL	2.49	1.64	MK	n/a	n/a
BG	n/a	1.70	IT	1.30	1.22	PT	1.83	1.35	NO	1.82	1.69
CZ	1.90	1.82	CY	n/a	2.09	RO	n/a	2.06	CH	1.62	1.56
DK	1.55	1.26	LV	n/a	2.03	SI	2.00	1.81	RS	n/a	n/a
DE	1.89	1.65	LT	n/a	1.57	SK	1.74	1.15	UA	n/a	n/a
EE	1.78	1.56	LU	1.75	1.71	FI	1.58	1.55	TR	2.90	2.78
IE	1.99	1.98	HU	2.20	1.69	SE	1.81	1.71			
EL	2.53	1.91	MT	n/a	2.18	UK	1.74	1.49			
ES	2.20	2.10	NL	1.31	1.19	IS	2.17	2.07			

**Table 54 Barriers to entrepreneurship: stability over time**

		<b>BARRIER ENTR 2013</b>
BARRIER ENTR 2008	Pearson Correlation	.844**
	Sig. (2-tailed)	.000
	N	26

\*\*. Correlation is significant at the 0.01 level (2-tailed).



**Table 55 Pearson correlation (PC) results between Barriers to entrepreneurship and SII, EIS dimensions and EIS indicators**

		BARRIER ENTR 2008	BARRIER ENTR 2013
SII	PC	-.509**	-.313
	Sig.	.008	.077
	N	26	33
HUMAN RESOURCES	PC	-.551**	-.403*
	Sig.	.004	.020
	N	26	33
RESEARCH SYSTEM	PC	-.515**	-.301
	Sig.	.007	.089
	N	26	33
INNOVATION FRIENDLY ENVIRONMENT	PC	-.312	-.164
	Sig.	.121	.363
	N	26	33
FINANCE SUPPORT	PC	-.501**	-.409*
	Sig.	.009	.018
	N	26	33
FIRM INVESTMENTS	PC	.129	.100
	Sig.	.529	.580
	N	26	33
INNOVATORS	PC	-.317	-.133
	Sig.	.115	.460
	N	26	33
LINKAGES	PC	-.291	-.264
	Sig.	.149	.137
	N	26	33
INTELLECTUAL ASSETS	PC	-.525**	-.251
	Sig.	.006	.158
	N	26	33
EMPLOYMENT IMPACT	PC	-.141	-.061
	Sig.	.491	.736
	N	26	33
SALES IMPACT	PC	-.333	-.261
	Sig.	.096	.142
	N	26	33
i111 DOCGRADES	PC	-.554**	-.482**
	Sig.	.003	.004
	N	26	33
i112 TEREDUC	PC	-.153	-.095
	Sig.	.466	.604
	N	25	32
i113 LIFELONG	PC	-.500*	-.305
	Sig.	.011	.090
	N	25	32
i121 INTCOPUB	PC	-.492*	-.292
	Sig.	.011	.099
	N	26	33
i122 MOSTCITED	PC	-.587**	-.318
	Sig.	.002	.071
	N	26	33
i123 FORDOCST	PC	-.423*	-.294
	Sig.	.039	.108
	N	24	31
i131 BROADBAND	PC	-.178	-.126
	Sig.	.418	.506
	N	23	30
i132 OPPENTRE	PC	-.392*	-.192
	Sig.	.048	.291
	N	26	32
i211 PUBRD	PC	-.528**	-.506**
	Sig.	.006	.003
	N	26	33
i212 VENTCAP	PC	-.427*	-.267
	Sig.	.037	.146
	N	24	31
i221 BUSRD	PC	-.220	-.145
	Sig.	.280	.421
	N	26	33
i222 NONRD	PC	.487*	.201
	Sig.	.016	.278
	N	24	31

		BARRIER ENTR 2008	BARRIER ENTR 2013
i223 ICTSKILLS	PC	-.254	-.110
	Sig.	.242	.564
	N	23	30
i311 PPINNOV	PC	-.364	-.211
	Sig.	.068	.240
	N	26	33
i312 MOINNOV	PC	-.151	.004
	Sig.	.461	.981
	N	26	33
i313 INHOUSE	PC	-.405*	-.199
	Sig.	.045	.274
	N	25	32
i321 COLLAB	PC	-.245	-.238
	Sig.	.228	.182
	N	26	33
i322 PPCOPUB	PC	-.421*	-.318
	Sig.	.032	.071
	N	26	33
i323 COFUNDING	PC	.015	-.049
	Sig.	.944	.786
	N	26	33
i331 PATENTS	PC	-.362	-.185
	Sig.	.069	.302
	N	26	33
i332 TRADEMARK	PC	-.368	-.018
	Sig.	.064	.921
	N	26	33
i333 DESIGNS	PC	-.527**	-.364*
	Sig.	.006	.037
	N	26	33
i411 KIAEMPL	PC	-.288	-.018
	Sig.	.154	.920
	N	26	33
i412 HIGHGROW	PC	.255	-.069
	Sig.	.252	.721
	N	22	29
i421 MHTEXPORT	PC	-.242	-.216
	Sig.	.233	.228
	N	26	33
i422 KISEXPORT	PC	-.337	-.149
	Sig.	.093	.409
	N	26	33
i423 INNSALES	PC	-.071	-.188
	Sig.	.729	.296
	N	26	33

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

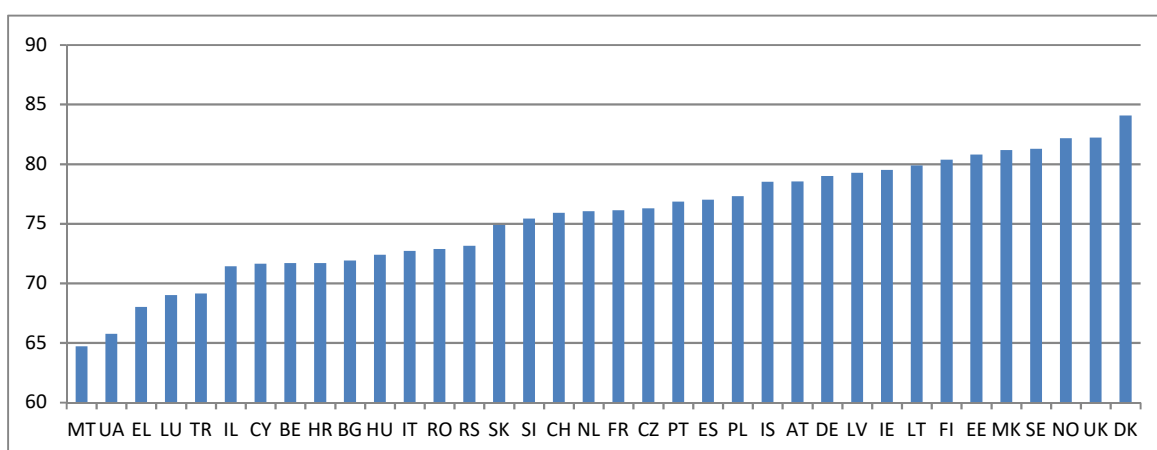
### ***Ease of doing business index***

Data are available from the World Bank for all countries. The index measures average performance on the following sub-indexes (World Bank, 2018):

- Starting a business – Procedures, time, cost and minimum capital to open a new business;
- Dealing with construction permits – Procedures, time and cost to build a warehouse;
- Getting electricity – procedures, time and cost required for a business to obtain a permanent electricity connection for a newly constructed warehouse;
- Registering property – Procedures, time and cost to register commercial real estate;
- Getting credit – Strength of legal rights index, depth of credit information index;

- Protecting minority investors – Indices on the extent of disclosure, extent of director liability and ease of shareholder suits;
- Paying taxes – Number of taxes paid, hours per year spent preparing tax returns and total tax payable as share of gross profit;
- Trading across borders – Number of documents, cost and time necessary to export and import;
- Enforcing contracts – Procedures, time and cost to enforce a debt contract;
- Resolving insolvency – The time, cost and recovery rate (%) under bankruptcy proceeding.

**Figure 25: Ease of doing business index**



Most recent data shown for all countries for which data are available.

Ease of doing business index is stable over time, as shown by high significant year-to-year correlation coefficients, but stability has decreased in 2017 and 2018 (Table 56). The indicator correlates positively with the SII, 4 EIS dimensions and 9 EIS indicators (Table 57).<sup>35</sup>

Based on the summary of key characteristics, it is recommended to **include this indicator**.

<b>Data availability</b>	Full
<b>Stability over time</b>	--
<b>Correlation with EIS</b>	Strong

**Table 56 Ease of doing business index: stability over time**

		<b>DB2017</b>	<b>DB2018</b>
DB2016	Pearson Correlation	.985**	.981**
	Sig. (2-tailed)	.000	.000
	N	36	36
DB2017	Pearson Correlation	1	.996**
	Sig. (2-tailed)		.000
	N	36	36

\*\* . Correlation is significant at the 0.01 level (2-tailed).

<sup>35</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last three years.

**Table 57 Pearson correlation results between Ease of doing business index and SII, EIS dimensions and EIS indicators**

		DB 2016	DB 2017	DB 2018
SII	PC	.501**	.451**	.446**
	Sig.	.002	.006	.006
	N	36	36	36
HUMAN RESOURCES	PC	.619**	.577**	.584**
	Sig.	.000	.000	.000
	N	36	36	36
RESEARCH SYSTEM	PC	.376*	.323	.311
	Sig.	.024	.055	.065
	N	36	36	36
INNOVATION FRIENDLY ENVIRONMENT	PC	.520**	.486**	.496**
	Sig.	.001	.003	.002
	N	35	35	35
FINANCE SUPPORT	PC	.663**	.603**	.608**
	Sig.	.000	.000	.000
	N	36	36	36
FIRM INVESTMENTS	PC	.279	.251	.255
	Sig.	.100	.139	.133
	N	36	36	36
INNOVATORS	PC	.246	.213	.209
	Sig.	.148	.211	.222
	N	36	36	36
LINKAGES	PC	.515**	.460**	.464**
	Sig.	.001	.005	.004
	N	36	36	36
INTELLECTUAL ASSETS	PC	.135	.090	.081
	Sig.	.432	.602	.639
	N	36	36	36
EMPLOYMENT IMPACT	PC	.086	.063	.049
	Sig.	.617	.714	.777
	N	36	36	36
SALES IMPACT	PC	.333*	.312	.299
	Sig.	.047	.064	.076
	N	36	36	36
i111 DOCGRADES	PC	.549**	.504**	.514**
	Sig.	.001	.002	.001
	N	36	36	36
i112 TEREDUC	PC	.343	.327	.322
	Sig.	.051	.063	.068
	N	33	33	33
i113 LIFELONG	PC	.492**	.461**	.471**
	Sig.	.004	.007	.006
	N	33	33	33
i121 INTCOPUB	PC	.470**	.423*	.417*
	Sig.	.004	.010	.011
	N	36	36	36
i122 MOSTCITED	PC	.353*	.306	.293
	Sig.	.035	.070	.083
	N	36	36	36
i123 FORDOCST	PC	.198	.139	.130
	Sig.	.271	.442	.472
	N	33	33	33
i131 BROADBAND	PC	.419*	.400*	.411*
	Sig.	.017	.023	.019
	N	32	32	32
i132 OPPENTRE	PC	.619**	.564**	.566**
	Sig.	.000	.000	.000
	N	35	35	35
i211 PUBRD	PC	.521**	.476**	.485**
	Sig.	.001	.003	.003
	N	36	36	36
i212 VENTCAP	PC	.638**	.589**	.581**
	Sig.	.000	.000	.000
	N	34	34	34
i221 BUSRD	PC	.383*	.322	.326
	Sig.	.021	.055	.053
	N	36	36	36
i222 NONRD	PC	.011	.035	.062
	Sig.	.949	.846	.728
	N	34	34	34

		DB 2016	DB 2017	DB 2018
i223 ICTSKILLS	PC	.267	.261	.244
	Sig.	.140	.149	.178
	N	32	32	32
i311 PPINNOV	PC	.334*	.314	.311
	Sig.	.047	.063	.065
	N	36	36	36
i312 MOINNOV	PC	.179	.152	.138
	Sig.	.296	.376	.421
	N	36	36	36
i313 INHOUSE	PC	.160	.116	.119
	Sig.	.357	.507	.494
	N	35	35	35
i321 COLLAB	PC	.490**	.451**	.446**
	Sig.	.002	.006	.006
	N	36	36	36
i322 PPCOPUB	PC	.458**	.411*	.413*
	Sig.	.005	.013	.012
	N	36	36	36
i323 COFUNDING	PC	.224	.189	.210
	Sig.	.204	.285	.234
	N	34	34	34
i331 PATENTS	PC	.369*	.324	.330
	Sig.	.029	.058	.053
	N	35	35	35
i332 TRADEMARK	PC	-.060	-.078	-.103
	Sig.	.730	.653	.551
	N	36	36	36
i333 DESIGNS	PC	-.003	-.033	-.037
	Sig.	.988	.848	.829
	N	36	36	36
i411 KIAEMPL	PC	.049	.023	.011
	Sig.	.777	.896	.951
	N	36	36	36
i412 HIGHGROW	PC	.023	.045	.041
	Sig.	.904	.818	.831
	N	29	29	29
i421 MHTEXPORT	PC	.071	.081	.072
	Sig.	.681	.639	.676
	N	36	36	36
i422 KISEXPORT	PC	.356*	.313	.296
	Sig.	.033	.063	.079
	N	36	36	36
i423 INNSALES	PC	.264	.255	.254
	Sig.	.120	.133	.136
	N	36	36	36

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

### Regulatory quality

Data are extracted from the World Bank and are available for all countries included in the EIS. Regulatory quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.

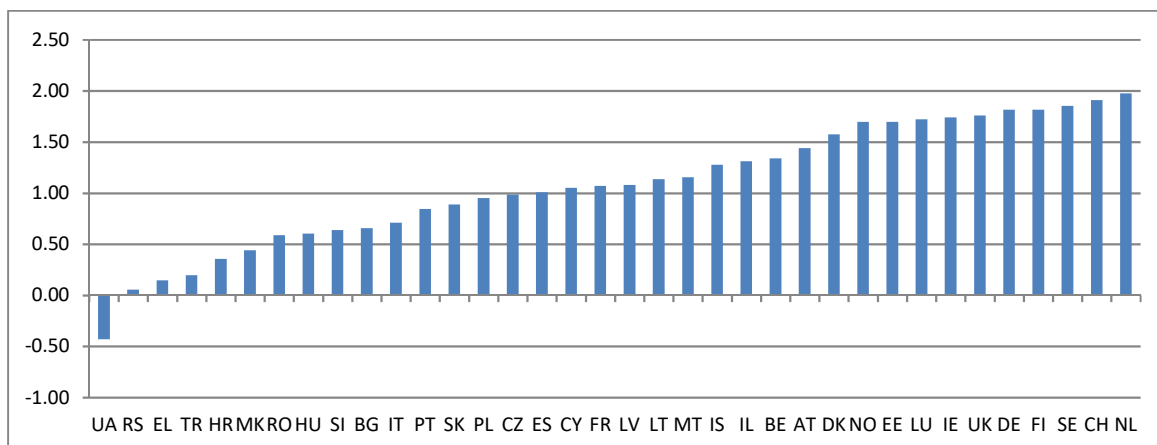
Regulatory quality is highly stable over time, as shown by high significant year-to-year correlation coefficients (Table 58). Regulatory quality correlates highly positively with the SII, all EIS dimensions and 22 EIS indicators (Table 59).<sup>36</sup>

Based on the summary of key characteristics, it is recommended to **include this indicator**.

<sup>36</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

<b>Data availability</b>	Full
<b>Stability over time</b>	Highly stable
<b>Correlation with EIS</b>	Strong

**Figure 26: Regulatory quality**



Most recent data shown for all countries for which data are available.

**Table 58 Regulatory quality (REG QUAL): stability over time**

		REG QUAL 2008	REG QUAL 2009	REG QUAL 2010	REG QUAL 2011	REG QUAL 2012	REG QUAL 2013	REG QUAL 2014	REG QUAL 2015	REG QUAL 2016
REG QUAL 2007	PC	.992**	.962**	.943**	.932**	.946**	.938**	.906**	.921**	.903**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
REG QUAL 2008	PC	1	.981**	.961**	.946**	.956**	.947**	.914**	.929**	.908**
	Sig.		.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
REG QUAL 2009	PC	.981**	1	.988**	.970**	.970**	.962**	.925**	.936**	.915**
	Sig.	.000		.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
REG QUAL 2010	PC	.961**	.988**	1	.986**	.978**	.970**	.944**	.948**	.935**
	Sig.	.000	.000		.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
REG QUAL 2011	PC	.946**	.970**	.986**	1	.990**	.983**	.961**	.961**	.952**
	Sig.	.000	.000	.000		.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
REG QUAL 2012	PC	.956**	.970**	.978**	.990**	1	.994**	.975**	.975**	.963**
	Sig.	.000	.000	.000	.000		.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
REG QUAL 2013	PC	.947**	.962**	.970**	.983**	.994**	1	.976**	.979**	.963**
	Sig.	.000	.000	.000	.000	.000		.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
REG QUAL 2014	PC	.914**	.925**	.944**	.961**	.975**	.976**	1	.993**	.984**
	Sig.	.000	.000	.000	.000	.000	.000		.000	.000
	N	36	36	36	36	36	36	36	36	36
REG QUAL 2015	PC	.929**	.936**	.948**	.961**	.975**	.979**	.993**	1	.985**
	Sig.	.000	.000	.000	.000	.000	.000	.000		.000
	N	36	36	36	36	36	36	36	36	36

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 59 Pearson correlation (PC) results between Regulatory quality (REG QUAL) and SII, EIS dimensions and EIS indicators**

		REG QUAL 2007	REG QUAL 2008	REG QUAL 2009	REG QUAL 2010	REG QUAL 2011	REG QUAL 2012	REG QUAL 2013	REG QUAL 2014	REG QUAL 2015	REG QUAL 2016
SII	PC	.824**	.797**	.792**	.799**	.825**	.831**	.832**	.828**	.837**	.841**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
HUMAN RESOURCES	PC	.730**	.713**	.717**	.719**	.740**	.744**	.747**	.757**	.756**	.763**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
RESEARCH SYSTEM	PC	.808**	.776**	.758**	.757**	.778**	.772**	.774**	.746**	.767**	.774**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
INNOVATION FRIENDLY ENVIRONMENT	PC	.620**	.598**	.602**	.578**	.659**	.688**	.702**	.669**	.680**	.673**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35	35	35
FINANCE SUPPORT	PC	.688**	.661**	.648**	.643**	.673**	.715**	.727**	.738**	.736**	.727**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
FIRM INVESTMENTS	PC	.341*	.316	.322	.349*	.399*	.401*	.406*	.441**	.430**	.436**
	Sig.	.042	.061	.056	.037	.016	.015	.014	.007	.009	.008
	N	36	36	36	36	36	36	36	36	36	36
INNOVATORS	PC	.555**	.518**	.509**	.497**	.508**	.527**	.531**	.532**	.555**	.540**
	Sig.	.000	.001	.002	.002	.002	.001	.001	.001	.000	.001
	N	36	36	36	36	36	36	36	36	36	36
LINKAGES	PC	.643**	.605**	.570**	.573**	.598**	.619**	.636**	.641**	.640**	.644**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
INTELLECTUAL ASSETS	PC	.690**	.679**	.721**	.737**	.723**	.720**	.695**	.661**	.673**	.698**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
EMPLOYMENT IMPACT	PC	.536**	.529**	.495**	.513**	.551**	.527**	.522**	.507**	.534**	.537**
	Sig.	.001	.001	.002	.001	.000	.001	.001	.002	.001	.001
	N	36	36	36	36	36	36	36	36	36	36
SALES IMPACT	PC	.565**	.572**	.557**	.585**	.576**	.541**	.530**	.543**	.544**	.544**
	Sig.	.000	.000	.000	.000	.000	.001	.001	.001	.001	.001
	N	36	36	36	36	36	36	36	36	36	36
i111 DOCGRADES	PC	.524**	.523**	.538**	.526**	.519**	.512**	.519**	.523**	.525**	.541**
	Sig.	.001	.001	.001	.001	.001	.001	.001	.001	.001	.001
	N	36	36	36	36	36	36	36	36	36	36
i112 TEREDUC	PC	.598**	.605**	.560**	.555**	.564**	.580**	.575**	.604**	.603**	.579**
	Sig.	.000	.000	.001	.001	.001	.000	.000	.000	.000	.000
	N	33	33	33	33	33	33	33	33	33	33
i113 LIFELONG	PC	.682**	.658**	.683**	.677**	.728**	.742**	.745**	.721**	.713**	.709**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	33	33	33	33	33	33	33	33	33	33
i121 INTCOPUB	PC	.770**	.745**	.743**	.730**	.772**	.767**	.763**	.753**	.762**	.772**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i122 MOSTCITED	PC	.825**	.800**	.791**	.792**	.780**	.768**	.770**	.739**	.764**	.770**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i123 FORDOCST	PC	.694**	.658**	.620**	.629**	.662**	.662**	.669**	.632**	.655**	.665**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	33	33	33	33	33	33	33	33	33	33
i131 BROADBAND	PC	.457**	.461**	.470**	.437**	.507**	.544**	.554**	.518**	.536**	.548**
	Sig.	.009	.008	.007	.012	.003	.001	.001	.002	.002	.001
	N	32	32	32	32	32	32	32	32	32	32
i132 OPPENTRE	PC	.683**	.660**	.679**	.686**	.738**	.741**	.752**	.730**	.728**	.712**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35	35	35
i211 PUBRD	PC	.559**	.542**	.571**	.565**	.594**	.620**	.633**	.606**	.609**	.607**
	Sig.	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i212 VENTCAP	PC	.644**	.638**	.601**	.608**	.600**	.638**	.644**	.696**	.697**	.682**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	34	34	34	34	34	34	34	34	34	34
i221 BUSRD	PC	.566**	.543**	.543**	.554**	.578**	.572**	.575**	.568**	.571**	.587**
	Sig.	.000	.001	.001	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i222 NONRD	PC	-.350*	-.361*	-.351*	-.328	-.287	-.247	-.230	-.155	-.181	-.204
	Sig.	.043	.036	.042	.058	.100	.160	.190	.382	.305	.247
	N	34	34	34	34	34	34	34	34	34	34

		REG QUAL 2007	REG QUAL 2008	REG QUAL 2009	REG QUAL 2010	REG QUAL 2011	REG QUAL 2012	REG QUAL 2013	REG QUAL 2014	REG QUAL 2015	REG QUAL 2016
i223 ICTSKILLS	PC	.540**	.522**	.557**	.554**	.569**	.554**	.547**	.533**	.533**	.543**
	Sig.	.001	.002	.001	.001	.001	.001	.001	.002	.002	.001
	N	32	32	32	32	32	32	32	32	32	32
i311 PPINNOV	PC	.521**	.493**	.485**	.463**	.473**	.506**	.511**	.516**	.541**	.521**
	Sig.	.001	.002	.003	.004	.004	.002	.001	.001	.001	.001
	N	36	36	36	36	36	36	36	36	36	36
i312 MOINNOV	PC	.520**	.476**	.460**	.462**	.481**	.486**	.491**	.494**	.504**	.493**
	Sig.	.001	.003	.005	.005	.003	.003	.002	.002	.002	.002
	N	36	36	36	36	36	36	36	36	36	36
i313 INHOUSE	PC	.519**	.492**	.505**	.498**	.490**	.502**	.502**	.494**	.520**	.511**
	Sig.	.001	.003	.002	.002	.003	.002	.002	.003	.001	.002
	N	35	35	35	35	35	35	35	35	35	35
i321 COLLAB	PC	.592**	.571**	.517**	.512**	.518**	.537**	.559**	.560**	.574**	.543**
	Sig.	.000	.000	.001	.001	.001	.001	.000	.000	.000	.001
	N	36	36	36	36	36	36	36	36	36	36
i322 PPCOPUB	PC	.662**	.617**	.599**	.594**	.622**	.621**	.621**	.606**	.609**	.620**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i323 COFUNDING	PC	.155	.118	.098	.126	.159	.199	.224	.265	.239	.281
	Sig.	.383	.506	.582	.477	.368	.258	.202	.130	.173	.107
	N	34	34	34	34	34	34	34	34	34	34
i331 PATENTS	PC	.667**	.642**	.650**	.676**	.702**	.693**	.692**	.678**	.683**	.706**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35	35	35
i332 TRADEMARK	PC	.544**	.545**	.576**	.590**	.571**	.557**	.511**	.507**	.519**	.541**
	Sig.	.001	.001	.000	.000	.000	.000	.001	.002	.001	.001
	N	36	36	36	36	36	36	36	36	36	36
i333 DESIGNS	PC	.464**	.458**	.520**	.521**	.484**	.497**	.482**	.420**	.435**	.449**
	Sig.	.004	.005	.001	.001	.003	.002	.003	.011	.008	.006
	N	36	36	36	36	36	36	36	36	36	36
i411 KIAEMPL	PC	.606**	.578**	.565**	.594**	.624**	.590**	.579**	.581**	.604**	.625**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i412 HIGHGROW	PC	.142	.179	.132	.126	.172	.186	.194	.140	.146	.109
	Sig.	.461	.354	.496	.514	.371	.334	.312	.468	.451	.573
	N	29	29	29	29	29	29	29	29	29	29
i421 MHTEXPORT	PC	.255	.293	.329*	.356*	.332*	.301	.267	.248	.243	.241
	Sig.	.133	.083	.050	.033	.048	.075	.115	.145	.154	.156
	N	36	36	36	36	36	36	36	36	36	36
i422 KISEXPORT	PC	.646**	.617**	.589**	.616**	.649**	.613**	.618**	.638**	.655**	.667**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i423 INNSALES	PC	.282	.291	.255	.261	.232	.226	.228	.254	.243	.233
	Sig.	.095	.085	.133	.124	.174	.185	.180	.135	.153	.172
	N	36	36	36	36	36	36	36	36	36	36

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

### Government procurement of advanced technology products

Data are obtained from the World Economic Forum's Global Competitiveness Index and data availability is 100%. The indicator measures the extent to which government procurement decisions in a country foster technological innovation.

Government procurement of advanced technology products is highly stable over time, as shown by high significant year-to-year correlation coefficients (Table 60). The indicator correlates highly positively with the SII, 9 EIS dimensions and 21 EIS indicators (Table 61).<sup>37</sup>

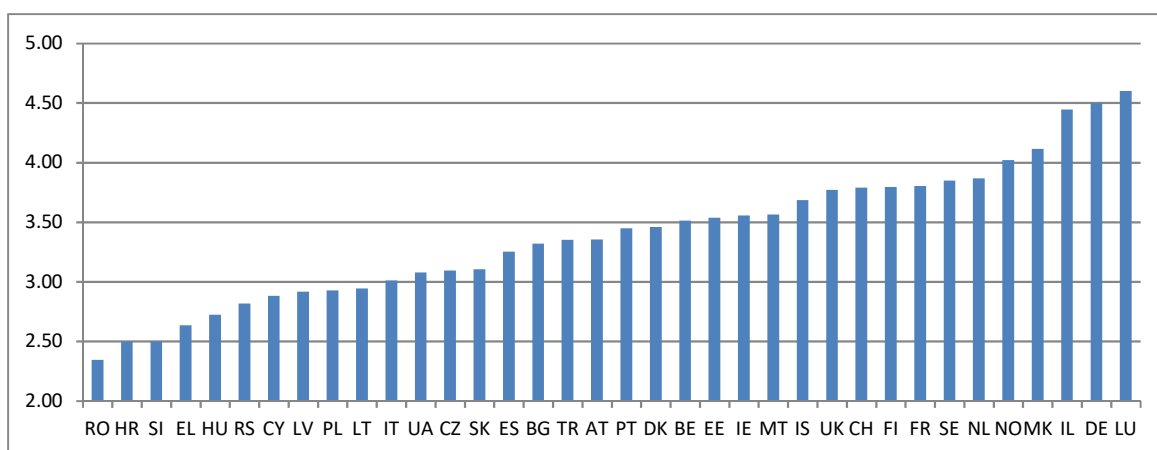
<sup>37</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.



Based on the summary of key characteristics, it is recommended to **include this indicator**.

<b>Data availability</b>	Full
<b>Stability over time</b>	Highly stable
<b>Correlation with EIS</b>	Strong

**Figure 27: Government procurement of advanced technology products**



Most recent data shown for all countries for which data are available.

**Table 60 Government procurement of advanced technology products (GOV PROC): stability over time**

		GOV PROC 2008	GOV PROC 2009	GOV PROC 2010	GOV PROC 2011	GOV PROC 2012	GOV PROC 2013	GOV PROC 2014	GOV PROC 2015	GOV PROC 2016
GOV PROC 2007	PC	.890**	.767**	.825**	.851**	.839**	.786**	.738**	.786**	.738**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV PROC 2008	PC	1	.896**	.856**	.836**	.770**	.692**	.641**	.677**	.628**
	Sig.		.000	.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV PROC 2009	PC	.896**	1	.948**	.839**	.734**	.671**	.667**	.646**	.572**
	Sig.	.000		.000	.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV PROC 2010	PC	.856**	.948**	1	.939**	.841**	.789**	.770**	.725**	.654**
	Sig.	.000	.000		.000	.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV PROC 2011	PC	.836**	.839**	.939**	1	.942**	.881**	.840**	.789**	.721**
	Sig.	.000	.000	.000		.000	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV PROC 2012	PC	.770**	.734**	.841**	.942**	1	.965**	.909**	.881**	.815**
	Sig.	.000	.000	.000	.000		.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV PROC 2013	PC	.692**	.671**	.789**	.881**	.965**	1	.970**	.915**	.835**
	Sig.	.000	.000	.000	.000	.000		.000	.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV PROC 2014	PC	.641**	.667**	.770**	.840**	.909**	.970**	1	.924**	.805**
	Sig.	.000	.000	.000	.000	.000	.000		.000	.000
	N	36	36	36	36	36	36	36	36	36
GOV PROC 2015	PC	.677**	.646**	.725**	.789**	.881**	.915**	.924**	1	.952**
	Sig.	.000	.000	.000	.000	.000	.000	.000		.000
	N	36	36	36	36	36	36	36	36	36

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 61 Pearson correlation (PC) results between Government procurement of advanced technology products (GOV PROC) and SII, EIS dimensions and EIS indicators**

		GOV PROC 2007	GOV PROC 2008	GOV PROC 2009	GOV PROC 2010	GOV PROC 2011	GOV PROC 2012	GOV PROC 2013	GOV PROC 2014	GOV PROC 2015	GOV PROC 2016
SII	PC	.841**	.723**	.674**	.740**	.754**	.709**	.604**	.535**	.613**	.615**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
HUMAN RESOURCES	PC	.758**	.695**	.632**	.631**	.608**	.552**	.431**	.371*	.444**	.426**
	Sig.	.000	.000	.000	.000	.000	.000	.009	.026	.007	.009
	N	36	36	36	36	36	36	36	36	36	36
RESEARCH SYSTEM	PC	.776**	.724**	.718**	.747**	.742**	.678**	.564**	.512**	.588**	.574**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
INNOVATION FRIENDLY ENVIRONMENT	PC	.675**	.654**	.624**	.662**	.659**	.641**	.569**	.497**	.486**	.469**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.002	.003	.005
	N	35	35	35	35	35	35	35	35	35	35
FINANCE SUPPORT	PC	.691**	.621**	.529**	.574**	.591**	.558**	.458**	.411*	.444**	.402*
	Sig.	.000	.000	.001	.000	.000	.000	.005	.013	.007	.015
	N	36	36	36	36	36	36	36	36	36	36
FIRM INVESTMENTS	PC	.619**	.510**	.384*	.493**	.568**	.564**	.502**	.402*	.471**	.484**
	Sig.	.000	.001	.021	.002	.000	.000	.002	.015	.004	.003
	N	36	36	36	36	36	36	36	36	36	36
INNOVATORS	PC	.593**	.485**	.500**	.578**	.560**	.542**	.471**	.409*	.499**	.529**
	Sig.	.000	.003	.002	.000	.000	.001	.004	.013	.002	.001
	N	36	36	36	36	36	36	36	36	36	36
LINKAGES	PC	.593**	.477**	.376*	.461**	.513**	.506**	.413*	.314	.381*	.396*
	Sig.	.000	.003	.024	.005	.001	.002	.012	.063	.022	.017
	N	36	36	36	36	36	36	36	36	36	36
INTELLECTUAL ASSETS	PC	.709**	.646**	.688**	.761**	.774**	.667**	.584**	.544**	.522**	.527**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.001	.001	.001
	N	36	36	36	36	36	36	36	36	36	36
EMPLOYMENT IMPACT	PC	.543**	.525**	.410*	.415*	.467**	.425**	.350*	.314	.401*	.446**
	Sig.	.001	.001	.013	.012	.004	.010	.036	.063	.015	.006
	N	36	36	36	36	36	36	36	36	36	36
SALES IMPACT	PC	.473**	.274	.227	.257	.259	.288	.268	.292	.435**	.437**
	Sig.	.004	.105	.184	.131	.127	.088	.114	.084	.008	.008
	N	36	36	36	36	36	36	36	36	36	36
i111 DOCGRADES	PC	.556**	.410*	.304	.304	.267	.258	.168	.093	.189	.229
	Sig.	.000	.013	.071	.071	.115	.129	.327	.591	.269	.178
	N	36	36	36	36	36	36	36	36	36	36
i112 TEREDUC	PC	.440*	.522**	.503**	.425*	.430*	.398*	.295	.273	.329	.272
	Sig.	.010	.002	.003	.014	.013	.022	.095	.124	.061	.126
	N	33	33	33	33	33	33	33	33	33	33
i113 LIFELONG	PC	.819**	.785**	.679**	.737**	.771**	.683**	.564**	.491**	.549**	.521**
	Sig.	.000	.000	.000	.000	.000	.000	.001	.004	.001	.002
	N	33	33	33	33	33	33	33	33	33	33
i121 INTCOPUB	PC	.753**	.758**	.745**	.764**	.738**	.653**	.547**	.488**	.522**	.498**
	Sig.	.000	.000	.000	.000	.000	.000	.001	.003	.001	.002
	N	36	36	36	36	36	36	36	36	36	36
i122 MOSTCITED	PC	.735**	.642**	.640**	.683**	.678**	.620**	.531**	.484**	.542**	.538**
	Sig.	.000	.000	.000	.000	.000	.000	.001	.003	.001	.001
	N	36	36	36	36	36	36	36	36	36	36
i123 FORDOCST	PC	.709**	.645**	.619**	.641**	.676**	.664**	.526**	.471**	.618**	.600**
	Sig.	.000	.000	.000	.000	.000	.000	.002	.006	.000	.000
	N	33	33	33	33	33	33	33	33	33	33
i131 BROADBAND	PC	.552**	.486**	.472**	.511**	.548**	.595**	.543**	.453**	.412*	.393*
	Sig.	.001	.005	.006	.003	.001	.000	.001	.009	.019	.026
	N	32	32	32	32	32	32	32	32	32	32
i132 OPPENTRE	PC	.714**	.688**	.651**	.702**	.689**	.601**	.543**	.518**	.518**	.484**
	Sig.	.000	.000	.000	.000	.000	.000	.001	.001	.001	.003
	N	35	35	35	35	35	35	35	35	35	35
i211 PUBRD	PC	.661**	.576**	.502**	.544**	.505**	.435**	.337*	.284	.360*	.379*
	Sig.	.000	.000	.002	.001	.002	.008	.045	.094	.031	.023
	N	36	36	36	36	36	36	36	36	36	36
i212 VENTCAP	PC	.503**	.455**	.359*	.376*	.454**	.491**	.440**	.433*	.384*	.270
	Sig.	.002	.007	.037	.029	.007	.003	.009	.011	.025	.123
	N	34	34	34	34	34	34	34	34	34	34
i221 BUSRD	PC	.766**	.654**	.494**	.597**	.650**	.612**	.522**	.398*	.460**	.490**
	Sig.	.000	.000	.002	.000	.000	.000	.001	.016	.005	.002
	N	36	36	36	36	36	36	36	36	36	36
i222	PC	-.165	-.283	-.282	-.205	-.172	-.112	-.111	-.119	-.097	-.111

		GOV PROC 2007	GOV PROC 2008	GOV PROC 2009	GOV PROC 2010	GOV PROC 2011	GOV PROC 2012	GOV PROC 2013	GOV PROC 2014	GOV PROC 2015	GOV PROC 2016
NONRD	Sig.	.352	.105	.106	.244	.330	.528	.530	.502	.587	.533
	N	34	34	34	34	34	34	34	34	34	34
i223 ICTSKILLS	PC	.613**	.609**	.569**	.588**	.579**	.558**	.518**	.444*	.479**	.511**
	Sig.	.000	.000	.001	.000	.001	.001	.002	.011	.006	.003
	N	32	32	32	32	32	32	32	32	32	32
i311 PPINNOV	PC	.514**	.429**	.478**	.551**	.511**	.498**	.446**	.394*	.475**	.510**
	Sig.	.001	.009	.003	.000	.001	.002	.006	.018	.003	.002
	N	36	36	36	36	36	36	36	36	36	36
i312 MOINNOV	PC	.583**	.439**	.454**	.530**	.554**	.550**	.494**	.454**	.563**	.587**
	Sig.	.000	.007	.005	.001	.000	.001	.002	.005	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i313 INHOUSE	PC	.584**	.490**	.469**	.542**	.505**	.474**	.389*	.314	.370*	.392*
	Sig.	.000	.003	.004	.001	.002	.004	.021	.066	.028	.020
	N	35	35	35	35	35	35	35	35	35	35
i321 COLLAB	PC	.458**	.473**	.389*	.412*	.439**	.400*	.327	.260	.335*	.361*
	Sig.	.005	.004	.019	.013	.007	.016	.051	.125	.046	.030
	N	36	36	36	36	36	36	36	36	36	36
i322 PPCOPUB	PC	.643**	.583**	.516**	.570**	.572**	.497**	.374*	.274	.345*	.379*
	Sig.	.000	.000	.001	.000	.000	.002	.025	.105	.039	.023
	N	36	36	36	36	36	36	36	36	36	36
i323 COFUNDING	PC	.257	.028	-.089	.033	.136	.267	.251	.175	.218	.214
	Sig.	.143	.875	.615	.854	.444	.126	.153	.321	.215	.225
	N	34	34	34	34	34	34	34	34	34	34
i331 PATENTS	PC	.854**	.725**	.570**	.670**	.739**	.713**	.620**	.499**	.556**	.577**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.002	.001	.000
	N	35	35	35	35	35	35	35	35	35	35
i332 TRADEMARK	PC	.477**	.528**	.611**	.643**	.679**	.543**	.465**	.483**	.420*	.376*
	Sig.	.003	.001	.000	.000	.000	.001	.004	.003	.011	.024
	N	36	36	36	36	36	36	36	36	36	36
i333 DESIGNS	PC	.408*	.338*	.497**	.545**	.489**	.381*	.338*	.336*	.292	.328
	Sig.	.014	.044	.002	.001	.003	.022	.044	.045	.084	.051
	N	36	36	36	36	36	36	36	36	36	36
i411 KIAEMPL	PC	.692**	.695**	.632**	.653**	.696**	.632**	.524**	.471**	.552**	.559**
	Sig.	.000	.000	.000	.000	.000	.000	.001	.004	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i412 HIGHGROW	PC	.004	-.138	-.157	-.140	-.137	-.076	-.015	.029	.089	.182
	Sig.	.985	.474	.415	.469	.479	.695	.940	.882	.646	.344
	N	29	29	29	29	29	29	29	29	29	29
i421 MHTEXPORT	PC	.167	-.012	.028	.070	.040	.030	.066	.138	.163	.150
	Sig.	.329	.946	.870	.684	.815	.863	.702	.423	.343	.382
	N	36	36	36	36	36	36	36	36	36	36
i422 KISEXPORT	PC	.673**	.641**	.582**	.580**	.588**	.632**	.573**	.520**	.637**	.638**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000
	N	36	36	36	36	36	36	36	36	36	36
i423 INNSALES	PC	.150	-.060	-.135	-.111	-.085	-.060	-.076	-.041	.113	.128
	Sig.	.384	.729	.432	.518	.620	.727	.658	.813	.510	.457
	N	36	36	36	36	36	36	36	36	36	36

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

## 5.2.8 Sectoral trade patterns and structure and dynamics of global value chains

### Export market shares - 5 years % change

Data from Eurostat are available for the EU Member States only. Export market shares are calculated as by dividing the exports of a country by total world exports. The indicator measures the percentage change over 5 years by comparing the share in year T with the share in year T-5.

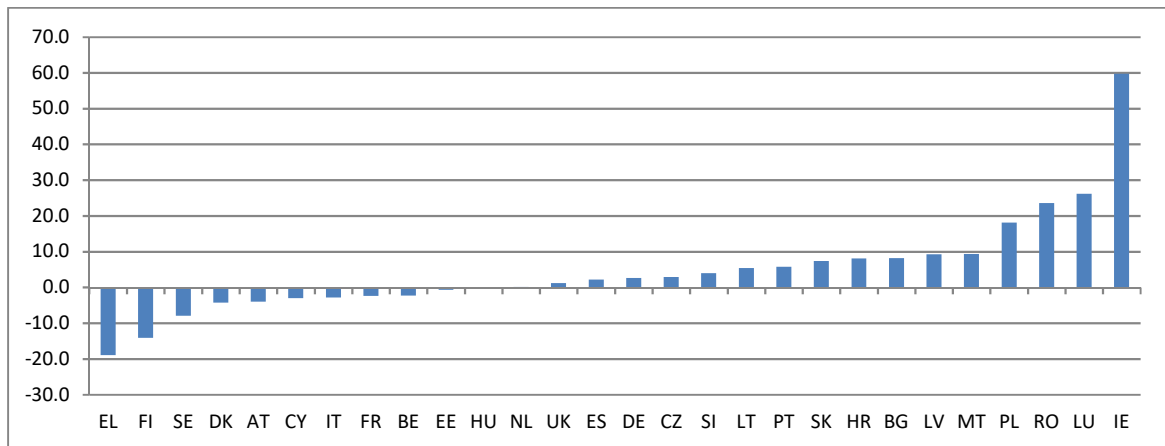
Export market shares are stable over time, as shown by high significant year-to-year correlation coefficients, except between 2014 and 2015 (Table 62). The indicator correlates negatively with the SII but the strength of the correlation weakens over

time and disappears in the last three years (Table 63).<sup>38</sup> The indicator also correlates negatively with 6 EIS innovation dimensions. The indicator correlates negatively with 13 EIS indicators, but not in the two most recent years for which data for Export market shares are available.

Based on the summary of key characteristics, it is recommended to **not include this indicator**.

<b>Data availability</b>	Limited to Member States
<b>Stability over time</b>	Stable
<b>Correlation with EIS</b>	Moderate

**Figure 28: Export market shares**



Most recent data shown for all countries for which data are available.

**Table 62 Export market shares: stability over time**

		EXP MRK 2008	EXP MRK 2009	EXP MRK 2010	EXP MRK 2011	EXP MRK 2012	EXP MRK 2013	EXP MRK 2014	EXP MRK 2015	EXP MRK 2016
EXP MRK 2007	PC	.962**	.897**	.870**	.829**	.690**	.636**	.694**	.424*	.232
	Sig.	.000	.000	.000	.000	.000	.000	.000	.028	.243
	N	27	27	27	27	27	27	27	27	27
EXP MRK 2008	PC	1	.904**	.858**	.881**	.729**	.667**	.734**	.434*	.233
	Sig.		.000	.000	.000	.000	.000	.000	.021	.233
	N	28	28	28	28	28	28	28	28	28
EXP MRK 2009	PC	.904**	1	.975**	.932**	.824**	.738**	.670**	.531**	.412*
	Sig.	.000		.000	.000	.000	.000	.000	.004	.029
	N	28	28	28	28	28	28	28	28	28
EXP MRK 2010	PC	.858**	.975**	1	.939**	.841**	.762**	.681**	.520**	.410*
	Sig.	.000	.000		.000	.000	.000	.000	.005	.030
	N	28	28	28	28	28	28	28	28	28
EXP MRK 2011	PC	.881**	.932**	.939**	1	.909**	.858**	.816**	.534**	.332
	Sig.	.000	.000	.000		.000	.000	.000	.003	.085
	N	28	28	28	28	28	28	28	28	28
EXP MRK 2012	PC	.729**	.824**	.841**	.909**	1	.922**	.862**	.561**	.320
	Sig.	.000	.000	.000	.000		.000	.000	.002	.097
	N	28	28	28	28	28	28	28	28	28
EXP MRK 2013	PC	.667**	.738**	.762**	.858**	.922**	1	.935**	.738**	.476*
	Sig.	.000	.000	.000	.000	.000		.000	.000	.010
	N	28	28	28	28	28	28	28	28	28
EXP MRK 2014	PC	.734**	.670**	.681**	.816**	.862**	.935**	1	.669**	.342
	Sig.	.000	.000	.000	.000	.000	.000		.000	.075
	N	28	28	28	28	28	28	28	28	28

<sup>38</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

EXP MRK 2015	PC	.434*	.531**	.520**	.534**	.561**	.738**	.669**	1	.906**
	Sig.	.021	.004	.005	.003	.002	.000	.000		.000
	N	28	28	28	28	28	28	28	28	28

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

**Table 63 Pearson correlation (PC) results between Export market shares (EXP MRK) and SII, EIS dimensions and EIS indicators**

		EXP MRK 2007	EXP MRK 2008	EXP MRK 2009	EXP MRK 2010	EXP MRK 2011	EXP MRK 2012	EXP MRK 2013	EXP MRK 2014	EXP MRK 2015	EXP MRK 2016
SII	PC	-.637**	-.607**	-.601**	-.586**	-.597**	-.434*	-.389*	-.367	-.224	-.159
	Sig.	.000	.001	.001	.001	.001	.021	.041	.055	.252	.419
	N	27	28	28	28	28	28	28	28	28	28
HUMAN RESOURCES	PC	-.533**	-.488**	-.532**	-.552**	-.513**	-.375*	-.325	-.261	-.174	-.177
	Sig.	.004	.008	.004	.002	.005	.049	.092	.180	.376	.368
	N	27	28	28	28	28	28	28	28	28	28
RESEARCH SYSTEM	PC	-.670**	-.651**	-.612**	-.590**	-.611**	-.494**	-.382*	-.405*	-.218	-.135
	Sig.	.000	.000	.001	.001	.001	.008	.045	.033	.266	.492
	N	27	28	28	28	28	28	28	28	28	28
INNOVATION FRIENDLY ENVIRONMENT	PC	-.172	-.107	-.095	-.103	-.086	.008	.014	.049	-.009	-.075
	Sig.	.392	.588	.632	.601	.664	.969	.943	.806	.962	.703
	N	27	28	28	28	28	28	28	28	28	28
FINANCE SUPPORT	PC	-.294	-.276	-.426*	-.431*	-.297	-.144	-.135	-.021	-.252	-.367
	Sig.	.136	.155	.024	.022	.125	.466	.492	.917	.195	.055
	N	27	28	28	28	28	28	28	28	28	28
FIRM INVESTMENTS	PC	-.480*	-.460*	-.522**	-.510**	-.523**	-.411*	-.470*	-.374	-.312	-.215
	Sig.	.011	.014	.004	.006	.004	.030	.012	.050	.106	.272
	N	27	28	28	28	28	28	28	28	28	28
INNOVATORS	PC	-.756**	-.713**	-.646**	-.621**	-.644**	-.477*	-.445*	-.465*	-.215	-.066
	Sig.	.000	.000	.000	.000	.000	.010	.018	.013	.273	.740
	N	27	28	28	28	28	28	28	28	28	28
LINKAGES	PC	-.504**	-.428*	-.525**	-.528**	-.456*	-.332	-.383*	-.284	-.408*	-.387*
	Sig.	.007	.023	.004	.004	.015	.084	.044	.143	.031	.042
	N	27	28	28	28	28	28	28	28	28	28
INTELLECTUAL ASSETS	PC	-.483*	-.439*	-.295	-.248	-.324	-.200	-.186	-.263	-.221	-.182
	Sig.	.011	.019	.127	.204	.093	.307	.344	.176	.258	.354
	N	27	28	28	28	28	28	28	28	28	28
EMPLOYMENT IMPACT	PC	-.229	-.261	-.116	-.088	-.256	-.084	-.061	-.153	.268	.353
	Sig.	.251	.179	.558	.657	.189	.670	.759	.436	.168	.065
	N	27	28	28	28	28	28	28	28	28	28
SALES IMPACT	PC	-.337	-.360	-.390*	-.378*	-.437*	-.407*	-.258	-.268	.082	.176
	Sig.	.086	.060	.040	.047	.020	.032	.185	.168	.680	.370
	N	27	28	28	28	28	28	28	28	28	28
i111 DOGRADS	PC	-.405*	-.393*	-.494**	-.498**	-.513**	-.479**	-.424*	-.328	-.160	-.099
	Sig.	.036	.039	.008	.007	.005	.010	.024	.088	.415	.616
	N	27	28	28	28	28	28	28	28	28	28
i112 TEREDUC	PC	-.345	-.299	-.233	-.276	-.180	.033	.095	.055	.155	.112
	Sig.	.078	.122	.233	.155	.359	.867	.629	.781	.431	.569
	N	27	28	28	28	28	28	28	28	28	28
i113 LIFE LONG	PC	-.430*	-.393*	-.440*	-.442*	-.423*	-.339	-.337	-.265	-.327	-.358
	Sig.	.025	.038	.019	.019	.025	.078	.080	.172	.090	.061
	N	27	28	28	28	28	28	28	28	28	28
i121 INTCOPUB	PC	-.577**	-.554**	-.545**	-.535**	-.533**	-.457*	-.378*	-.364	-.235	-.159
	Sig.	.002	.002	.003	.003	.003	.015	.048	.057	.229	.419
	N	27	28	28	28	28	28	28	28	28	28
i122 MOSTCITED	PC	-.772**	-.749**	-.658**	-.616**	-.655**	-.547**	-.449*	-.523**	-.274	-.140
	Sig.	.000	.000	.000	.000	.000	.003	.017	.004	.157	.477
	N	27	28	28	28	28	28	28	28	28	28
i123 FORDOCST	PC	-.528**	-.516**	-.502**	-.490**	-.515**	-.374	-.238	-.247	-.090	-.064
	Sig.	.006	.006	.008	.009	.006	.055	.233	.214	.653	.750
	N	26	27	27	27	27	27	27	27	27	27
i131 BROADBAND	PC	-.057	.007	.019	.017	.052	.120	.141	.167	.101	.039
	Sig.	.777	.973	.923	.930	.791	.542	.474	.394	.608	.842
	N	27	28	28	28	28	28	28	28	28	28
i132 OPPENTRE	PC	-.280	-.233	-.252	-.281	-.268	-.173	-.174	-.129	-.160	-.216
	Sig.	.157	.241	.205	.156	.177	.389	.385	.521	.426	.280
	N	27	27	27	27	27	27	27	27	27	27
i211 PUBRD	PC	-.206	-.202	-.380*	-.354	-.309	-.171	-.216	-.075	-.385*	-.468*
	Sig.	.304	.303	.046	.065	.110	.384	.270	.703	.043	.012
	N	27	28	28	28	28	28	28	28	28	28

		EXP MRK 2007	EXP MRK 2008	EXP MRK 2009	EXP MRK 2010	EXP MRK 2011	EXP MRK 2012	EXP MRK 2013	EXP MRK 2014	EXP MRK 2015	EXP MRK 2016
i212 VENTCAP	PC	-.271	-.248	-.289	-.335	-.140	-.038	.040	.065	.050	-.055
	Sig.	.172	.203	.136	.081	.476	.848	.842	.744	.799	.781
	N	27	28	28	28	28	28	28	28	28	28
i221 BUSRD	PC	-.477*	-.429*	-.505**	-.494**	-.504**	-.489**	-.522**	-.430*	-.367	-.279
	Sig.	.012	.023	.006	.008	.006	.008	.004	.022	.055	.151
	N	27	28	28	28	28	28	28	28	28	28
i222 NONRD	PC	.192	.215	.078	.096	.184	.312	.173	.336	.048	-.080
	Sig.	.337	.272	.695	.627	.349	.106	.379	.081	.809	.686
	N	27	28	28	28	28	28	28	28	28	28
i223 ICTSKILLS	PC	-.614**	-.648**	-.570**	-.573**	-.666**	-.579**	-.535**	-.587**	-.276	-.063
	Sig.	.001	.000	.002	.001	.000	.001	.003	.001	.155	.750
	N	27	28	28	28	28	28	28	28	28	28
i311 PPINNOV	PC	-.757**	-.696**	-.642**	-.604**	-.613**	-.443*	-.428*	-.444*	-.252	-.114
	Sig.	.000	.000	.000	.001	.001	.018	.023	.018	.195	.562
	N	27	28	28	28	28	28	28	28	28	28
i312 MOINNOV	PC	-.721**	-.720**	-.634**	-.627**	-.688**	-.532**	-.427*	-.459*	-.104	.043
	Sig.	.000	.000	.000	.000	.000	.004	.023	.014	.597	.829
	N	27	28	28	28	28	28	28	28	28	28
i313 INHOUSE	PC	-.696**	-.636**	-.581**	-.557**	-.556**	-.402*	-.423*	-.434*	-.252	-.108
	Sig.	.000	.000	.001	.002	.002	.034	.025	.021	.195	.584
	N	27	28	28	28	28	28	28	28	28	28
i321 COLLAB	PC	-.616**	-.557**	-.613**	-.620**	-.544**	-.374	-.373	-.319	-.334	-.309
	Sig.	.001	.002	.001	.000	.003	.050	.050	.098	.083	.110
	N	27	28	28	28	28	28	28	28	28	28
i322 PPCOPUB	PC	-.598**	-.553**	-.585**	-.574**	-.621**	-.581**	-.608**	-.560**	-.455*	-.316
	Sig.	.001	.002	.001	.001	.000	.001	.001	.002	.015	.102
	N	27	28	28	28	28	28	28	28	28	28
i323 COFUNDING	PC	.032	.086	-.057	-.067	.073	.156	.062	.194	-.187	-.297
	Sig.	.873	.663	.773	.736	.713	.429	.756	.322	.341	.125
	N	27	28	28	28	28	28	28	28	28	28
i331 PATENTS	PC	-.604**	-.555**	-.574**	-.546**	-.560**	-.477*	-.502**	-.450*	-.386*	-.302
	Sig.	.001	.002	.001	.003	.002	.010	.006	.016	.042	.118
	N	27	28	28	28	28	28	28	28	28	28
i332 TRADEMARK	PC	-.311	-.301	-.087	-.064	-.102	-.002	.043	-.116	-.088	-.076
	Sig.	.114	.120	.661	.747	.605	.994	.828	.556	.657	.700
	N	27	28	28	28	28	28	28	28	28	28
i333 DESIGNS	PC	-.224	-.194	-.048	.009	-.109	-.004	.013	-.066	-.055	-.057
	Sig.	.262	.323	.807	.963	.581	.986	.946	.739	.779	.774
	N	27	28	28	28	28	28	28	28	28	28
i411 KIAEMPL	PC	-.600**	-.597**	-.428*	-.415*	-.514**	-.363	-.282	-.386*	-.001	.138
	Sig.	.001	.001	.023	.028	.005	.058	.145	.043	.994	.484
	N	27	28	28	28	28	28	28	28	28	28
i412 HIGHGROW	PC	.176	.113	.169	.198	.040	.156	.115	.078	.356	.363
	Sig.	.391	.575	.400	.323	.845	.436	.567	.698	.068	.063
	N	26	27	27	27	27	27	27	27	27	27
i421 MHTEXPORT	PC	-.031	-.061	-.025	.025	-.123	-.170	-.146	-.183	-.003	.135
	Sig.	.877	.759	.898	.899	.534	.388	.457	.351	.988	.492
	N	27	28	28	28	28	28	28	28	28	28
i422 KISEXPORT	PC	-.472*	-.438*	-.416*	-.428*	-.427*	-.388*	-.193	-.237	.124	.182
	Sig.	.013	.020	.028	.023	.023	.041	.325	.225	.531	.355
	N	27	28	28	28	28	28	28	28	28	28
i423 INNSALES	PC	-.193	-.244	-.356	-.360	-.364	-.303	-.215	-.160	.044	.067
	Sig.	.335	.212	.063	.360	.057	.117	.272	.416	.824	.734
	N	27	28	28	28	28	28	28	28	28	28

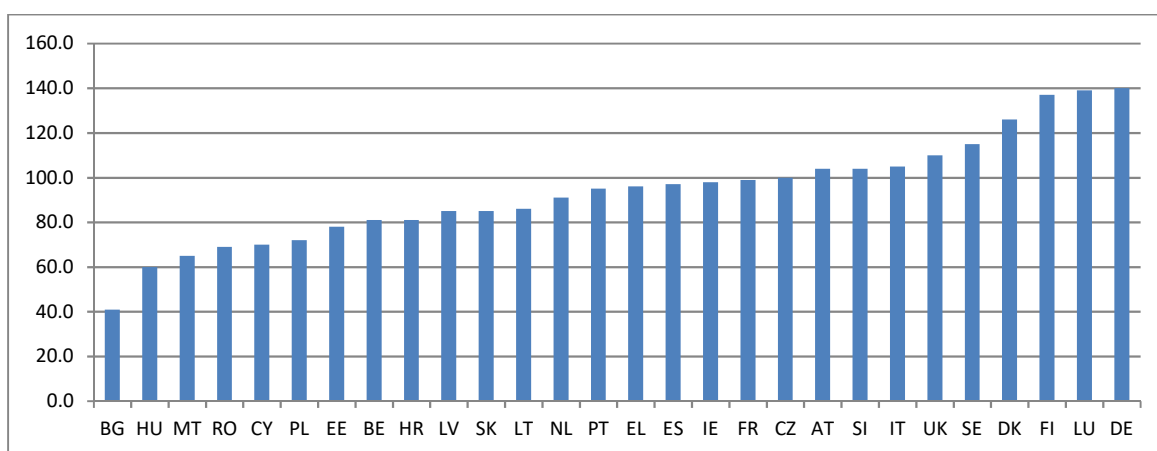
\*\*. Correlation is significant at the 0.01 level (2-tailed). \*. Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

## 5.2.9 Endowments and availability of renewable and non-renewable global resources

### Eco-innovation index

Data are only available for EU Member States for 2010-2016. This index is based on 16 sub-indicators from eight contributors in five thematic areas: eco-innovation inputs, eco-innovation activities, eco-innovation outputs, resource efficiency outcomes and socio-economic outcomes. The overall score of an EU Member State is calculated by the unweighted mean of the 16 sub-indicators. It shows how well individual Member States perform in eco-innovation compared to the EU average, which is equated with 100.

**Figure 29: Eco-innovation index**



Most recent data shown for all countries for which data are available.

The Eco-innovation index is highly stable over time, as shown by high significant year-to-year correlation coefficients (Table 64). The indicator correlates highly positively with the SII, 9 EIS dimensions and 18 EIS indicators (Table 65).<sup>39</sup>

Based on the summary of key characteristics, it is recommended to include this indicator. However, the index measures the result of innovation and as such cannot be seen as a structural indicator facilitating innovation. For this reason, it is recommended to **not include this indicator**.

<b>Data availability</b>	Full for Member States only
<b>Stability over time</b>	Highly stable
<b>Correlation with EIS</b>	Strong

**Table 64 Eco-innovation index (ECO INN): stability over time**

		ECO INN 2011	ECO INN 2012	ECO INN 2013	ECO INN 2014	ECO INN 2015	ECO INN 2016
ECO INN 2010	PC	.937**	.948**	.908**	.864**	.892**	.760**
	Sig.	.000	.000	.000	.000	.000	.000
	N	27	27	27	27	27	27
ECO INN 2011	PC	1	.980**	.884**	.867**	.883**	.742**
	Sig.		.000	.000	.000	.000	.000
	N	27	27	27	27	27	27

<sup>39</sup> Dimensions and indicators are counted if there are at least two significant correlations in the last six years.

		ECO INN 2011	ECO INN 2012	ECO INN 2013	ECO INN 2014	ECO INN 2015	ECO INN 2016
ECO INN 2012	PC	.980**	1	.885**	.860**	.885**	.745**
	Sig.	.000		.000	.000	.000	.000
	N	27	27	27	27	27	27
ECO INN 2013	PC	.884**	.885**	1	.896**	.946**	.845**
	Sig.	.000	.000		.000	.000	.000
	N	27	27	28	28	28	28
ECO INN 2014	PC	.867**	.860**	.896**	1	.960**	.914**
	Sig.	.000	.000	.000		.000	.000
	N	27	27	28	28	28	28
ECO INN 2015	PC	.883**	.885**	.946**	.960**	1	.914**
	Sig.	.000	.000	.000	.000		.000
	N	27	27	28	28	28	28

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

**Table 65 Pearson correlation (PC) results between Eco-innovation index (ECO INN) and SII, EIS dimensions and EIS indicators**

		ECO INN 2010	ECO INN 2011	ECO INN 2012	ECO INN 2013	ECO INN 2014	ECO INN 2015	ECO INN 2016
SII	PC	.881**	.826**	.811**	.855**	.748**	.809**	.746**
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	27	27	27	28	28	28	28
HUMAN RESOURCES	PC	.765**	.730**	.727**	.744**	.669**	.720**	.689**
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	27	27	27	28	28	28	28
RESEARCH SYSTEM	PC	.791**	.758**	.741**	.760**	.660**	.712**	.634**
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	27	27	27	28	28	28	28
INNOVATION FRIENDLY ENVIRONMENT	PC	.604**	.637**	.584**	.604**	.549**	.596**	.546**
	Sig.	.001	.000	.001	.001	.002	.001	.003
	N	27	27	27	28	28	28	28
FINANCE SUPPORT	PC	.594**	.531**	.505**	.627**	.558**	.605**	.597**
	Sig.	.001	.004	.007	.000	.002	.001	.001
	N	27	27	27	28	28	28	28
FIRM INVESTMENTS	PC	.726**	.661**	.683**	.677**	.626**	.627**	.590**
	Sig.	.000	.000	.000	.000	.000	.000	.001
	N	27	27	27	28	28	28	28
INNOVATORS	PC	.670**	.652**	.649**	.683**	.628**	.649**	.667**
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	27	27	27	28	28	28	28
LINKAGES	PC	.671**	.578**	.614**	.650**	.537**	.606**	.516**
	Sig.	.000	.002	.001	.000	.003	.001	.005
	N	27	27	27	28	28	28	28
INTELLECTUAL ASSETS	PC	.635**	.579**	.586**	.544**	.424*	.468*	.476*
	Sig.	.000	.002	.001	.003	.024	.012	.011
	N	27	27	27	28	28	28	28
EMPLOYMENT IMPACT	PC	.267	.251	.181	.317	.200	.241	.187
	Sig.	.178	.207	.368	.100	.307	.217	.341
	N	27	27	27	28	28	28	28
SALES IMPACT	PC	.579**	.531**	.487**	.599**	.547**	.631**	.490**
	Sig.	.002	.004	.010	.001	.003	.000	.008
	N	27	27	27	28	28	28	28
i111 DOCGRADES	PC	.704**	.663**	.719**	.687**	.660**	.713**	.618**
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	27	27	27	28	28	28	28
i112 TEREDUC	PC	.158	.176	.116	.180	.122	.114	.225
	Sig.	.432	.380	.565	.358	.537	.562	.250
	N	27	27	27	28	28	28	28
i113 LIFELONG	PC	.768**	.721**	.706**	.733**	.649**	.709**	.649**
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	27	27	27	28	28	28	28
i121 INTCOPUB	PC	.798**	.776**	.766**	.700**	.644**	.670**	.636**
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	27	27	27	28	28	28	28
i122 MOSTCITED	PC	.803**	.763**	.759**	.781**	.623**	.712**	.599**
	Sig.	.000	.000	.000	.000	.000	.000	.001
	N	27	27	27	28	28	28	28
i123 FORDOCST	PC	.623**	.586**	.544**	.641**	.571**	.603**	.521**
	Sig.	.001	.002	.004	.000	.002	.001	.005



		ECO INN 2010	ECO INN 2011	ECO INN 2012	ECO INN 2013	ECO INN 2014	ECO INN 2015	ECO INN 2016
	N	.26	.26	.26	.27	.27	.27	.27
i131 BROADBAND	PC	.405*	.507**	.453*	.436*	.408*	.433*	.367
	Sig.	.036	.007	.018	.020	.031	.021	.055
	N	27	27	27	28	28	28	28
i132 OPPENTRE	PC	.706**	.626**	.595**	.669**	.629**	.681**	.661**
	Sig.	.000	.001	.001	.000	.000	.000	.000
	N	26	26	26	27	27	27	27
i211 PUBRD	PC	.598**	.509**	.513**	.626**	.597**	.653**	.669**
	Sig.	.001	.007	.006	.000	.001	.000	.000
	N	27	27	27	28	28	28	28
i212 VENTCAP	PC	.314	.316	.261	.334	.243	.254	.217
	Sig.	.111	.109	.189	.082	.212	.192	.268
	N	27	27	27	28	28	28	28
i221 BUSRD	PC	.851**	.777**	.814**	.757**	.673**	.732**	.579**
	Sig.	.000	.000	.000	.000	.000	.000	.001
	N	27	27	27	28	28	28	28
i222 NONRD	PC	-.229	-.336	-.295	-.142	-.117	-.188	-.076
	Sig.	.250	.087	.135	.470	.553	.338	.700
	N	27	27	27	28	28	28	28
i223 ICTSKILLS	PC	.748**	.789**	.760**	.671**	.635**	.641**	.623**
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	27	27	27	28	28	28	28
i311 PPINNOV	PC	.655**	.627**	.629**	.660**	.586**	.620**	.611**
	Sig.	.000	.000	.000	.000	.001	.000	.001
	N	27	27	27	28	28	28	28
i312 MOINNOV	PC	.643**	.643**	.632**	.696**	.671**	.668**	.711**
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	27	27	27	28	28	28	28
i313 INHOUSE	PC	.630**	.606**	.607**	.612**	.555**	.581**	.602**
	Sig.	.000	.001	.001	.001	.002	.001	.001
	N	27	27	27	28	28	28	28
i321 COLLAB	PC	.546**	.467*	.492**	.557**	.404*	.482**	.429*
	Sig.	.003	.014	.009	.002	.033	.009	.023
	N	27	27	27	28	28	28	28
i322 PPCOPUB	PC	.874**	.776**	.800**	.748**	.657**	.725**	.580**
	Sig.	.000	.000	.000	.000	.000	.000	.001
	N	27	27	27	28	28	28	28
i323 COFUNDING	PC	.190	.144	.180	.249	.224	.243	.224
	Sig.	.343	.473	.368	.202	.252	.213	.252
	N	27	27	27	28	28	28	28
i331 PATENTS	PC	.918**	.828**	.850**	.849**	.720**	.787**	.669**
	Sig.	.000	.000	.000	.000	.000	.000	.000
	N	27	27	27	28	28	28	28
i332 TRADEMARK	PC	.201	.232	.203	.133	.040	.058	.169
	Sig.	.315	.244	.309	.499	.840	.769	.389
	N	27	27	27	28	28	28	28
i333 DESIGNS	PC	.354	.291	.309	.299	.234	.254	.281
	Sig.	.070	.141	.117	.122	.230	.192	.147
	N	27	27	27	28	28	28	28
i411 KIAEMPL	PC	.607**	.606**	.562**	.583**	.495**	.508**	.514**
	Sig.	.001	.001	.002	.001	.007	.006	.005
	N	27	27	27	28	28	28	28
i412 HIGHGROW	PC	-.169	-.184	-.236	-.040	-.136	-.087	-.154
	Sig.	.410	.367	.245	.843	.500	.667	.443
	N	26	26	26	27	27	27	27
i421 MHTEXPORT	PC	.387*	.303	.252	.314	.308	.364	.227
	Sig.	.046	.125	.205	.104	.111	.057	.246
	N	27	27	27	28	28	28	28
i422 KISEXPORT	PC	.656**	.625**	.601**	.619**	.571**	.613**	.535**
	Sig.	.000	.000	.001	.000	.002	.001	.003
	N	27	27	27	28	28	28	28
i423 INNSALES	PC	.180	.183	.162	.345	.292	.377*	.278
	Sig.	.370	.360	.420	.072	.132	.048	.152
	N	27	27	27	28	28	28	28

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed). Positive significant correlations are highlighted in green, negative significant correlations in yellow.

## 6. Conclusions and proposed long-list of structural indicators

### 6.1 Summary of results

Table 66 summarises, for each of the proposed indicators, the results from the analysis in sections 5.1 and 5.2. The table shows for each indicator the degree of data availability, stability over time of the data, if the indicators correlated well with innovation, the importance given by independent experts, and the final recommendation.

**Table 66 Summary of results**

Name of the indicator	Included in EIS 2017	Data availability	Stability of data over time	Correlation analysis	Expert opinion - importance	Recommendation
<b>Global demand and internal demand</b>						
<b>GDP per capita</b>	Yes	Good	--	Strong +	--	<b>Include</b>
<b>Change in GDP</b>	Yes	Good	--	None	--	<b>Include</b>
<b>Population size</b>	Yes	Good	--	None	--	<b>Include</b> (proxy for country size)
<b>Change in population</b>	Yes	Good	--	Strong +	--	<b>Include</b>
Population aged 15-64	Yes	Good	--	Strong -	--	Exclude
<b>Population density</b>	Yes	Good	--	Weak +	--	<b>Include</b>
Degree of urbanization	Yes	Good	--	None	--	Exclude
<b>Buyer sophistication</b>	Yes	Good	--	Positive		<b>Include</b>
Internal Market Dynamics	No	Limited	Moderate	Weak -	Low	Exclude
Domestic demand forecast	No	Limited	Possible break in series	Weak +	Low	Exclude
<b>Degree of customer orientation</b>	No	Good	Stable	Positive +	High	<b>Include</b>
<b>Foreign direct investment</b>						
Share of foreign controlled enterprises	Yes	Good	--	None	--	Exclude
<b>Foreign Direct Investment and Technology Transfer</b>	No	Good	Stable	Positive +	High	<b>Include</b>
<b>Cultural framework</b>						
Entrepreneurial Attitudes - Perceived Capabilities	No	Weak	Stable	Moderate -	High	Exclude
Entrepreneurship as Desirable Career Choice	No	Weak	Stable	Moderate -	Average	Exclude
Cultural and Social Norms	No	Weak	Stable	Moderate +	Average	Exclude
It is important to think new ideas and being creative	No	Weak	Stable	Moderate +	High	Exclude
<b>Most people can be trusted</b>	No	Weak	Stable	Positive +	Average	<b>Include</b>
Fear of failure rate	No	Weak	Moderate	Weak -	High	Exclude
<b>Financial system</b>						
Strength of Investor protection	No	Good	Stable	None	None	Exclude
Strength of legal rights	No	Good	Stable	Weak -	Average	Exclude
<b>Country credit rating</b>	No	Good	Stable	Positive +	Average	<b>Include</b>
<b>Company system</b>						
<b>Composition of employment, %-shares</b>						
• Agriculture & Mining (NACE A-B)	Yes	Good	--	Strong -	--	Exclude
• <b>Manufacturing (NACE C)</b>	Yes	Good	--	Strong -	--	<b>Include</b>
• <b>High and Medium high-tech (% of manufacturing)</b>	Yes	Good	--	Strong +	--	<b>Include</b>
• Utilities and Construction (NACE D-F)	Yes	Good	--	Strong -	--	Exclude

Name of the indicator	Included in EIS 2017	Data availability	Stability of data over time	Correlation analysis	Expert opinion - importance	Recommendation
• <b>Services (NACE G-N)</b>	Yes	Good	--	Strong +	--	<b>Include</b>
• <b>Knowledge-intensive services (% of services)</b>	Yes	Good	--	Strong +	--	<b>Include</b>
• Public administration (NACE O-U)	Yes	Good	--	Weak +		Exclude
<b>Composition of turnover, %-shares</b>						
• Micro enterprises (0-9 employees)	Yes	Good	--	Strong -	--	Exclude
• <b>SMEs (10-249 employees)</b>	Yes	Good	--	None	--	<b>Include</b>
• Large enterprises (250+ employees)	Yes	Good	--	Weak +	--	Exclude
<b>Top R&amp;D spending enterprises</b>						
• <b>Average number per 10 mln population</b>	Yes	Good	--	Strong +	--	<b>Include</b>
• Average R&D	Yes	Good	--	Weak +	--	Exclude
Enterprise births (10+ employees) (%)	Yes	Good	--	Strong -	--	Exclude
<b>Education and Research System</b>						
<b>Basic-school entrepreneurial education and training</b>	No	Weak	Moderate	Positive +	Average	<b>Include</b>
Post-school entrepreneurial education and training	No	Weak	Moderate	Moderate +	High	Exclude
<b>Total R&amp;D personnel - Business sector</b>	No	Good	High	Positive +	Average	<b>Include</b>
<b>Governance, policy regulations and standards</b>						
<b>Ease of starting a business</b>	Yes	Good	--	Strong +	--	<b>Include</b>
<b>Rule of law</b>	No	Good	Stable	Positive +	High	<b>Include</b>
<b>Government effectiveness</b>	No	Good	Stable	Positive +	High	<b>Include</b>
Barriers to entrepreneurship	No	Limited	--	Moderate -	High	Exclude
<b>Ease of doing business index</b>	No	Good	Stable	Positive +	Average	<b>Include</b>
<b>Regulatory quality</b>	No	Good	Stable	Positive +	High	<b>Include</b>
<b>Government procurement of advanced technology products</b>	No	Good	Stable	Positive +	Average	<b>Include</b>
<b>Sectoral trade patterns and structure and dynamics of global value chains</b>						
Export market shares - 5 years % change	No	MS only	High	Moderate -	Average	Exclude
<b>Endowments and availability of renewable and non-renewable global resources</b>						
Eco-innovation index	No	MS only	High	Positive +	Average	Exclude

In total 25 indicators emerge from the analysis to be possibly included in the EIS 2018, but as these indicators have been analysed without taking into account possible overlaps with any of the other indicators. Annex 2 shows the correlation results between the different structural indicators. From these results the following can be observed:

- The three indicators from the World Bank Governance indicators - Rule of Law, Government effectiveness, and Regulatory quality - are highly correlated and measure the same. For the final list it is recommended to include only one indicator: Rule of Law.
- The two indicators from the World Bank Doing Business - Ease of starting a business and Doing Business Index - are highly correlated. Only Ease of

starting a business is recommended to be included as this indicator was already used in the EIS 2017.

- Basic-school entrepreneurial education and training and Post-school entrepreneurial education and training are highly correlated. This confirms that only one of these two indicators should be included.

Total R&D personnel in the business sector is excluded as this indicator is too similar to the EIS performance indicator 'Business R&D expenditures'.

## **6.2 Shortlist of contextual indicators for EIS 2018 report**

Based on the summarised results and the correlation analysis of section 6.1, the following 20 structural indicators are recommended for inclusion in the EIS 2018:

1. GDP per capita;
2. Change in GDP;
3. Population size;
4. Change in population;
5. Population density
6. Buyer sophistication;
7. Customer orientation
8. Foreign Direct Investment and Technology Transfer;
9. Most people can be trusted;
10. Country credit rating
11. Employment share Manufacturing (NACE C);
12. Employment High and Medium high-tech (% of manufacturing);
13. Employment share Services (NACE G-N);
14. Employment Knowledge-intensive services (% of services)
15. Turnover share SMEs;
16. Top R&D spending enterprises, average number per 10 mln population;
17. Basic-school entrepreneurial education and training;
18. Ease of starting a business;
19. Rule of law;
20. Government procurement of advanced technology products.

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## Annex 1: Definitions of Structural indicators

**Table 67 Structural indicators for Global and internal demand**

Structural indicator	Definition	Source	Available at national /regional level
GDP per capita, PPS, average 2011-2013		From EIS 2017	National and regional
Change in GDP between 2010 and 2015 (%)		From EIS 2017	National and regional
Population size (millions), average 2011-2015		From EIS 2017	National and regional
Change in population between 2010 and 2015 (%)		From EIS 2017	National and regional
Population aged 15-64 (%), average 2011-2015		From EIS 2017	National and regional
Population density, average 2011-2015		From EIS 2017	National and regional
Degree of urbanization (%), average 2011-2015		From EIS 2017	National and regional
Buyer sophistication, (1, worst - 7, best), 2013-2014		From EIS 2017	National and regional
Internal Market Dynamics	The level of change in markets from year to year. [1 = Least Positive and 5 = Most Positive]	Global Entrepreneurship Monitor, <a href="http://www.gemconsortium.org/data">www.gemconsortium.org/data</a>	National
Domestic demand forecast	Final domestic demand is the sum of final consumption, investment and stock building expenditures by the private and general government sectors in real terms. Forecast is based on an assessment of the economic climate in individual countries and the world economy, using a combination of model-based analyses and expert judgement. This indicator is expressed in annual growth rates	OECD, <a href="https://data.oecd.org/gdp/domestic-demand-forecast.htm">https://data.oecd.org/gdp/domestic-demand-forecast.htm</a>	National  Available for OECD countries and only few others
Degree of customer orientation	In your country, how well do companies treat customers? [1 = poorly—mostly indifferent to customer satisfaction; 7 = extremely well—highly responsive to customers and seek customer retention]   2015-16 weighted average	World Economic Forum, Executive Opinion Survey – Schwab (2016: 376)	National

**Table 68 Structural indicators for Foreign direct investment**

Structural indicator	Definition	Source	Available at national / regional level
Share of foreign controlled enterprises (%), 2014		From EIS 2017	National
Foreign Direct Investment and Technology Transfer	To what extent does foreign direct investment (FDI) bring new technology into your country? [1 = not at all; 7 = to a great extent-FDI is a key source of new technology]	World Economic Forum Competitiveness Index and World Bank: <a href="http://tcdata360.worldbank.org/indicators/inv.fdi.tech?country=BRA&amp;indicator=717&amp;viz=line_chart&amp;years=2007,2016">http://tcdata360.worldbank.org/indicators/inv.fdi.tech?country=BRA&amp;indicator=717&amp;viz=line_chart&amp;years=2007,2016</a>	National

**Table 69 Structural indicators for Cultural framework**

Structural indicator	Definition	Source	Available at national / regional level
Entrepreneurial Attitudes - Perceived Capabilities	Percentage of 18-64 population who believe to have the required skills and knowledge to start a business	Global Entrepreneurship Monitor, <a href="http://www.gemconsortium.org/data">www.gemconsortium.org/data</a>	National
Entrepreneurship as Desirable Career Choice	Percentage of 18-64 population who agree with the statement that in their country, most people consider starting a business as a desirable career choice	Global Entrepreneurship Monitor, <a href="http://www.gemconsortium.org/data">www.gemconsortium.org/data</a>	National
Cultural and Social Norms	The extent to which social and cultural norms encourage or allow actions leading to new business methods or activities that can potentially increase personal wealth and income. [1 = Least Positive and 5 = Most Positive]	Global Entrepreneurship Monitor, <a href="http://www.gemconsortium.org/data">www.gemconsortium.org/data</a>	National
It is important to think new ideas and being creative	Thinking up new ideas and being creative is important to her/him. She/he likes to do things in her/his own original way.	European Social Survey, <a href="http://www.europeansocialsurvey.org">www.europeansocialsurvey.org</a>	National and regional
Most people can be trusted or you can't be too careful	Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people? Please tell me on a score of 0 to 10, where 0 means you can't be too careful and 10 means that most people can be trusted.	European Social Survey, <a href="http://www.europeansocialsurvey.org">www.europeansocialsurvey.org</a>	National and regional
Fear of failure rate	Percentage of 18-64 population (individuals involved in any stage of entrepreneurial activity excluded) who indicate that fear of failure would prevent them from setting up a business	Global Entrepreneurship Monitor, <a href="http://www.gemconsortium.org/data">www.gemconsortium.org/data</a>	National

**Table 70 Structural indicators for Financial system**

Structural indicator	Definition	Source	Available at national /regional level
Strength of Investor protection	Strength of minority investor protection index (0-10). Based on survey administered to corporate and securities lawyers. Scale of 0-10, higher values indicating stronger minority investor protection.	World Economic Forum - Global Competitiveness Index, <a href="http://reports.weforum.org/global-competitiveness-index-2017-2018/competitiveness-rankings/#series=INVESTPROIDX">http://reports.weforum.org/global-competitiveness-index-2017-2018/competitiveness-rankings/#series=INVESTPROIDX</a>	National
Strength of legal rights	Measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending. The index ranges from 0 to 12, with higher scores indicating that these laws are better designed to expand access to credit.	World Bank: <a href="http://data.worldbank.org/indicator/IC.LGL.CRED.XQ">http://data.worldbank.org/indicator/IC.LGL.CRED.XQ</a>	National
Country Credit Rating	Institutional Investor Credit Rating (0-100), based on survey which asks economists and risk analysts to rank creditworthiness	Institutional Investor Magazine – Institutional Investor Credit Rating: <a href="http://www.institutionalinvestor.com/research/6150/Global-Rankings">www.institutionalinvestor.com/research/6150/Global-Rankings</a>	National

**Table 71 Structural indicators for Company system**

Structural indicator	Definition	Source	Available at national /regional level
Composition of employment, %-shares, average 2011-2015		From EIS 2017	National and regional
Composition of turnover, %-shares, average 2011-2014		From EIS 2017	National and regional
Top R&D spending enterprises		From EIS 2017	National
Enterprise births (10+ employees) (%), average 2012-2014		From EIS 2017	National and regional

**Table 72 Structural indicators for Education and research system**

Structural indicator	Definition	Source	Available at national /regional level
Basic-school entrepreneurial education and training	The extent to which training in creating or managing SMEs is incorporated within the education and training system at primary and secondary levels. [1 = Least Positive and 5 = Most Positive]	Global Entrepreneurship Monitor, <a href="http://www.gemconsortium.org/data">www.gemconsortium.org/data</a>	National

Structural indicator	Definition	Source	Available at national /regional level
Post-school entrepreneurial education and training	The extent to which training in creating or managing SMEs is incorporated within the education and training system in higher education such as vocational, college, business schools, etc. [1 = Least Positive and 5 = Most Positive]	Global Entrepreneurship Monitor, <a href="http://www.gemconsortium.org/data">www.gemconsortium.org/data</a>	National
Total R&D personnel (Full time equivalent % of the labour force) - Business enterprise sector		<a href="http://ec.europa.eu/eurostat/tgm/refreshTableAction.do?tab=table&amp;plugin=1&amp;pcode=tsc00002&amp;language=en">http://ec.europa.eu/eurostat/tgm/refreshTableAction.do?tab=table&amp;plugin=1&amp;pcode=tsc00002&amp;language=en</a>	National and regional

**Table 73 Structural indicators for Governance, policy, regulations and standards**

Structural indicator	Definition	Source	Available at national /regional level
Ease of starting a business, Doing Business 2017		From EIS 2017	National
Rule of Law	Includes several indicators which measure the extent to which agents have confidence in and abide by the rules of society. These include perceptions of the incidence of crime, the effectiveness and predictability of the judiciary, and the enforceability of contracts. Together, these indicators measure the success of a society in developing an environment in which fair and predictable rules form the basis for economic and social interactions and the extent to which property rights are protected	Teorell, Jan, Stefan Dahlberg, Sören Holmberg, Bo Rothstein, Anna Khomenko & Richard Svensson. 2017. The Quality of Government Standard Dataset, version Jan17. University of Gothenburg: The Quality of Government Institute, <a href="http://www.qog.pol.gu.se">http://www.qog.pol.gu.se</a> doi:10.18157/QoGStdJan17	National and regional
Government Effectiveness	Combines responses on the quality of public service provision, the quality of the bureaucracy, the competence of the civil servants, the independence of the civil service from political pressures, and the credibility of the government's commitment to policies. The main focus of this index is on "inputs" required for the government to be able to produce and implement good policies and deliver public goods	Teorell, Jan, Stefan Dahlberg, Sören Holmberg, Bo Rothstein, Anna Khomenko & Richard Svensson. 2017. The Quality of Government Standard Dataset, version Jan17. University of Gothenburg: The Quality of Government Institute, <a href="http://www.qog.pol.gu.se">http://www.qog.pol.gu.se</a> doi:10.18157/QoGStdJan17	National and regional
Barriers to entrepreneurship	An index on a scale from 0 (least restrictive) to 6 (most restrictive), comprising complexity of regulatory procedures, administrative burdens on start-ups and regulatory protection of incumbents.	OECD, Product Market Regulation Database and Koske, I., I. Wanner, R. Bitetti and O. Barbiero, (2015), "The 2013 Update of the OECD Product Market Regulation Indicators: Policy Insights for OECD and non-OECD Countries", OECD Economics Department Working Papers, 1200/2015.	National

Structural indicator	Definition	Source	Available at national /regional level
Ease of doing business index	Ease of doing business ranks economies from 1 to 190, with first place being the best. A high ranking (a low numerical rank) means that the regulatory environment is conducive to business operation. The index averages the country's percentile rankings on 10 topics covered in the World Bank's Doing Business. The ranking on each topic is the simple average of the percentile rankings on its component indicators. It is composed of sub-indexes.	<a href="http://data.worldbank.org/indicator/IC.BUS.EASE.XQ">http://data.worldbank.org/indicator/IC.BUS.EASE.XQ</a>	National
Regulatory quality	Regulatory quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. It ranks countries according to the percentile rank, 0 being the lowest, and 100 the highest rank.	Worldwide Governance Indicators by the World Bank, <a href="http://info.worldbank.org/governance/wgi/#doc">http://info.worldbank.org/governance/wgi/#doc</a>	National
Government procurement of advanced technology products	The question being asked: "In your country, to what extent do government purchasing decisions foster innovation?" (1 = not at all; 7 = to a great extent)	World Economic Forum, Executive Opinion Survey, <a href="http://reports.weforum.org/global-competitiveness-index-2017-2018/competitiveness-rankings/#series=EOSQ074">http://reports.weforum.org/global-competitiveness-index-2017-2018/competitiveness-rankings/#series=EOSQ074</a>	National

**Table 74 Structural indicators for Sectoral trade patterns and structure and dynamics of global value chains**

Structural indicator	Definition	Source	Available at national /regional level
Export market shares - 5 years % change	The export market share is calculated by dividing the exports of the country by the total exports of the region/world. The indicator measures the degree of importance of a country within the total exports of the region/world. For the calculation at current prices, the market share refers to the world trade (world export market share). Data on the values of exports of goods and services are compiled as part of the Balance of Payments of each country. To capture the structural losses in competitiveness that can accumulate over longer time periods, the indicator is calculated as 5 years % change - comparing year Y with year Y-5. A country might lose shares of export market not only if exports decline but most importantly if its exports do not grow at the same rate of world exports and its relative position at the global level deteriorates. The MIP scoreboard indicator is the percentage change of export market shares (of goods and	<a href="http://ec.europa.eu/eurostat/tgm/table.do?tab=table&amp;init=1&amp;plugin=1&amp;pcode=tipsex10&amp;language=en">http://ec.europa.eu/eurostat/tgm/table.do?tab=table&amp;init=1&amp;plugin=1&amp;pcode=tipsex10&amp;language=en</a>	National

Structural indicator	Definition	Source	Available at national /regional level
	services) over five years, with a lower indicative threshold of -6%. The formula is: $\frac{[(EXPc,t/EXPworld,t)-(EXPc,t-5/EXPworld,t-5)]}{(EXPc,t-5/EXPworld,t-5)} * 100$ Source of total world data used as denominator: International Monetary Fund (IMF).		

**Table 75 Structural indicators for Endowments and availability of renewable and non-renewable global resources**

Structural indicator	Definition	Source	Available at national /regional level
Eco-innovation index	This index is based on 16 sub-indicators from eight contributors in five thematic areas: eco-innovation inputs, eco-innovation activities, eco-innovation outputs, resource efficiency outcomes and socio-economic outcomes. The overall score of an EU Member State is calculated by the unweighted mean of the 16 sub-indicators. It shows how well individual Member States perform in eco-innovation compared to the EU average, which is equated with 100. For 2010-2012, the average used for indexing to 100 is the average of 27 EU Member States. From 2013 onwards, the average used is calculated from the data for 28 EU Member States. The relevant target in the Roadmap is for an increase in the funding for research that contributes to the environmental knowledge base. Such increases will improve a Member State's positioning according to the index. Although the index is published annually, its sub-indicators are often not, so the index is a collation of the most recent data available each year. As its units are relative it cannot indicate progress in absolute terms. For a detailed description of the indicators included in the Eco-Innovation scoreboard and the calculation details, see the pages of the Eco-Innovation Observatory.	<a href="http://ec.europa.eu/eurostat/tgm/table.do?tab=table&amp;init=1&amp;plugin=1&amp;pcode=t2020_rt200&amp;language=en">http://ec.europa.eu/eurostat/tgm/table.do?tab=table&amp;init=1&amp;plugin=1&amp;pcode=t2020_rt200&amp;language=en</a>	National

## Annex 2: Correlations between Structural indicators

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
GDP CAPITA	1				+				+			+							+				+	-	-		-	+	+	+				+			+	+	+		+	+	+	+	+			
GDP CHANGE	2										+			+																															+			
POPULATION	3																																															
POPULATION CHANGE	4	+							+										+				-	-			+	+					+				+					+						
POP AGED 1564	5											-			+				-								+	-									-											
POP DENSITY	6							+																															-				-					
URBANISATION	7							+																																								
BUYER SOPHISTICATION	8	+				+													+					-	-		-	+	+					+	+			+	+	+		+	+	+	+	+		
INTERNAL MRK DYNAMICS	9																																															
DOMESTIC DEMAND FORECAST	10		+																																											+		
CUSTOMER ORIENTATION	11	+				-								+	-	-			+				+						+									+	+	+	+		+	+	+	+		
FOREING CONTROLLED	12																				+										+			+													+	
FDI	13		+									+					+							+									+									+	+	+		+	+	+
PERCEIVED CAPABILITES	14					+						-											-																	-	-		-					
DESIRABLE CAREER	15											-											-																	-	-							
NORMS	16													+																						+	+					+	+					
THINK NEW IDEAS	17																																				+	+										
MOST PEOPLE CAN BE TRUSTED	18	+				+	+			+		+											+						+	+	+	-			+				+	+	+	+		+	+	+	+	
FEAR OF FAILURE	19																																															
INVESTOR PROTECTION	20												+																																			
LEGAL RIGHTS	21																																															
CREDIT RATING	22	+										+		+	-	-			+											+								+	+	+	+	-	+	+	+	+		
EMPL AGRICULTURE	23	+				-				-																			-	+								-		-	-		-	+				
EMPL MANUFACTURING	24	+				-				-																		+	-	+								-										
EMPL MHT MANUFACTURING	25																																	+		+												
EMPL UTILITIES	26	-				+				-																+			-	+								-										
EMPL SERVICES	27	+				+	-			+										+					-	-		-		+						+		-	+		+	+		+	+			
EMPL KIS SERVICES	28	+				+				+		+							+				+	-	-		-	+							+		-		+		+	+		+	+		+	
EMPL PUBLIC ADMINISTRATION	29	+											+						-															+					-			-						
TURNOVER MICRO ENTR.	30																																	+						-	-			-				

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
TURNOVER SMES	31																																															
TURNOVER LARGE ENTR.	32													+									+			+																						
TOP R&D PER POP	33	+			+				+				+					+							-		-		+	+								+						+		+		
TOP R&D SPENDING	34								+																	+	+	+																				
ENTERPRISE BIRTHS	35																									+	-	-										-										
BASIC SCHOOL ENTR EDUC	36																+																					+				+						
POST SCHOOL ENTR EDUC	37																+																				+											
R&D PERSONNEL BUSINESS	38	+			+	-			+			+							+				+	-			-	+	+		-			+		-				+	+			+	+	+		
EASE STARTING BUSINESS	39						-					+							+				+								-	-							+	+		+	+		+	+		
RULE OF LAW	40	+							+		+		+		+	-	-		+				+	-				+	+									+	+		+		+	+	+		+	
GOVERNMENT EFFECTIVENESS	41	+							+		+		+		+	-	-		+				+	-				+	+									+	+	+		-	+	+	+		+	
BARRIERS ENTREPRENEURSHIP	42																							-																-		-						
DOING BUSINESS INDEX	43						-					+						+					+								-	-							+	+	+	+	-		+			
REGULATORY QUALITY	44	+							+		+		+		+	-		+	+				+	-				+	+							+		+	+	+	+		+		+	+	+	
GOVERNMENT PROCUREMENT	45	+							+		+		+		+			+	+				+	-				+	+					+				+		+	+				+		+	
EXPORT MARKET SHARES	46		+								+		+																						+				+		+	+						
ECO-INNOVATION INDEX	47	+							+		+							+					+							+		-			+				+		+	+			+	+		

Only correlation coefficients at the 1% level are shown. The colour codes are as follows (the table uses a '+' for positive correlations and a '-' for negative correlations):

Correlation coefficient above 0.900
Correlation coefficient above 0.800
Correlation coefficient above 0.700 or below -0.700
Correlation coefficient above 0.600 or below -0.600
Correlation coefficient above 0.500 or below -0.500
Correlation coefficient above 0.400 or below -0.400





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