



presentation of the annual report

**Poland: Competitiveness Report 2015
Innovation and Poland's Performance in 2007-2014**

Marzenna Anna Weresa
The World Economy Research Institute
Collegium of the World Economy

Szkoła Główna Handlowa w Warszawie
Warsaw School of Economics - SGH

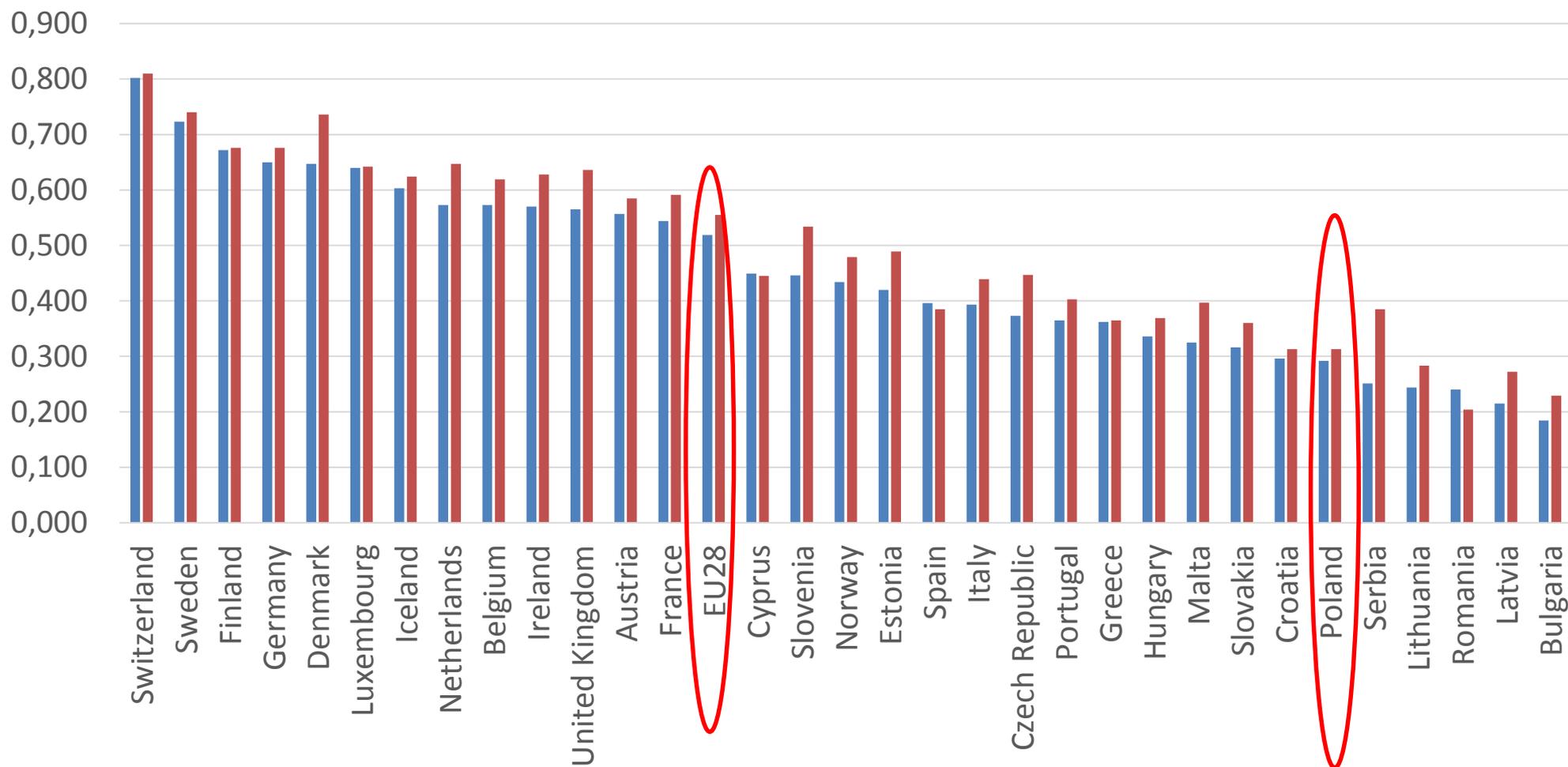
www.sgh.waw.pl

Key research questions

- How did the global economic crisis impact the innovativeness and competitiveness of the Polish economy?
- Was the global crisis a driver of change allowing Poland to overcome the limitations of the development process?
- To what extent did innovation become the basis for competitive capacity building at the beginning of the post-crisis period?

Innovation: Poland in Europe,

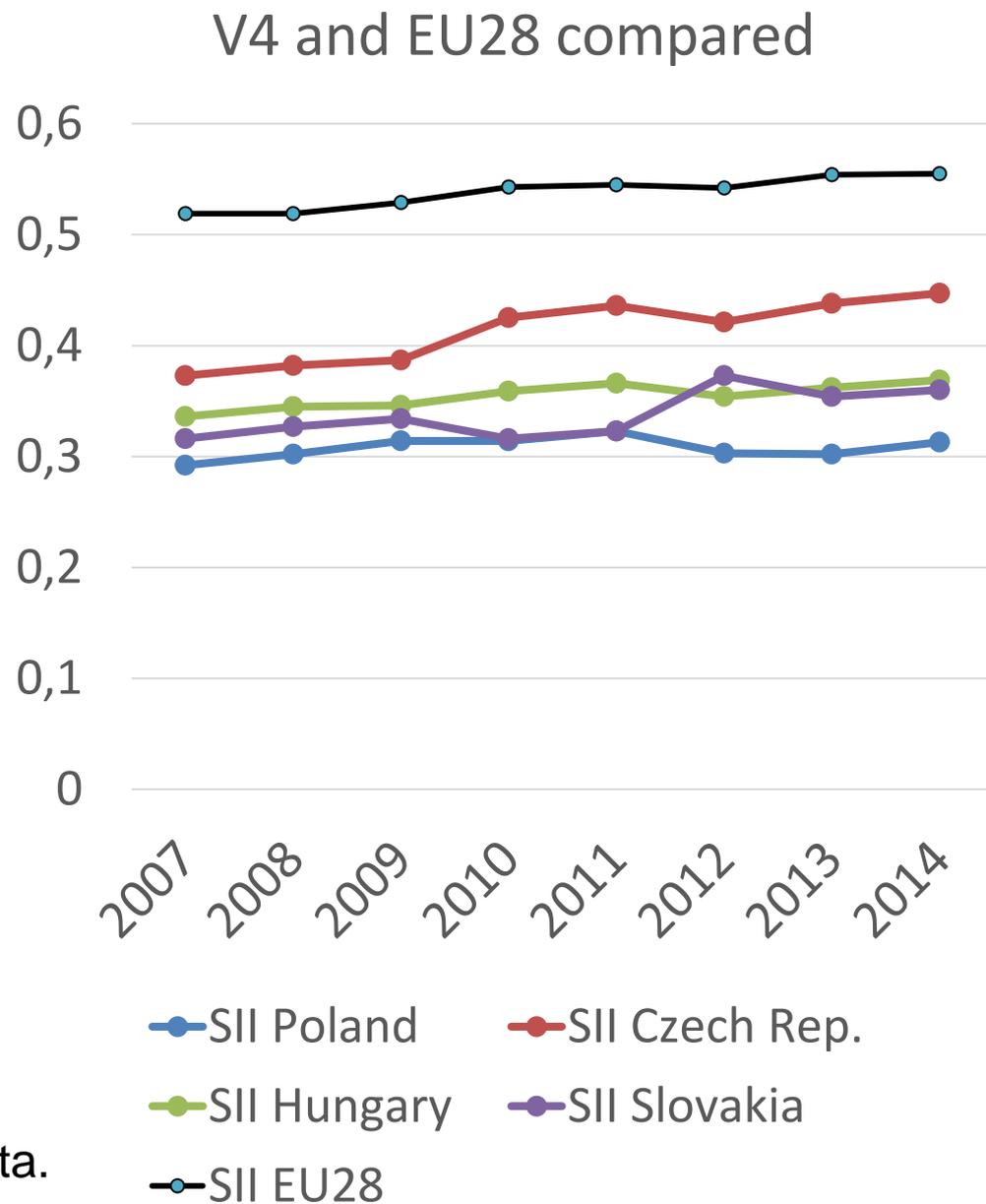
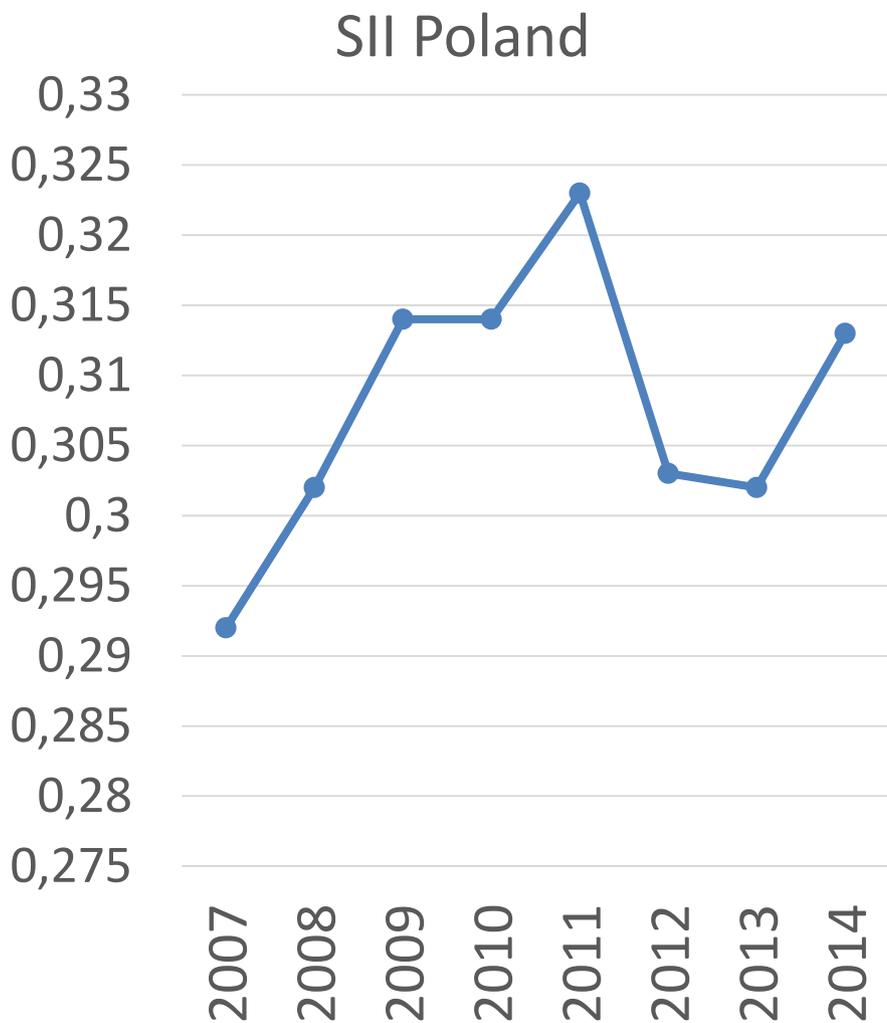
Summary Innovation Index (SII) in 2007 and 2014 compared



■ Summary Innovation Index "2014"

■ Summary Innovation Index "2007"

Poland's National Innovation System and How It Evolved in 2007-2014

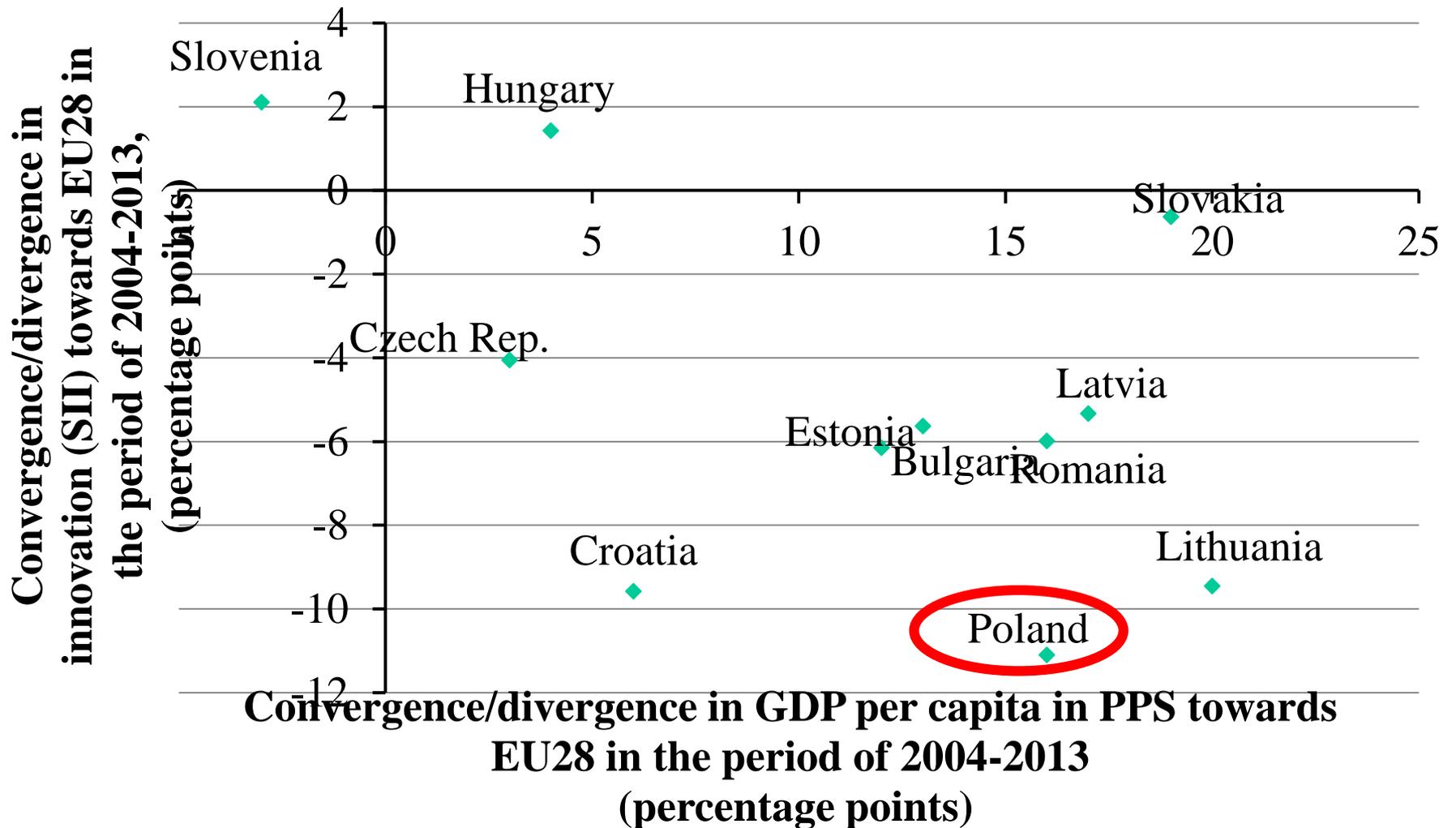


Source: own elaboration based on EC data.

Developments of Poland's Innovation System in 2007-2014

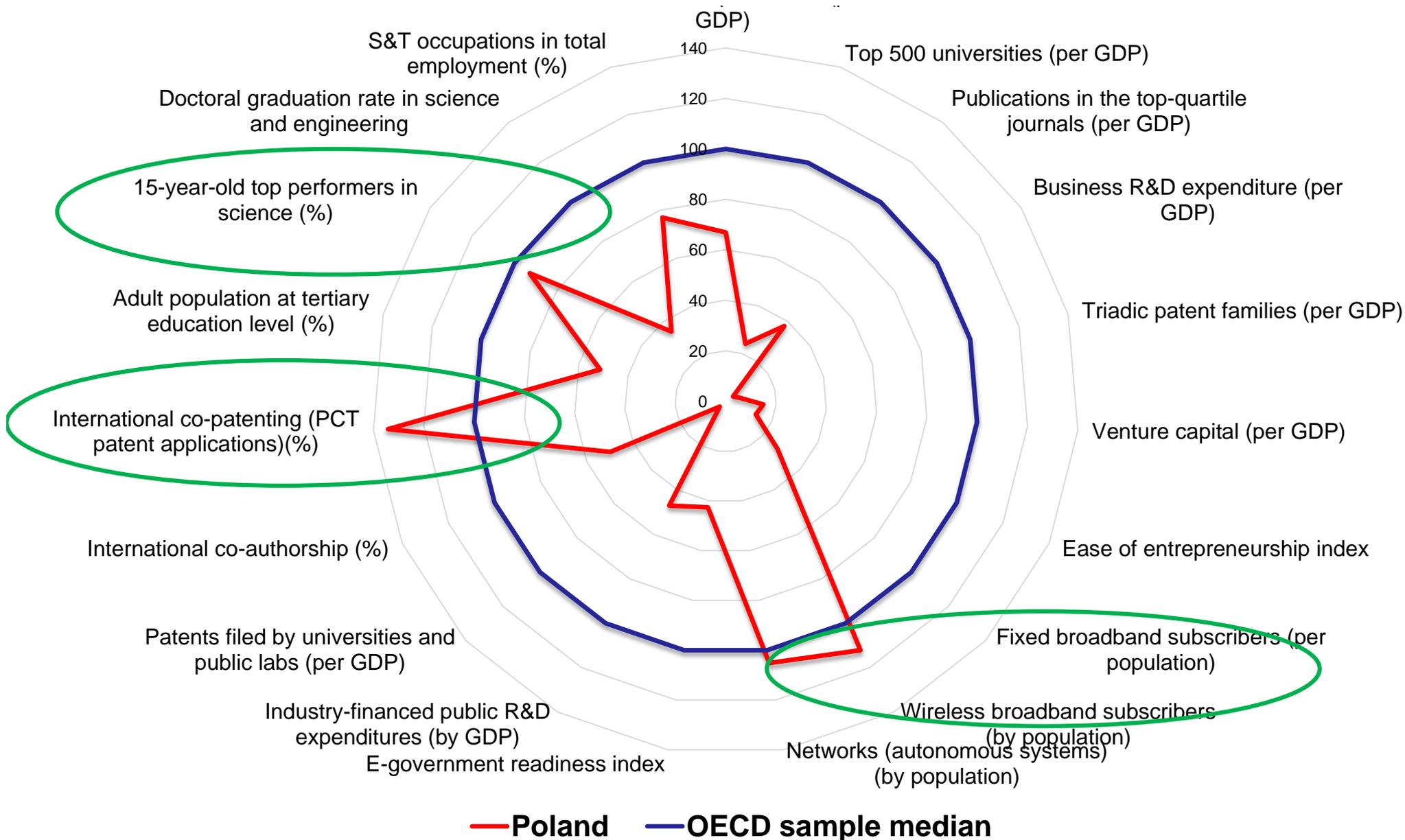
- The process of Poland's **convergence with the EU15 in terms of real GDP per capita** has been accompanied by a **divergence** in relation to the EU average in terms of **innovativeness**

Changes in the Summary Innovation Index (SII) and changes in real GDP per capita (in PPS) in relation to the EU28 average levels, 2004-2013 (EU28=100; percentage points)



Source: own elaboration based on EC data.

Comparative performance of Poland's national science and innovation system



Source: own elaboration based on OECD data.

3 areas of Poland's strengths compared do the OECD median

1. International co-patenting (PCT patent applications in %)
2. Wireless broadband subscribers (by population)
3. Networks (autonomous systems) (by population)

On the Minus Side

Poland has not yet improved innovativeness (SII is in 2014 below the level achieved in 2011):

- Poland's ranked relatively low with regard to the majority of S&T indicators
- Increased R&D financing from the EU budget has yet to result in significant progress in Poland's science and technology system
- Poland lags behind in introducing new forms and models of innovation (eco, open, social)

Why innovation system in Poland has been developing so slowly?

2 possible reasons pointed out by theory:

1. The 'new' growth theory (Romer, 1990; Agnion & Howitt, 1992, 2009) provides conceptual framework for empirical explorations regarding the relationships between R&D, innovation, competitiveness and growth:
 - Knowledge having a public good characteristics, creates externalities, which arise from learning, observations and interactions. These spillovers increase returns and contribute to endogenous growth (Griliches 1992).
 - Such effects mean for an individual country, industry or enterprise real benefits with corresponding productivity increases (Meister & Verspagen, 2006, p. 3).

Why innovation system in Poland as been developing so slowly?

2 possible reasons pointed out by theory:

2. Evolutionary economics, regards **innovation** as a phenomenon dependent on **technological paradigms, industry specific and shaped by many different contextual factors:**
 - vertical linkages and inter-sectoral knowledge diffusion (Lundvall 1992; Fagerberg, 1995)
 - co-evolution of national, regional and sectoral systems of innovations (Nelson & & Rosenberg, 1993; Breschi & Malerba, Cooke, 2001)

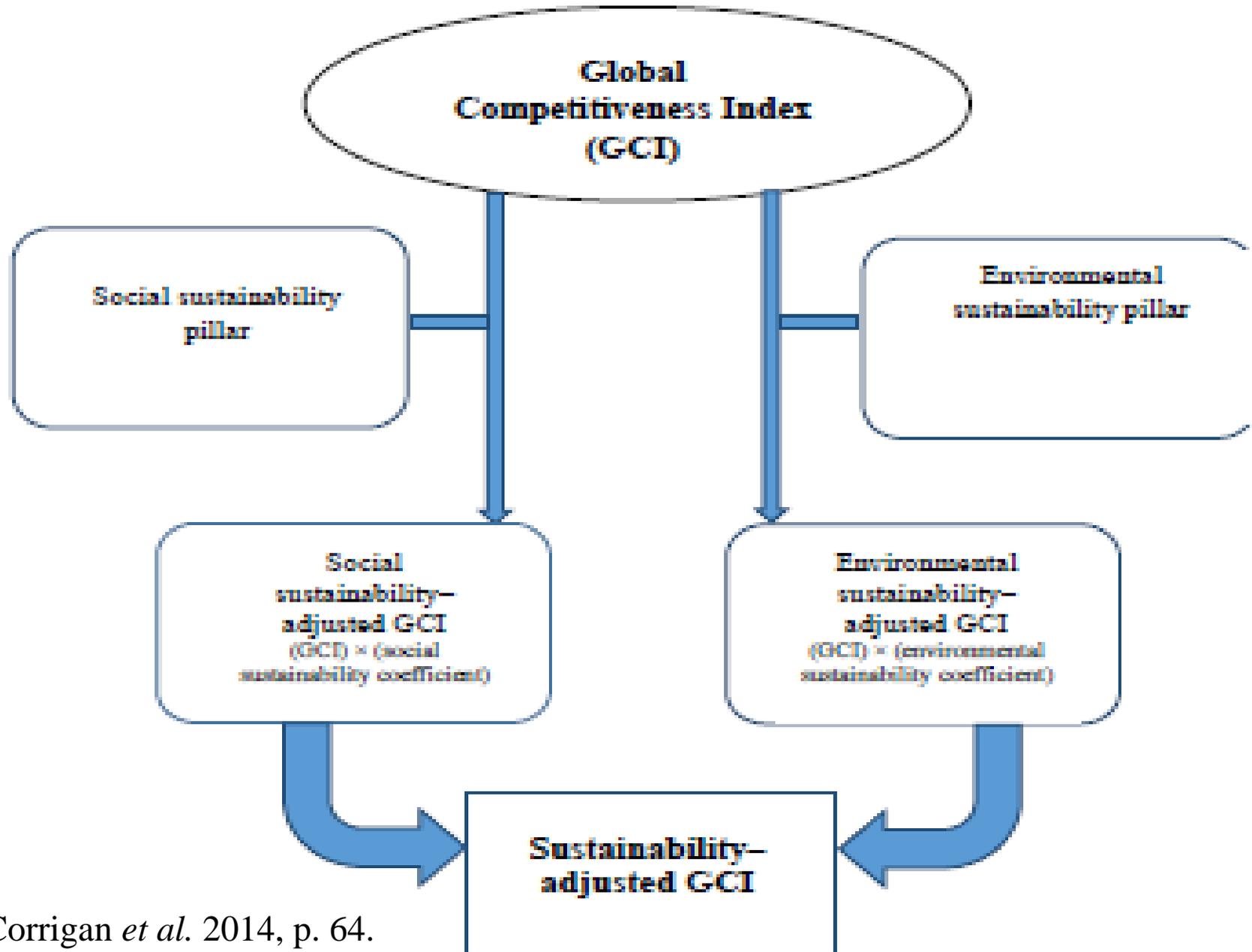
Why innovation system in Poland as been developing so slowly?

- Too low R&D level (including business R&D)
- Inefficient links between science and business (problems with learning processes)

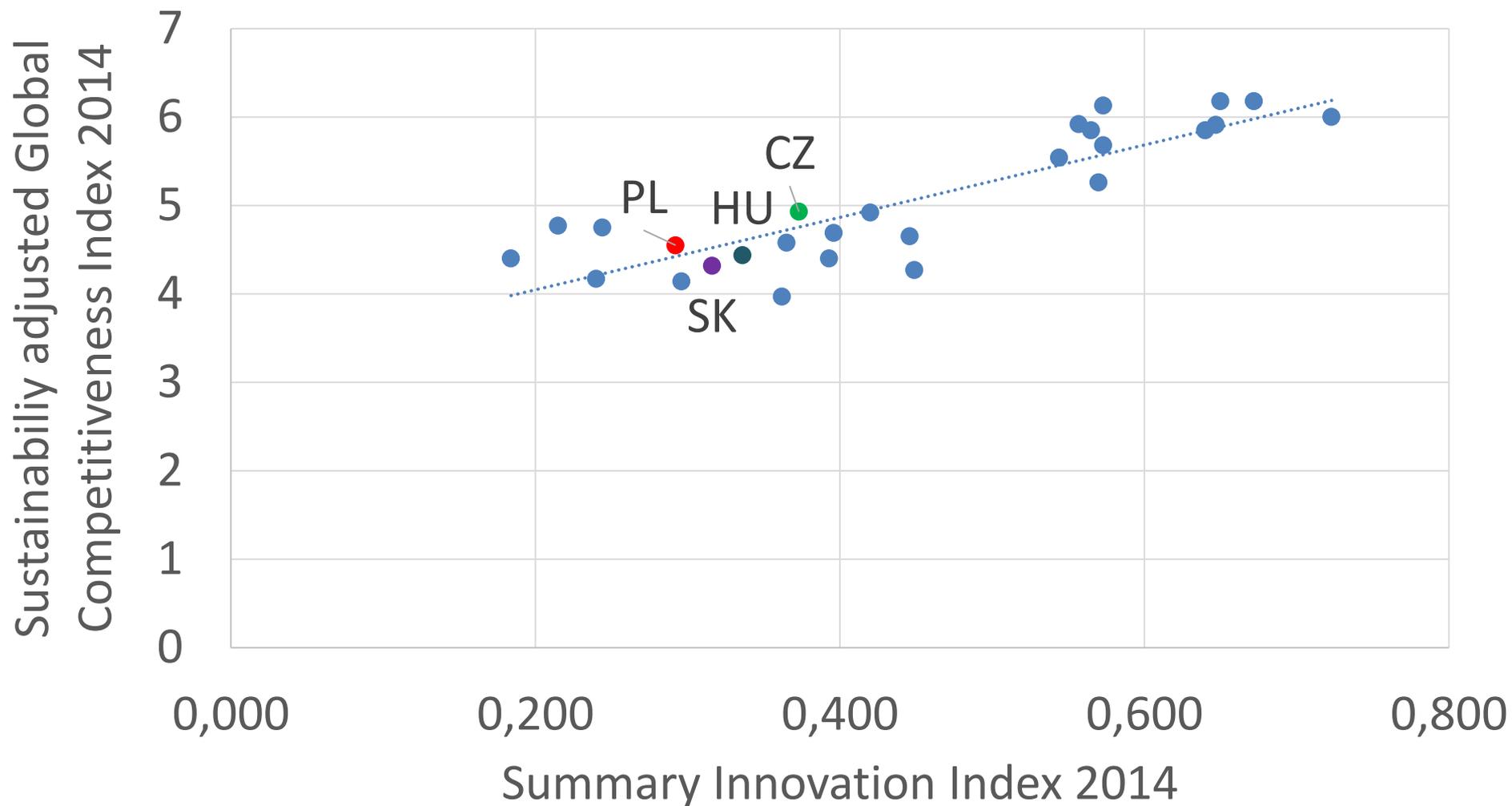
Conclusions

Innovation and sustainable competitiveness

The concept of sustainable competitiveness and the sustainability-adjusted Global Competitiveness Index (GCI)



Innovation and sustainable competitiveness in the EU28



Source: own elaboration based on data provided by WEF, 2014 and IUS, 2015.

Polish famous inventions 2014

- Intelligent wheelchair, which can be used to control devices at home (award of the Ministry of Science)
- innovative method of treatment of the legs, which allows patients to avoid amputation (awarded at the 63rd International Exhibition of Invention, Research and New Technologies BRUSSELS INNOVA 2014)
- Spinncar 360° turn round small car for cities

Policy Implications: Steps to Be Taken

- Invest in the creation of new knowledge and the development of human capital
- Support the transfer of knowledge from science to business and the spread of innovation
- Support the development of entrepreneurship
 - ✓ Make the labor market more flexible
 - ✓ Reduce bureaucracy

The current imitation-based model should be scrapped and replaced by a model based on innovation.



Available free of charge at:

http://kolegia.sgh.waw.pl/pl/KGS/struktura/IGS-KGS/publikacje/Documents/Polska_raport_2015.pdf
(in Polish)

http://kolegia.sgh.waw.pl/pl/KGS/struktura/IGS-KGS/publikacje/Documents/Poland_report_2015.pdf
(in English)

Thank you for your attention
Marzenna.Weresa@sgh.waw.pl

Szkoła Główna Handlowa w Warszawie
Warsaw School of Economics - SGH