

# Global Competitiveness and Innovation in the Period 2013-2015

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## Abstract

*Understanding the relationship between competitiveness and innovation has become a key topic in the literature in the past decades. In the twenty-first century innovation proves to be an engine for competitiveness all over the world. Today it is a global game that stimulates economic growth and improves the quality of life. Innovation is driven by numerous actors such as research institutions, multinational and transnational corporations, small and medium enterprises, academic institutions and individuals. The aim of our paper is to present the evolution of global competitiveness and innovation in the period 2013-2015 by using the Global Competitiveness Index and the Global Innovation Index. Our research is based on a literature review.*

**Key words:** competitiveness, innovation, Global Competitiveness Index, Global Innovation Index, Switzerland

**J.E.L. Classification:** F00, O3

## Introduction

Understanding the relationship between competitiveness and innovation has become a key topic in the literature in the past decades (EIB, 2016; Atkinson, 2013; Clark et al., 2004; Porter, 1990). As a “set of institutions, policies, and factors that determine the level of productivity of an economy” (Sala-I-Martin et al., 2015, p. 4), competitiveness advances when there is a favorable environment for innovation. Enhancing the national innovative capacity may lead to a higher competitiveness of a country. The national innovative capacity is “the ability of a country- as both a political and economic entity- to produce and commercialize a flow of innovative technology over the long term” (Stern et al., 2000, p. 1).

In the twenty-first century innovation proves to be an engine for competitiveness all over the world. Today it is a global game that stimulates economic growth and improves the quality of life. Innovation is driven by numerous actors such as research institutions, multinational and transnational corporations, small and medium enterprises, academic institutions and individuals (WEF, 2014). Almost all innovation involves investments in human capital that mainly “improves a person’s intellect- in other words, education” (Weil, 2009, p. 161).

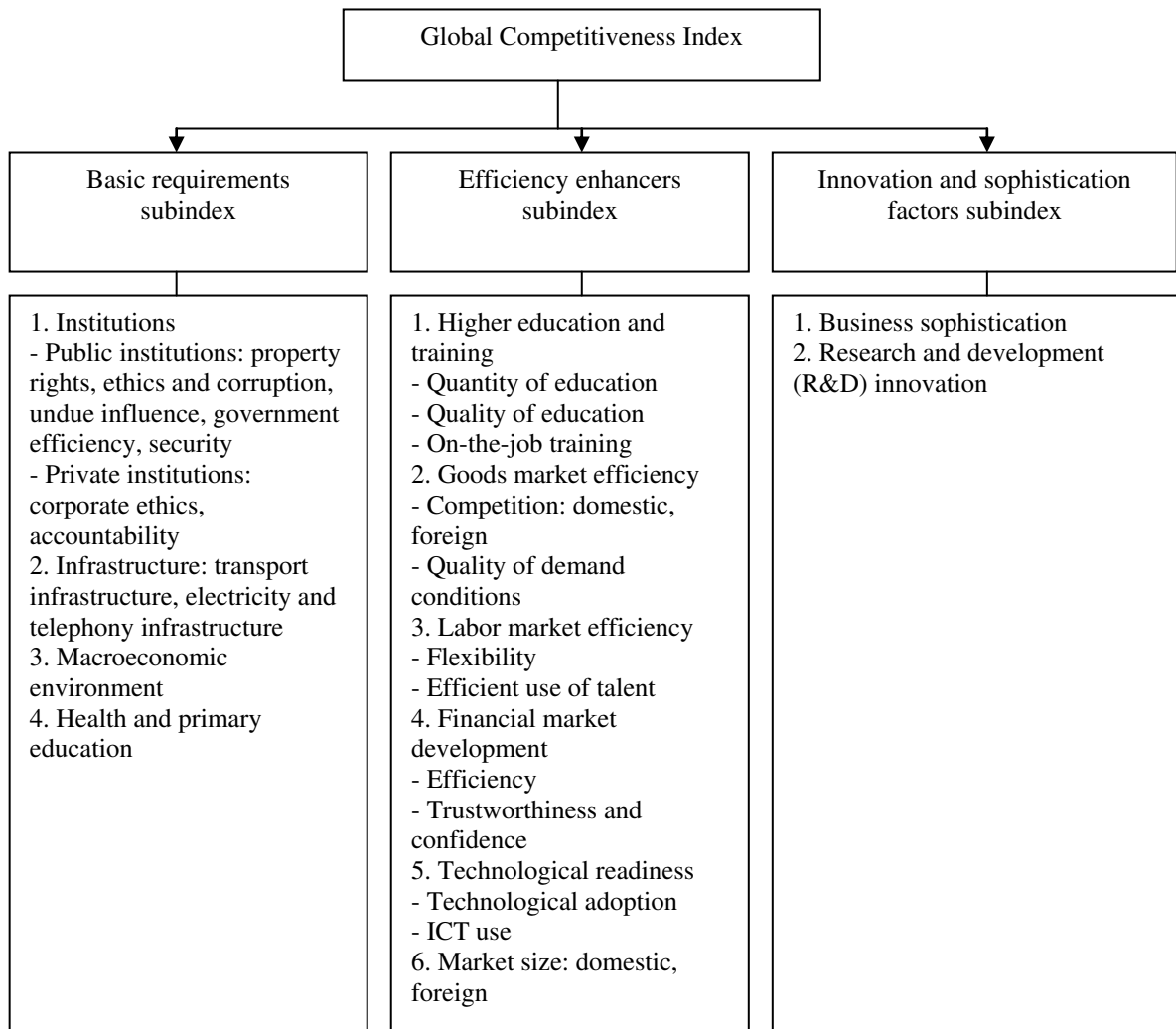
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## Measuring global competitiveness and innovation in the period 2013-2015

The concept of competitiveness has many facets and can be explored from different points of view. In a new perspective, researchers (Aiginger et al., 2013) have analysed the price competitiveness (e.g., costs, productivity), the quality competitiveness (e.g., innovation, exports, education) and the outcome competitiveness (e.g., life expectation, Gross Domestic Product (GDP)/capita). It can also be analysed at three levels: macro, meso and micro. The macro level concentrates upon strategy, contextualized within a macroeconomic framework (e.g., fiscal policy) whereas the meso level includes “support structures that facilitate inter-companies interaction and cooperation” (Carmo Farinha, et al. 2015, p. xxx), and the micro level relates to the competitiveness of organizations.

In 2005, the World Economic Forum launched the Global Competitiveness Index (GCI), a comprehensive tool that assesses the level of competitiveness of countries. The GCI includes the following three main components (Figure no. 1): basic requirements subindex (e.g., institutions), efficiency enhancers subindex (e.g., higher education), innovation and sophistication factors subindex (e.g., R&D innovation).

Figure no. 1. The GCI and its components



Source: (Schwab, 2015)

The period 2013-2015 witnessed the domination of Switzerland in the GCI top (Table no. 1, 2 and 3). Interesting enough is the fact that Switzerland held the first position in innovation thanks especially to its world-class research institutions, significant spending on R&D by companies, its

capacity to nurture and attract talents, its excellent education system and strong cooperation between the academic world and the private sector (Schwab, 2015).

*Table no. 1.The Global Competitiveness Index 2013-2014*

Country	Overall index		Basic requirements		Efficiency enhancers		Innovation and sophistication factors	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Switzerland	1	5.67	3	6.15	5	5.44	1	5.72
Singapore	2	5.61	1	6.30	2	5.63	13	5.14
Finland	3	5.54	7	5.97	9	5.30	2	5.65
Germany	4	5.51	9	5.90	8	5.31	4	5.59
United States	5	5.48	36	5.12	1	5.66	6	5.43
Sweden	6	5.48	8	5.95	7	5.31	5	5.46
Hong Kong SAR	7	5.47	2	6.15	3	5.57	19	4.83
Netherlands	8	5.42	10	5.89	11	5.27	7	5.36
Japan	9	5.40	28	5.37	10	5.27	3	5.62
United Kingdom	10	5.37	24	5.48	4	5.45	10	5.15

*Source: (Schwab, 2013, p. 11)*

*Table no. 2.The Global Competitiveness Index 2014-2015*

Country	Overall index		Basic requirements		Efficiency enhancers		Innovation and sophistication factors	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Switzerland	1	5.70	4	6.17	5	5.49	1	5.74
Singapore	2	5.65	1	6.34	2	5.68	11	5.13
United States	3	5.54	33	5.15	1	5.71	5	5.54
Finland	4	5.50	8	5.97	10	5.27	3	5.57
Germany	5	5.49	11	5.91	9	5.28	4	5.56
Japan	6	5.47	25	5.47	7	5.35	2	5.68
Hong Kong SAR	7	5.46	3	6.19	3	5.58	23	4.75
Netherlands	8	5.45	10	5.95	8	5.28	6	5.41
United Kingdom	9	5.41	24	5.49	4	5.51	8	5.21
Sweden	10	5.41	12	5.86	12	5.25	7	5.38

*Source: (Schwab, 2014, p. 14)*

*Table no. 3.The Global Competitiveness Index 2015-2016*

Country	Overall index		Basic requirements		Efficiency enhancers		Innovation and sophistication factors	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Switzerland	1	5.76	2	6.26	4	5.55	1	5.78
Singapore	2	5.68	1	6.36	2	5.70	11	5.19
United States	3	5.61	30	5.27	1	5.76	4	5.59
Germany	4	5.53	8	5.95	10	5.31	3	5.61
Netherlands	5	5.50	7	6.05	9	5.31	6	5.46
Japan	6	5.47	24	5.52	8	5.33	2	5.66
Hong Kong SAR	7	5.46	3	6.20	3	5.57	23	4.80
Finland	8	5.45	11	5.95	13	5.22	5	5.50
Sweden	9	5.43	13	5.90	12	5.24	7	5.45
United Kingdom	10	5.43	25	5.52	5	5.49	9	5.28

*Source: (Schwab, 2015, p. 8)*

The above discussion shows that the contribution of innovation to the GCI is important. That is why the Global Innovation Index (GII) constitutes a useful tool for measuring and understanding innovation. The GI is based on the innovation input subindex (e.g., institutions, human capital and research, infrastructure), the innovation output subindex (e.g., knowledge and technology outputs),

and the innovation efficiency ratio (the ratio of the output subindex score over the input subindex score). Since 2011, Switzerland has maintained its leading position in the GII top (Table no. 4, 5 and 6) due to its high performance knowledge-based economy with a high GDP per capita (one of the highest in the world).

*Table no. 4. The Global Innovation Index 2013*

<b>Rank</b>	<b>Country</b>	<b>Score (0-100)</b>
1	Switzerland	66.59
2	Sweden	61.36
3	United Kingdom	61.25
4	Netherlands	61.14
5	United States of America	60.31
6	Finland	59.51
7	Hong Kong (China)	59.43
8	Singapore	59.41
9	Denmark	58.34
10	Ireland	57.91

*Source: (Dutta et al., 2013, p. xx)*

*Table no. 5. The Global Innovation Index 2014*

<b>Rank</b>	<b>Country</b>	<b>Score (0-100)</b>
1	Switzerland	64.78
2	United Kingdom	62.37
3	Sweden	62.29
4	Finland	60.67
5	Netherlands	60.59
6	United States of America	60.09
7	Singapore	59.24
8	Denmark	57.52
9	Luxembourg	56.86
10	Hong Kong (China)	56.82

*Source: (Dutta et al., 2014, p. xxiv)*

*Table no. 6. The Global Innovation Index 2015*

<b>Rank</b>	<b>Country</b>	<b>Score (0-100)</b>
1	Switzerland	68.30
2	United Kingdom	62.42
3	Sweden	62.40
4	Netherlands	61.58
5	United States of America	60.10
6	Finland	59.97
7	Singapore	59.36
8	Ireland	59.13
9	Luxembourg	59.02
10	Denmark	57.70

*Source: (Dutta et al., 2015, p. xxx)*

The period 2013-2015 was characterized by stability as there were the same countries ranked in the GII top. Also, it confirms the global dispersion of innovation and the persistent existence of a global innovation divide among countries. There is still a huge gap between high-income economies and the others.

## **Conclusions**

In the last decades there have been numerous debates about the importance of competitiveness and innovation all over the world. Innovation represents one of the cornerstones of competitiveness and requires improvements and investments in various domains such as higher education and R&D.

The Global Competitiveness Index and the Global Innovation Index are useful tools that measure the levels of competitiveness and innovation of countries.

Our paper has demonstrated that competitiveness and innovation are two interconnected concepts at a global level. In our view, the main pillar of global competitiveness is innovation. This is why great efforts should be made by any country to improve its innovative capacity in order to become highly competitive.

## References

1. Aiginger, K., Bärenthaler-Sieber, S. and Vogel, J., 2013. *Competitiveness under New Perspectives*. Working Paper no. 44, October, [online]. Available at: <<https://www.oecd.org/eco/Competitiveness-under-New-Perspectives.pdf>> [Accessed 2 May 2016].
2. Atkinson, R., 2013. *Competitiveness, Innovation and Productivity: Clearing Up the Confusion*. The Information Technology&Innovation Foundation, [online]. Available at: <<http://www2.itif.org/2013-competitiveness-innovation-productivity-clearing-up-confusion.pdf>> [Accessed 1 May 2016].
3. Carmo Farinha, L. M., Ferreira, J. J. M., Lawton Smith, H., Bagchi-Sen, S. (eds.), 2015. *Handbook of Research on Global Competitive Advantage through Innovation and Entrepreneurship*. Hershey: IGI Global.
4. Clark, G. L., Tracey, P., 2004. *Global Competitiveness and Innovation: An Agent-Centred Perspective*. Hampshire: Palgrave Macmillan.
5. Dutta, S., Lanvin, B. and Wunsch-Vincent, S. (eds.), 2015. *The Global Innovation Index 2015: Effective Innovation Policies for Development*. Fontainebleau, Ithaca, and Geneva: Cornell University, INSEAD, and WIPO, [online]. Available at: <<https://www.globalinnovationindex.org/userfiles/file/reportpdf/GII-2015-v5.pdf>> [Accessed 2 May 2016].
6. Dutta, S., Lanvin, B. and Wunsch-Vincent, S. (eds.), 2014. *The Global Innovation Index 2014: The Human Factor in Innovation*. Fontainebleau, Ithaca, and Geneva: Cornell University, INSEAD, and WIPO, [online]. Available at: <<http://global-indices.insead.edu/gii/documents/GII2014report.pdf>> [Accessed 1 May 2016].
7. Dutta, S. and Lanvin, B. (eds.), 2013. *The Global Innovation Index 2013: The Local Dynamics of Innovation*. Fontainebleau, Ithaca, and Geneva: Cornell University, INSEAD, and WIPO, [online]. Available at: <[http://www.wipo.int/edocs/pubdocs/en/economics/gii/gii\\_2013.pdf](http://www.wipo.int/edocs/pubdocs/en/economics/gii/gii_2013.pdf)> [Accessed 1 May 2016].
8. European Investment Bank (EIB), 2016. *Restoring EU competitiveness*. Luxembourg: EIB, [online]. Available at: <[http://www.eib.org/attachments/efs/restoring\\_eu\\_competitiveness\\_en.pdf](http://www.eib.org/attachments/efs/restoring_eu_competitiveness_en.pdf)> [Accessed 1 May 2016].
9. Porter, M. E., 1990. *The Competitive Advantage of Nations*. New York: Free Press.
10. Sala-I-Martin, X., Crotti, R., Di Battista, A., Drzeniek Hanouz, M., Galvan, C., Geiger, T. and Marti, G., 2015. Reaching Beyond the New Normal: Findings from the Global Competitiveness Index 2015–2016. In: K. Schwab (ed.), 2015. *The Global Competitiveness Report 2015-2016*. Geneva: World Economic Forum, Chapter 1.1 [online]. Available at: <[http://www3.weforum.org/docs/gcr/2015-2016/Global\\_Competitiveness\\_Report\\_2015-2016.pdf](http://www3.weforum.org/docs/gcr/2015-2016/Global_Competitiveness_Report_2015-2016.pdf)> [Accessed 3 May 2016].
11. Schwab, K. (ed.), 2015. *The Global Competitiveness Report 2015-2016*. Geneva: World Economic Forum, [online]. Available at: <[http://www3.weforum.org/docs/gcr/2015-2016/Global\\_Competitiveness\\_Report\\_2015-2016.pdf](http://www3.weforum.org/docs/gcr/2015-2016/Global_Competitiveness_Report_2015-2016.pdf)> [Accessed 3 May 2016].
12. Schwab, K. (ed.), 2014. *The Global Competitiveness Report 2014-2015*. Geneva: World Economic Forum, [online]. Available at: <[http://www3.weforum.org/docs/WEF\\_GlobalCompetitivenessReport\\_2014-15.pdf](http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf)> [Accessed 3 May 2016].
13. Schwab, K. (ed.), 2013. *The Global Competitiveness Report 2013-2014*. Geneva: World Economic Forum, [online]. Available at: <[http://www3.weforum.org/docs/WEF\\_GlobalCompetitivenessReport\\_2013-14.pdf](http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2013-14.pdf)> [Accessed 1 May 2016].
14. Stern, S., Porter, M. E. and Furman, J. L., 2000. The determinants of national innovative capacity. *NBER Working Paper 7876*, September. Available at: <<http://www.nber.org/papers/w7876.pdf>> [Accessed 1 May 2016].
15. Weil, D. N., 2009. *Economic Growth*. 2<sup>nd</sup> edition. Boston: Pearson Education.
16. World Economic Forum (WEF), 2014. *Enhancing Europe's Competitiveness Fostering Innovation-driven Entrepreneurship in Europe*, [online]. Available at:

<[http://www3.weforum.org/docs/WEF\\_EuropeCompetitiveness\\_FosteringInnovationDrivenEntrepreneurship\\_Report\\_2014.pdf](http://www3.weforum.org/docs/WEF_EuropeCompetitiveness_FosteringInnovationDrivenEntrepreneurship_Report_2014.pdf)> [Accessed 3 May 2016].