CRITERIA OF GLOBAL TALENT COMPETITIVENESS: CASES OF TURKEY & LITHUANIA

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Abstract
The new system of comparative assessment of global talent competitiveness (GTC) & evaluation of its effective use is one of the accents of latest knowledge economics developments. At the same time, the comparisons of more detailed international evaluation constructed on this approach (by INSEAD together with Human Capital Leadership Institute) can reveal the reliability of criteria of this technique used by scientists for determining the impact of talents growth on the economic competitivity in general.
The authors of the performed study provided a theoretical framework and empirical viewing for the complex evaluation of the GTC determinants based on multiple criteria assessment methodology. The principal approach was to compare the results of international comparisons of GTC and the situation in fact taking Lithuania for a case study and comparing it with evaluation of Turkey. The formulated main multiple criteria evaluation principles are focused on the knowledge components interdependencies with global talent determinants, also criterial systems used for the innovation strategies & comparative criterial evaluations.
The proposed research approach is oriented towards detailing & suggestions concerning widely used GTC criterial system for purposes of evaluation of the talent potential determinants in particular country with account of multicriteria decision making system possibilities. The GTC index is an important analytical instrument for developing global talent management, distributing material & intellectual resources for stimulating talented people, also programming tax incentives for business to train employees; anticipating some shortages of human capital and highly skilled labour. The practical evaluation of more detailed comparisons of the GTC pillars in the research confirmed the reliability of GTC criteria for evaluating the talents growth determinants and their impact on the economic competitivity in general. The analysis done in the review also substantiated the premises for a new GTC approach to strategic programming of sustainable economic development.
Keywords: talent competitivity; global knowledge skills; labour & vocational skills.

1. Introduction

Since 2001, the WEF adopted well known series of international comparisons of the intellectual development indices of the states helping to compare their global competitiveness by INSEAD on knowledge-based economy, such as the Global Innovation Index (GII), Network Readiness Index (NRI, it is interconnected with the Global Information Technology Index), and, last time, Global Talent Competitiveness Index (GTCI), both last developed together with World Intellectual Property Organization (WIPO) and Cornell University. The advantage of about mostly systems of integral competitiveness indicators used by WEF is their wide international comparability (Fig. 2-7 and Tables A1-A2); but sometimes they are inadequate for more detailed analytical tasks of internal evaluation of regional or sectorial peculiarities which have necessarily to be accounted when correcting the global results by expert evaluations.

In particular, first, it is important to evaluate the structural changes in the renewed production functions, with the changing productive contribution of the intellectual resources within different sectors and regions. Second, it is necessary to integrate the more important estimates of intellectual resources, talents and intellectual capital into national social accounts. Third, the strategic development insights of the intellectual potential have stimulate the workout of

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alternatives, contribute to the general social and economic transformations and diminish the emerging risks of innovations.

At the same time, the concept of talent in those interconnected nets is substantially modified and deviated from traditional contents[†] so as it is mostly oriented to human capital or, more exactly, to knowledge skills, i.e. pillars measured by GII and NRI determinant systems.

The Global Talent Index (GTI) was launched initially in 2007 by and developed lately as some background for determining GTCI[‡]. The components of talents, innovations, network readiness are overlapping and interdependent in some degree; talents are grown within some family a/o social traditions, cultivated by changing educational systems, and their social significances depend on their successful contacts with entrepreneurship & best practices, also on network readiness. As a result, the global talent potential & its competitiveness strongly depend on partnership between skilful talented people, business, educational system and the government. As is recognized in the foreword of the study on the GTCI, on the one side: „Talent has become the key resource of the global economy"; on the other one: „countries apply very different strategies to develop and retain talent. The result is that some countries are talent champions, others underperformers, and there seems to be a clear correlation with their respective economic and labour market performances".

Most of the countries apply lifelong learning, many of them are promoting geographical mobility of talents what in some cases influence substantially their global national significance. The distribution between branches & sectors of economic activity is also one of the actual directions of social policy when aiming to ameliorate the impact of talents on economic competitiveness. It is clear that adequate structure of talent potential can be developed mostly by big advanced economies, and the smaller countries have to cooperate when developing & retaining the necessary availability of highly-skilled workers and talent pool. So, the substantial achievement in the intellectual development of China with its biggest manpower potential in the world is that it achieved 47th position in the general ranking & lifelong learning within short period of XXI century, 42nd by global knowledge. As a result of huge progress in the world global talent potential and modern intellectual technologies, first of all, in the XXth century, the part of world below the poverty line grew from 52 % in 1981 up to 22 % in 2008 (The Global Talent.., p.17).

The study based on the GTCI (The Global Talent.., p.19) estimated that only about 13 % of world demand for high talented people will be satisfied in the next two centuries, it is why this approach is so important. As a favourably co-affecting process, the business investments in knowledge-based capital who contributed up to 34 % average labour productivity growth in the EU and the US (Supporting...OECD, 2013) are revealed.

The result of talents application are innovations or „talent is the engine of innovation"(Ken Hu). World Bank's Knowledge Assessment Methodology (KAM) framework identifies four pillars to innovation processes: Economic incentive and institutional regime (policies and institutions for the protection of intellectual property, the rule of law, the ease of starting a business, etc.), education (human capital), innovation (universities, firms, and research

[†] According to *The Oxford English Reference Dictionary*, talent is defined as: 1. Special aptitude or faculty; 2. High mental ability.

[‡]For 2011, it included Turkey with 35/100 scores (rank 48 out of 60 countries) but any of the Baltic States. Some of data indicators used for calculations of GTI are similar to those of the GTCI but their grouping & detalization are different; the main weights are given to university education and quality of labour force (both X 22. 2 %), the values of most indicators were taken from the EIU Business Environment Rankings.

institutes), and ICT (physical capital). The comparing some of them for Turkey & Lithuania were presented in the Annexes (Table A1 and Fig. A1).

It is important to mention that GTCI approach was carefully audited by Joint Research Centre of the EC, also some professionals from the World Bank Institute. So our additional approach is an additional effort to clarify some additional methodological aspects when applying the GTCI techniques in particular comparative cases of Lithuania (39 place in the global rank out of 103 countries) and Turkey (67 place).

2. Measurable Talent Parameters & Their Criteria

The measurement of the GTCI is oriented, first of all, as an analytical tool to implement better human resource management policies. In fact, it is simplified and mostly based on the knowledge & practical experience (training etc.) to apply productively the necessary high-level skills, or *global knowledge (GK) skills.* It is substantial if these skills are linked to entrepreneurship, or leadership, and innovation. Other most significant component of GTCI, or indicator parallel for mid-level skills, are the *labour & vocational (LV) skills* (necessary for employment besides formal training) measured by labour productivity. Both these integrated indicators are substantially dependent from such important dimensions of the Social Progress index as access to basic knowledge, access to advanced education, tolerance and inclusion determinants, also satisfaction of basic human needs ()

So, as the first approach, the GTCI measurement is pragmatically („comprehensive, action-oriented, analytical and practical“) but different from traditional meaning of *talent* as a personal ability to find creative solutions in the unfamiliar situations, realisable potency to find very new technological, managerial, marketing or technical etc. solutions.

According to the study under review, the talent competitiveness input, output and GTCI sub-indices are generated. The last one is average of the scores obtained on levels of those input & output pillars; input sub-index is determined by institutional enablers for talent development, also other means to attract, grow and retain talent; and output sub-index – evaluates GK & LV skills; as a total, 48 benchmarking indicators were included in the comparative evaluation of the GTCI for 103 countries producing 96.7 % of the world‘s GDP. It also shown, on the one side that the innovative potential of an individual is not an instinctive feature and essential skills for innovation can be learned. As a result, on the other side, very important conclusion is that developing of innovation-friendly environment is a substantial component of talent competitiveness.

Their efficiency and adequacy can be evaluated as result of more detailed comparisons of real differences & similarities in such main characteristics as dimensions of social & economic policies, cultural and historical development, size of economies, their GDP per capita, regional peculiarities etc. P. ex., brain drain of the talents mostly goes from less developed countries to high developed ones, and this migration factor is worsening substantially the distribution & main dependencies within GTCI model. It is clear that global & regional or local range of those indicators usually has to be different, i. e. they must be adjusted in the last cases.

It is possible to suppose that interactions between the GK & LV skills, on the one side, and innovativity and competitivity of the economies, on the other, are mutual: the skills determining talents require to be innovative economy and strong education; but higher levels of the GK & LV skills usually permit to expect the appropriate better ability to growth of economic potential, more innovative & higher-quality education.

3. Reliability of Skills Assessment: Cases of Turkey & Lithuania

The overall rank of the GTCI (and global score) for Turkey (TR) and Lithuania (LT) was respectively 67 place (41,16 score) for TR and 39 place (51,21 score) for LT. Also the main conclusion of the GTCI model authors about strong correlation between GTCI scores and GDP per capita is applicable in the case of TR & LT competitivity comparison. Perhaps the ways & forms of the skills upgrading and their using are of different efficiency in both countries, partly resulting from the fact that last 10 years Lithuania is a member of the EU and Turkey only applies to the membership.

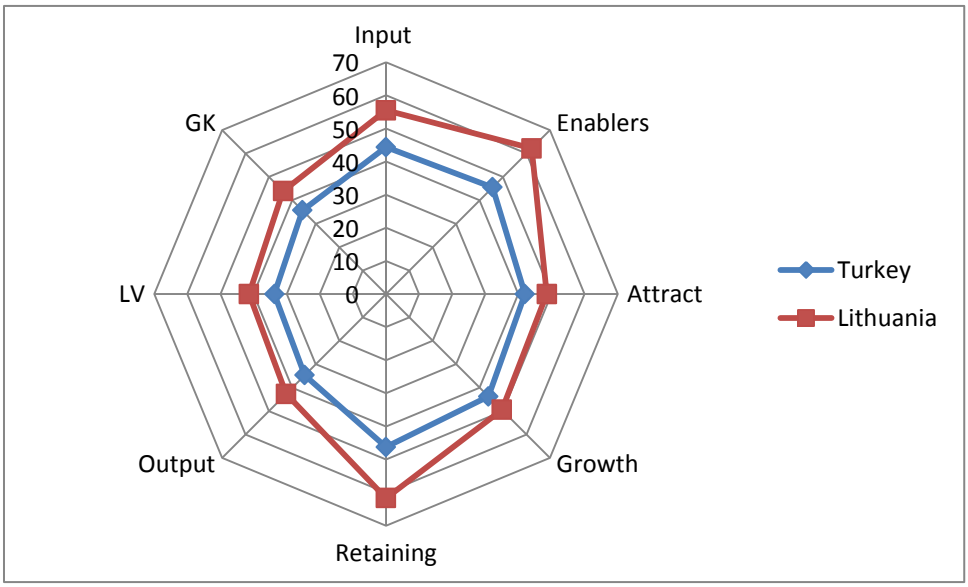
Table 1. Comparison of the GTCI Input & Output Sub-Index Rankings: Turkey & Lithuania

GTCI ranks in 2013 by determinants	Turkey	Lithuania
Input	44.38	55.48
Enablers	45.56	62.21
Attract	41.96	48.59
Growth	43.76	49.47
Retaining	46.25	61.66
Output	34.72	42.67
LV	33.72	41.41
GK	35.72	43.94

Note: all sub-index rankings are between 0 and 100.

It is interesting that rankings of sub-index input are more even for Turkey than for Lithuania so as parameters in last case grew so quickly together with the GDP and the institutional & infrastructural parameters. All output sub-index rankings are on lower level for both countries than their input sub-index rankings.

Figure 1. Comparisons of GTCI Sub-Index Rankings in Both States: 2013



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More deep understanding of the factors determining the differences in both countries'GTCI rankings may be based on the detailed analysis of their revealed pillars. Turkey more suffers from unfavourable immigration of less-educated labour, as a result of political & military conflicts in its region when Lithuania meets the dangers of devastating emigration; but both of them are experiencing the brain drain of the most talented people. The problems of developing the recruiting & training centres are less seen in Lithuania than in Turkey as a result of significantly less intensive immigration inflows; even the inflow of foreign students is rather week in Lithuania.

Some hypothesis concerning talents policy could be verified by this analysis, such as:

both countries are experiencing the shortage for highly-skilled labour and losing its internal resources in competition with highly developed states; the modern services and ICT sectors are the main competitors for the talented people; the ageing population request more young labour services, and that can minimise high unemployment of less-skilled youngsters.

Table 2. Comparison of selected GTCI pillars directly determining talent effect: Turkey & Lithuania

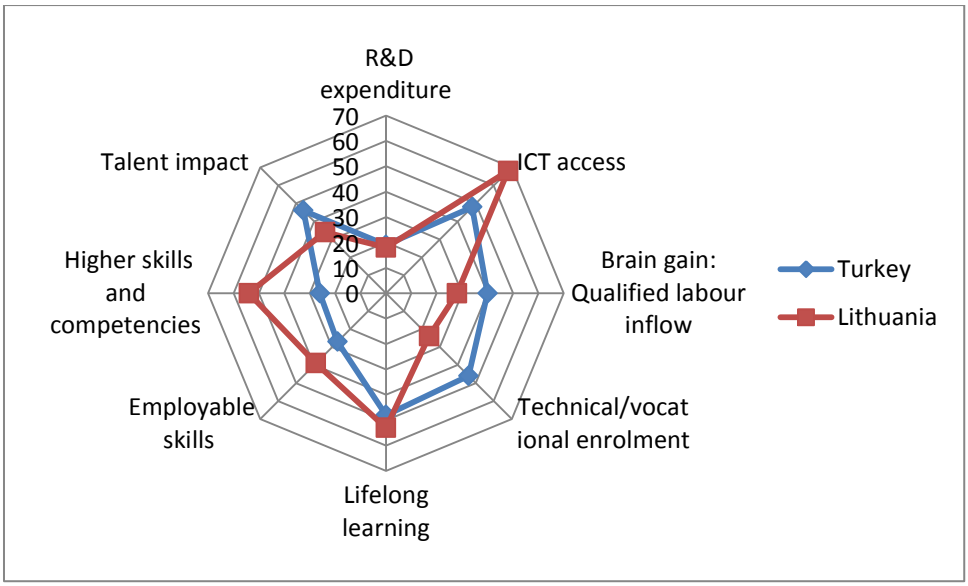
Selected GTCI scores in 2013 by determinants	Turkey	Lithuania
R&D expenditure	18.77	17.74
ICT access	48.00	68.41
Brain gain: Qualified labour inflow	39.63	28.04
Technical/vocational enrolment	46.01	24.15
Lifelong learning	48.06	52.55
Employable skills	27.36	38.68
Higher skills and competencies	25.49	54.01
Talent impact	45.95	33.86

Talent impact is the resulting measure determined by innovation output (see GII) and new product entrepreneurial activity (% of entrepreneurs producing new products or services). As concerns innovation output, it is derived from aggregating knowledge & technology output (it covers knowledge creation, impact and diffusion) and creative output (the last one includes creative intangibles, creative goods & services and online creativity). The knowledge creation itself is measured by such parameters of inventive and innovative activities, as patent applications and recognized (cited) scientific publications. The knowledge impact is measured by innovations impact on real economy, such as increases in labour productivity, also by entry of new firms, by certifications and international standardisation (Dutta et al., p.76-77).

It is interesting that the significances of this very important GTCI determinant (or pillar) are opposite to those of GTCI input & output sub-index rankings of Turkey & Lithuania; if last ones are higher for Lithuania at about 1/3-1/4, the talent impact is much higher in Turkey. It seems experts have evaluated the fundamental impact of some differences in the long-run cultural traditions on talent formation and mental abilities determining higher innovation output in Turkey (46 scores against 34). The technical/vocational enrolment is also higher in Turkey (46 scores against 24 for Lithuania) as well as qualified labour inflow (40 scores against 28) and qualified labour inflow.

But Lithuania leads with more than twice higher scores for higher skills and competencies (54 scores against 25.5 for Turkey) and has substantially higher evaluation of employable skills (respectively 39 scores against 27) as well as ICT access (respectively 68 scores against 48 for Turkey). In this context it is interesting to quote G. Scott & S. Vincent-Lancrin that: „numbers of students enrolled in science and technology subjects are not necessarily those that will produce young people with the creativity, critical thinking, and communication skills that innovative societies require"(The Global Innovation..., p.19).

Figure 2. Comparisons of selected GTCI sub-index scores revealing talent effect differences in Turkey & Lithuania: 2013



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As a total, Lithuania enabler's rankings are higher except market landscape pillars: intensity of local competition (TK - 78 scores and LT – 68 scores), firm-level technology absorption (respectively 72 & 67 scores) and venture capital availability characterizing the innovation climate. The most substantial differences (2-times) concern business landscape (TK - 38 scores and LT – 65.6 scores), esp. labour market flexibility (respectively 21 and 74 scores), also political stability (TK - 43.4 scores and LT – 81.5 scores).

GTCI input sub-index rankings for attract pillars in Turkey & Lithuania (Fig. 4) are more similar except esp. substantial differences in levels of FDI inflow (TK -17 scores and LT – 91 scores) and gender mobility characterized by female professionals and technical workers (difference amounts twice on behalf of LT: respectively TK - 50 and LT -100 scores).

More consecutive review of main GTCI input sub-index rankings for enablers in Turkey & Lithuania revealed following details (see Fig. 3).

Figure 3. Comparison of the GTCI enablers sub-index rankings: Turkey & Lithuania

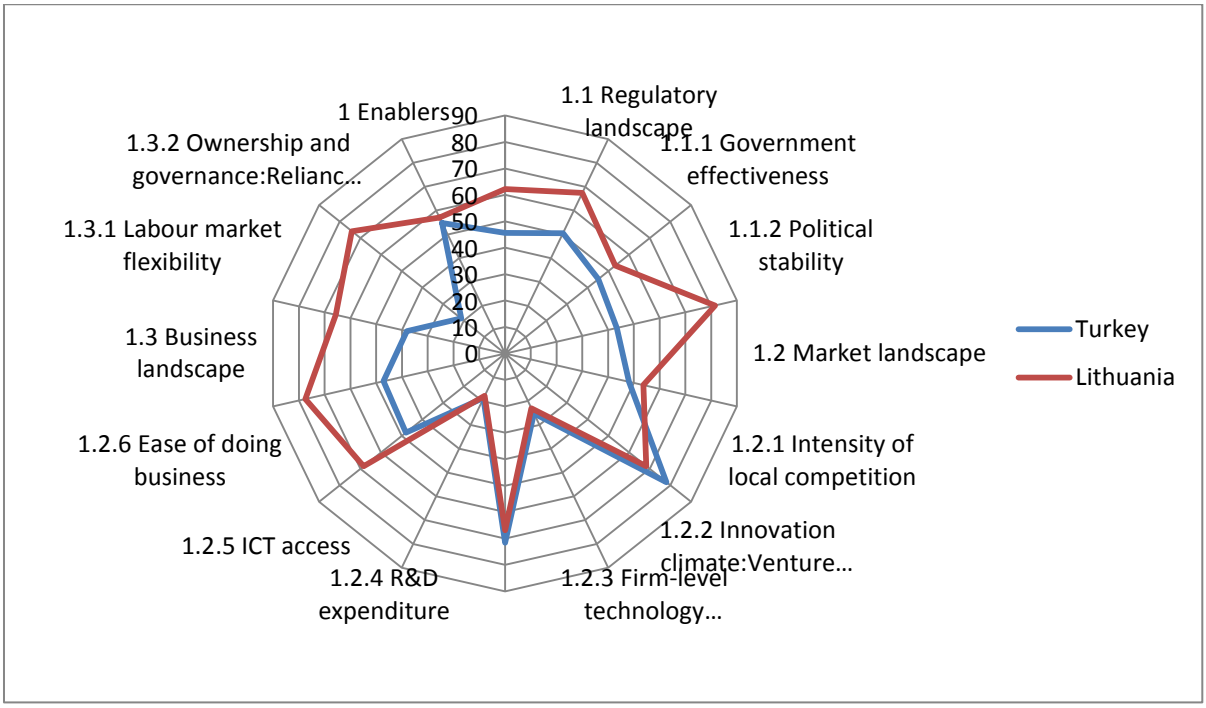

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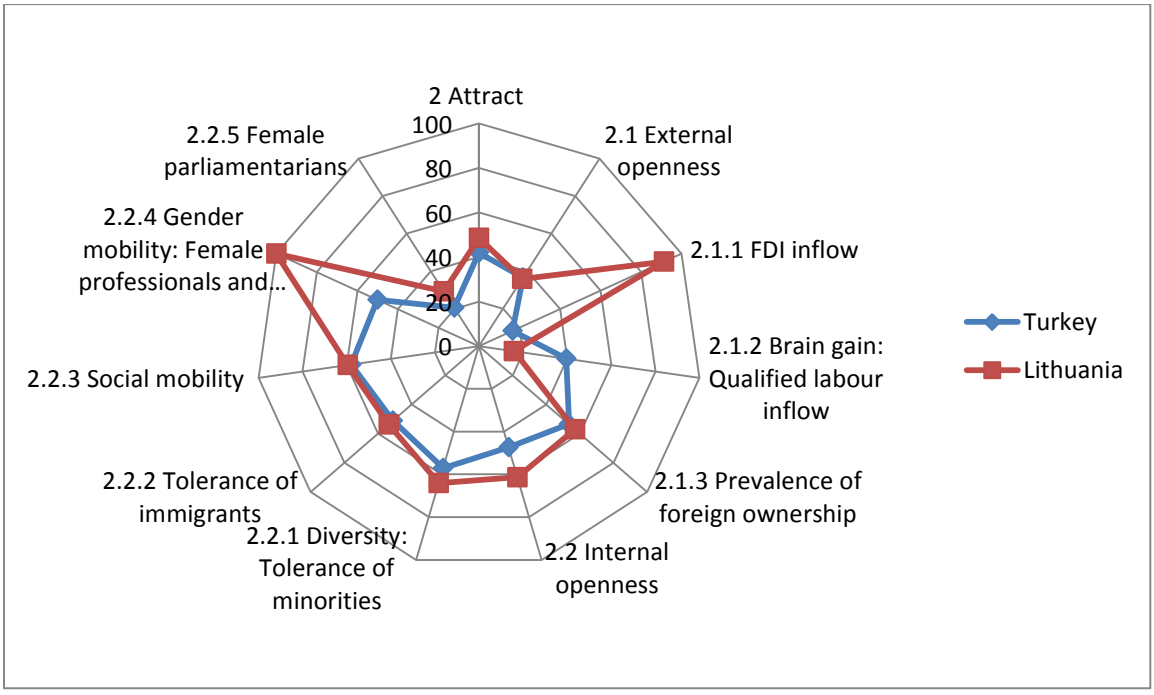
Figure 4. Comparison of the GTCI attract sub-index rankings: Turkey & Lithuania



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GTCI input sub-index rankings for growth pillars in Turkey & Lithuania (Fig. 5) are comparatively similar except pupil-teacher ratio (no data on situation in TR), and technical/vocational enrolment (TK - 46 scores, LT – 24 scores); some differences concern

parameters for state of cluster development (TK -51 scores and LT – 34 scores) and quality of scientific research institutions (respectively 40 & 61 scores).

GTCI sub-index rankings for retaining pillars in Turkey & Lithuania (Fig. 6) are mostly higher on behalf of Lithuania; however, the parameters on safety at night are better for Turkey (TK - 55 scores and LT – 45 scores) what clarifies so high touristic popularity of this beautiful country of ancient cultural traditions. Lithuania has much higher evaluation of environmental performance (TK - 27 scores and LT – 74 scores), better social protection – pension system (respectively TK - 61 scores and LT – 87 scores).

Figure 5. Comparison of the GTCI grow sub-index rankings: Turkey & Lithuania

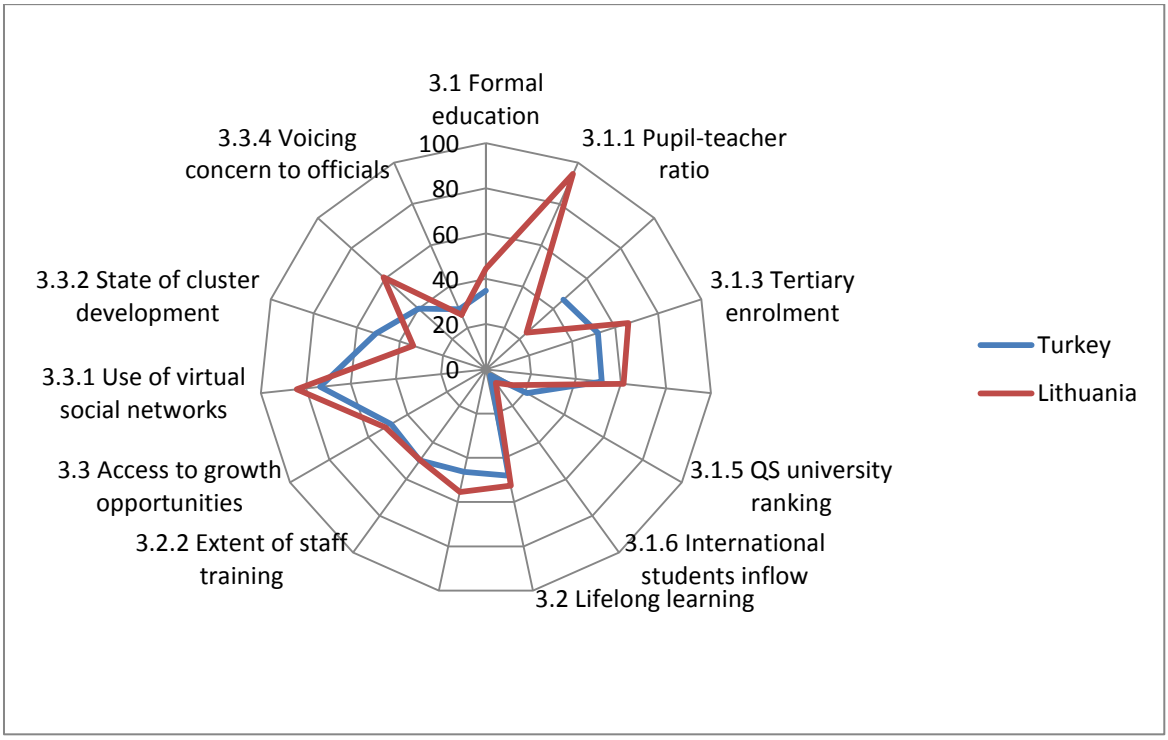

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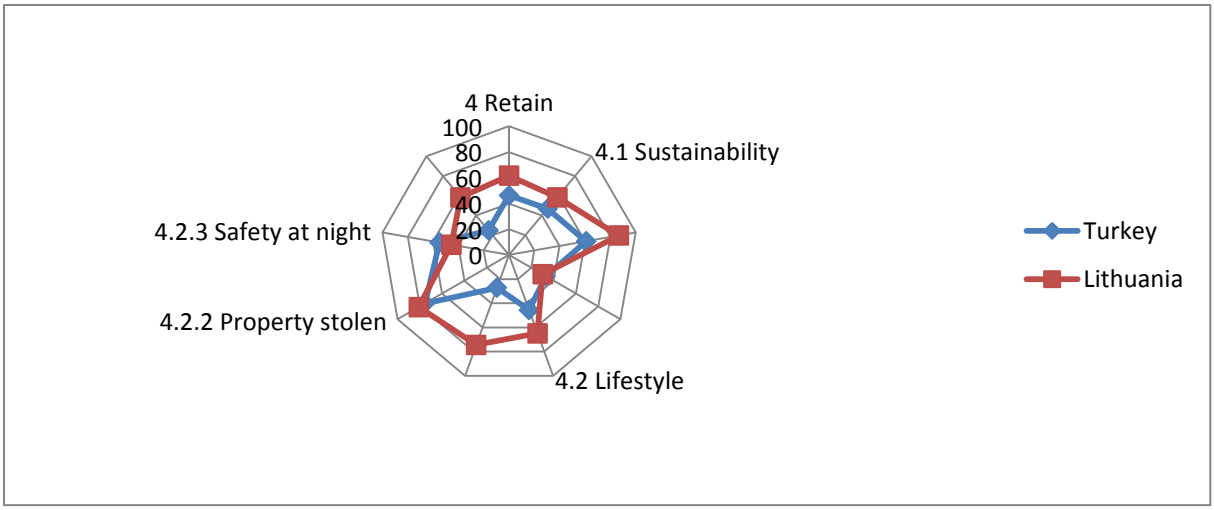
Figure 5. Comparison of the GTCI retaining sub-index rankings: Turkey & Lithuania



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GTCI sub-index rankings for output determinants are presented in Fig. 6 (Labour and vocational pillars) & Fig. 7 (global knowledge scores). In Lithuania is better situation concerning employable skills (respectively 27 & 39 scores), in particular – with technicians and associate professionals (TK - 25 scores and LT – 54 scores) and secondary-educated workforce (TK - 23 scores and LT – 45 scores). It is interesting that both countries have problems with youth employment (TK - 35 scores and LT – 17 scores).

Specifically is GTCI global knowledge as output sector: it concentrate most sensitive parameters directly determining talent professional competency (Fig. 7). Respectively, it reveals also many differences of both countries: p. ex., new product entrepreneurial activity is much higher in TK (64 scores) than in LT (26 scores); but innovation output is much higher in LT (42 scores) comparing with TK (28 scores). Lithuania is on twice better situation with development of higher skills and competencies (TK – 25 scores and LT – 54 scores) esp. with fostering of professionals (respectively 21 and 67 scores) and tertiary-educated workforce (TK – 23 scores and LT – 67 scores).

Figure 6. Comparison of the GTCI labour & vocational sub-index rankings: Turkey & Lithuania

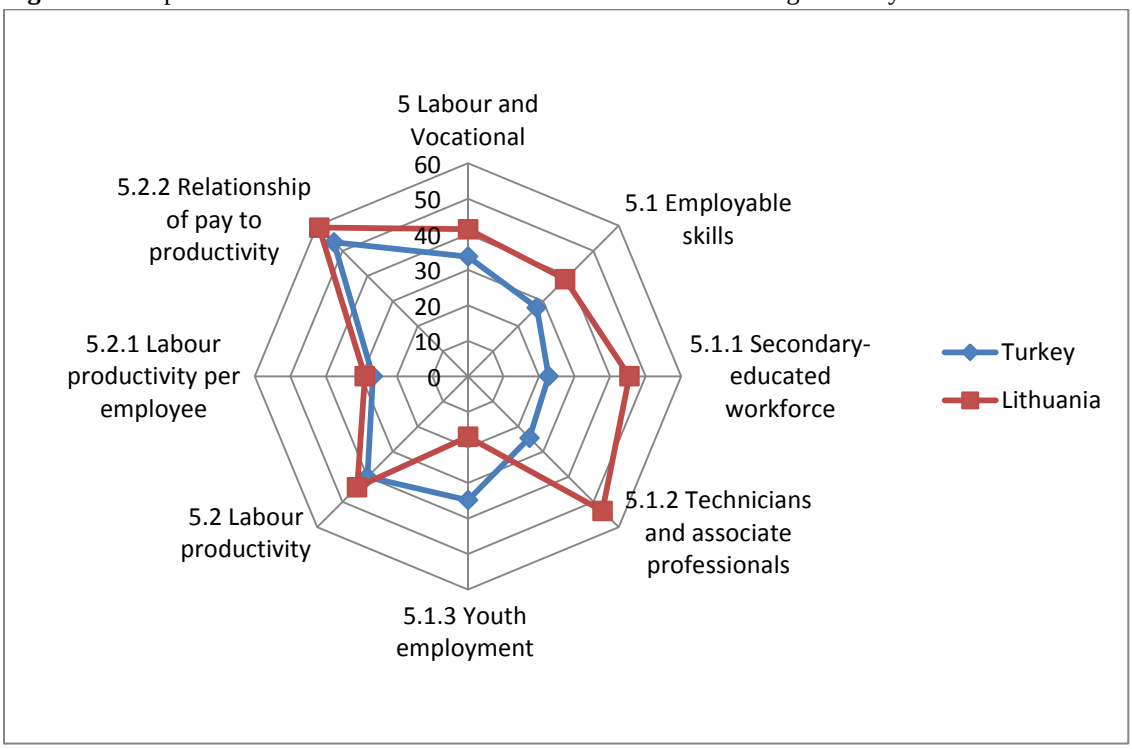

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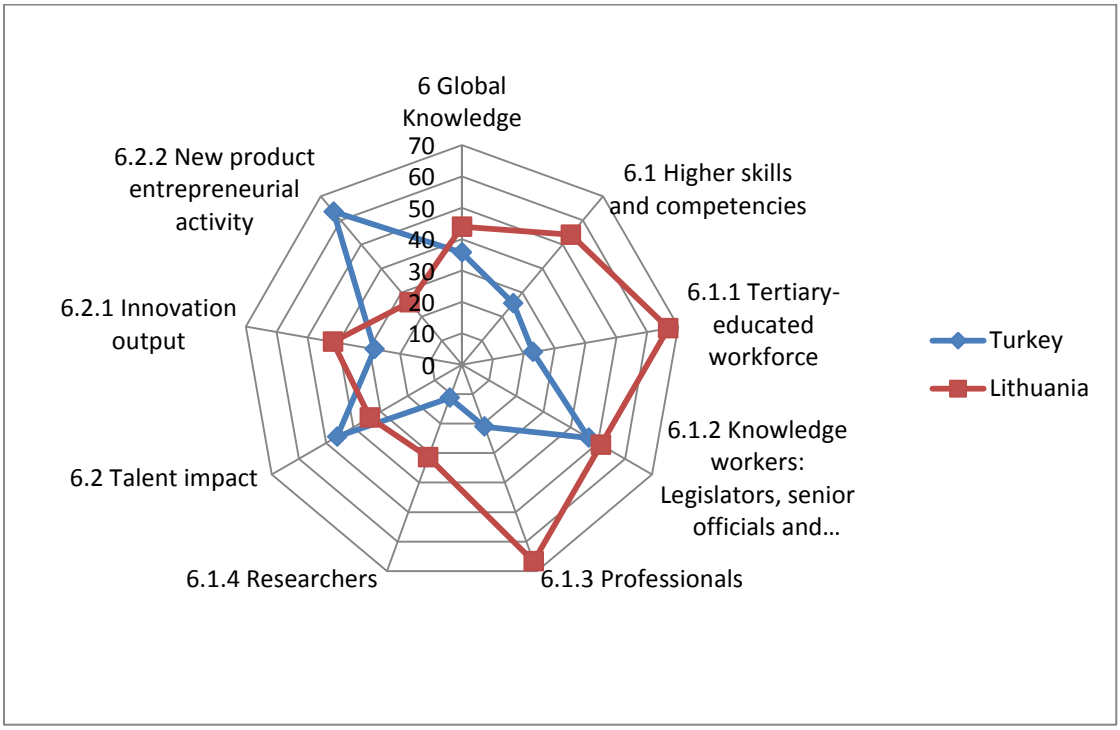
Figure 7. Comparison of the GTCI global knowledge sub-index rankings: Turkey & Lithuania



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The analysis done in this section of our detailed review also revealed the premises for a GTC approach to strategic programming of sustainable economic expansion so as it exposed the week and strong determinants or pillars in national talent competitivity development.

4. Some conclusions & generalizations

4.1. The GTCI is based on pragmatic approach to talent essence accenting mostly the measurable skills of personality and their outcomes. This approach is different from traditional meaning of *talent* as a personal ability or potency, to find and realize new technological, managerial, marketing or technical etc. solutions. Besides, the GTCI is mostly oriented to knowledge skills and innovation measurements, i.e. big part of the same pillars measured by GII and NRI determinant systems.

4.2. Logically, the global knowledge skills are substantially influenced by main social processes and level of reward, p. ex., the brain drain of the talents mostly goes from less developed countries to high developed ones, and that influence some deviations within main dependencies of the GTCI model.

4.3. The conclusion of the GTCI model authors about strong correlation between GTCI scores and GDP per capita, also between national competitiveness and global talent indices is applicable in the case of comparison of Turkey & Lithuania‘s economic competitivity. The small changes in the weighting of GTCI pillars do not alter substantially the rankings of sub-indices.

4.4. The GTCI is an important analytical instrument for developing global talent management, distributing material & intellectual resources for stimulating talented people, also programming tax incentives for business to train employees; anticipating some shortages of human capital and highly skilled labour.

4.5. The practical evaluation of more detailed comparisons of the GTC pillars in the research confirmed the reliability of GTC criteria for evaluating the talents growth determinants and their impact on the economic competitivity in general.

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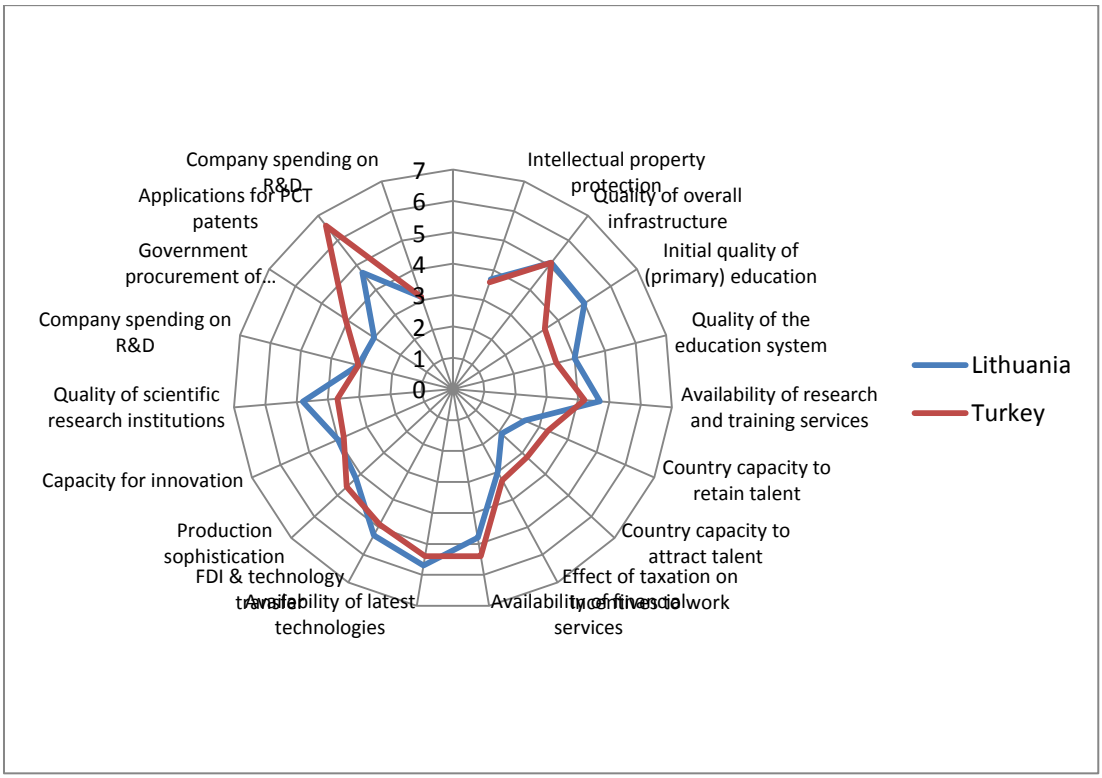
Annexes

Table A1. Some indicators of competitiveness interconnected with intellectual potential: Lithuania & Turkey (2013-2014)

Scores by indicators	Lithuania	Turkey
Intellectual property protection	3.7	3.6
Quality of overall infrastructure	5.1	5.1
Initial quality of (primary) education	5.0	3.5
Quality of the education system	4.0	3.4
Availability of research and training services	4.7	4.2
Country capacity to retain talent	2.5	3.3
Country capacity to attract talent	2.1	3.2
Effect of taxation on incentives to work	3.0	3.3
Availability of financial services	4.8	5.4
Availability of latest technologies	5.7	5.4
FDI & technology transfer	5.3	4.9
Production sophistication	4.2	4.6
Capacity for innovation	4.0	3.8
Quality of scientific research institutions	4.8	3.7
Company spending on R&D	3.1	3.1
Government procurement of advanced tech	3.0	4.1
Applications for PCT patents	4.7	6.6
Company spending on R&D	3.1	3.1

Source: composed by the authors on basis of the WEF data (Global Competitiveness.., p. 272, 373).

Figure A1. Comparison of countries competitiveness pillars interconnected with their intellectual potential: Lithuania & Turkey



Created by authors on the basis of data from the source: *The Global Competitiveness..*, p. 272, 373.
The parameters are mostly within similar interval; Turkey has some preferences by applications for PCT patents and its capacity to attract talents.

Table A2. Some indicators of talent competitiveness environment interconnected with global innovation index pillars: Lithuania & Turkey, 2014

Scores by indicators of talent environment	Lithuania	Turkey
ICT access	64.7	51.1
ICT use	37.6	26.3
Ease of protecting investors	56.7	63.3
Knowledge-intensive employment, %	42.8	20.2
Firms offering formal training, % firms	46.8	29.7
High-tech imports less re-imports, %	4.5	8.4
High- & medium-high-tech manufactures, %	19.6	27.2
High-tech exports less re-exports, %	4.8	1.0
ICTs & business model creation	66	60.5

Scores from 0 to 100. The most significant differences concern % of firms offering formal training and knowledge-intensive employment (Fig. A2).
Composed by the authors on basis of the WEF data (*The Global Innovation..*, p. 241, 297).

Figure A2. The indicators of talent competitiveness environment interconnected with global innovation index pillars: Lithuania & Turkey, 2014