

UNIVERSITIES IN INCIPIENCE OF THE KNOWLEDGE ECONOMY

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In the globalization context the generation and accumulation of the knowledge, its transfer and commercialization in innovations have the most impact on the international competitiveness and economic development of nations. A unique experience, which proceeded from the colonial model of economic development to the modern, is characterized by fusion of European, American and Chinese experience. Identifying common features can become the key for adapting the foreign experience in the interest of Ukrainian economic development.

The aim of research is an analysis of the evolution of higher education in the emerging knowledge economy on.

Since 1990 in developing countries in Asia – China, Malaysia and Thailand, there have been factual priorities set to reach the aim of transition to a knowledge-based economy. They included wide development of scientific and technological system, priorities of growth of national investments in the field the research and development, and growth of number of research workers [10]. While other new industrialized countries like South Korea, Singapore and Taiwan have chosen a niche specialization in the development of high-tech industries and knowledge-intensive service sector [9].

The analysis of the competitive maps of the global scientific and educational space in 2006 2015 made it possible to detect that by the level of a quality of the national education systems Singapore was one of the 4 leaders that improved market positions, China and Malaysia improved strong market positions, but in Taiwan there was rapid deterioration of the strong market position, and in South Korea and Thailand occurred deterioration of weak market position [2]. The weak competitive position of Ukraine at that time was improving. At the same time, by the quality of scientific research institutions Malaysia improved its strong market position, but the strong market position of China, Taiwan, South Korea, Singapore and Thailand deteriorated and weak competitive position of Ukraine deteriorated too.

According to the situation in Chinese education this country has developed several education systems: mainland's system (education system of PRC); especial administrative region's system (education systems of Hong Kong and Macao), island's or autonomous system (education system of Taiwan).

In the economic development of Taiwan system of higher education plays a significant role. It was formed as a result of the transition from the colonial to modern system, from highly

centralized management to government regulation and market control till 1987. In view of the historical heritage Taiwan formed a unique system of higher education, which combines Japanese, American, Chinese and local features reflecting the desire of Taiwan for localization and globalization in higher education.

After World War II China received sovereignty over the island. Many aspects of higher education, such as the academic structure, administrative organization, structure of curricula and teaching degree graduates and their competence had been based on the model of Chinese universities. In 1950 60^s foreign aid and investments in Taiwan helped to create an export-oriented economy and labor-intensive industries. According to these processes higher education was aimed at training human resources.

After the 1960^s Taiwan's higher education system (especially colleges) was developing quickly, because of growth in the number of secondary schools and development of labor-intensive industries. As a result the number of higher education institutions has increased 15 times (from 7 in 1950 to 105 in 1986) and the number of students has increased 52 times (from 6.6 thousand people in 1950 to 345.7 thousand in 1986 [6]).

Until 1980^s Taiwan focused on economic development through export of the high technology products, capital formation and establishment of services sector. During this period Taiwan has evolved from a recipient of foreign aid to an attractive for foreign direct investment region of Asia. The higher education system of the country started internationalization by attracting foreign students and increasing international mobility of Taiwanese students. Thus in 1985 the number of foreign students in universities in Taiwan amounted 3769 persons, but in 2014 the figure increased almost 8 times. It has also experienced tremendous changes of structure by the areas of education – the largest proportion of foreign students studying human sciences 89.9% in 1985, but in 2014 it dropped to 5%, business administration had 12%, engineering 9%.

About 56.8 thousand of foreign students studied in Ukraine in 2014, which is three times the level of 2003 [3]. However, due to long-lasting counterterrorist operation the attractiveness of Ukraine for foreign students decreases. Most foreign students in Ukraine come from Asia and Africa.

Since late 1980^s Taiwan's economy is actively developing and government policies focus the principles of democracy, therefor universities have begun to promote the pursuit of academic freedom and autonomy, following the example of American universities. In higher education reform the government of Taiwan has given considerable attention to financing of higher education that is why in 1985 it took 16.5% of the costs of the state budget and 20.08% in 2014. However, the share of private sector in financing higher education is significantly lower than the public sector, which explains the predominance of state universities. This feature is common for Taiwan and Ukraine.

The cost of higher education in Ukraine in 2013 amounted to 2.13% of GDP, compared to the US 1.36%, Singapore 1.03%, and Taiwan 3.89%. The expenditure of higher education

decreased in absolute terms, but in relative Ukraine is showing signs of leadership, spending like most developed countries. As for R&D expenditure in Ukraine in 2013 they accounted 0.76% of GDP, much lower than in South Korea (4.15%), China (2.01%).

The Taiwan's reforms in higher education lead to formation of high competitive status of its universities on the global educational arena. Reforms of higher education in 1970-80s in Taiwan divided universities into two groups: academic and training institutions. Most institutions in higher education are four-year colleges, two- and five-year colleges for junior professionals, technological institutes and universities. Thus the total number of higher education institutions for 30 years (1985 to 2014) has increased from 105 to 159 institutions, which is equal to advance of share of universities from 26.6% in 1985 to 91.1% in 2014 [4].

In Ukraine, the number of universities increased from 149 in 1990 to 277 in 2015, and the maximum number of 353 institutions was observed in 2008-2009. Taiwan in last decade is actively developing university's curriculums in architecture, law and dentistry. Unlike American professional schools that begin after college, Taiwan law and medical schools start in the first year of university studies. Increasingly universities offer nondeclared programs based on basic education or education of first two years in college to expand the scope of student learning and develop potential of interdisciplinary.

Universities in Taiwan have accumulated unique experience in science of identification and management of intellectual capital, which could be useful for Ukraine. The leading universities are key actors in implementation of the national programs of innovative system in Taiwan. Thus universities occupy a unique place in the institutional structure of national innovation systems in Taiwan.

According to results of our research, common and different features of the higher education system between Ukraine and Taiwan could be identified. The common features are following:

- post-colonial past of Taiwan and independence of Ukraine after Soviet Union;
- predominance of public universities in their structure;
- long-term search for niches in the global market of scientific and educational services;
- the high dependence from the high level of integration of economies into the world economy, particularly exports of goods and services;
- the number of universities and students are dynamic.

The distinctive features between Taiwan and Ukraine are culture and religion, the historical development, independence procedure of states, geopolitical position and geographical location, differences in the level of raising capital and GDP per capita, as well as the effectiveness of knowledge transfer.

References

1. Chang S-C. (2010) Bandit cellphones: a blue ocean strategy / S-C. Chang // Technol Soc, No.32. pp.219–223.
2. Global Competitiveness Reports. Dataset 2006 07 to 2014 15. (2015). World Economic Forum. – Available at: http://www3.weforum.org/docs/GCR2014-15/GCI_Dataset_2006-07-2014-15.xlsx.
3. Key indicators of higher educational institutions of Ukraine at the beginning of 2014/15 (2015) // Statistical Bulletin. State Statistics Service of Ukraine. – P.42.
4. National Statistics Republic of China (Taiwan). – Available at: <http://eng.stat.gov.tw/mp.asp?mp=5>
5. Summary of statistics: Summary of education at all Levels in SY 2011 (2012) // Ministry of Education. – Available at: <http://english.moe.gov.tw/ct.asp?xItem=12862&ctNode=1184&mp=1>.
6. The Excellent Development of University Education. Taipei: MOE. (2006) // Ministry of Education. – Available at: <http://english.moe.gov.tw>.
7. Wang C.-T. (2014) Competitive strategies for Taiwan's semiconductor industry in a new world economy / C.-T. Wang, C.-S. Chiu // Technology in Society, 36. – P. 60–73.
8. White paper on national cultivation of talents (2013) // Ministry of Education. Available at: http://epaper.edu.tw/news.aspx?news_sn=21968.
9. Wong C.-Y. (2012) The sustainability of functionality development of science and technology: Papers and patents of emerging economies / C.-Y. Wong, K.-L. Goh // Journal of Informatics, 6, P. 55–65.
10. Wong C.-Y. (2009) Modeling the dynamics of science and technology diffusion of selected Asian countries using a logistic growth function. / C.-Y. Wong, K.-L. Goh // Asian Journal of Technology Innovation, 17, P. 75–100.
11. Wu H.-Y. (2010) Innovation capital indicator assessment of Taiwanese Universities: A hybrid fuzzy model application / H.-Y. Wu, J.-K. Chen, I.-S. Chen // Expert Systems with Applications, 37. Elsevier. pp.1635–1642.