

Available online at www.sciencedirect.com**ScienceDirect**

Procedia Economics and Finance 26 (2015) 1152 – 1158

Procedia
Economics and Finance

www.elsevier.com/locate/procedia

A Comparative Analysis of Higher Education Financing in Different Countries

Alper Goksu^{a*} Gonca Gungor Goksu^b^a*Sakarya University, Industrial Engineering Department, 54187, Sakarya*^b*Sakarya University, Social Sciences Institution, Public Finance PhD Programme, Sakarya*

Abstract

Higher education is important for countries for several reasons. It is a significant step for countries in achieving higher levels of development. The quality and efficiency of higher education are necessary to reach a high level of country's human capital. Each country uses a different higher education financing model with a different success rate. While some countries apply mainly private sector financing, others employ higher education systems which are financed by public sectors. The contribution of public sector to higher education financing varies significantly in each country. There have been important developments in higher education systems in many countries recently. As a result of developments in this area, the balance between the contribution levels of private and public sectors to higher education financing has changed. The current study discusses the different applications of higher education financing systems and analyzes the contribution of different actors participating in higher education financing. Higher education financing systems in different countries are examined. The first part of this study focuses on the theoretical framework of higher education services, and the second part provides a comparison of the shares of the actors who contribute to higher education financing in the countries in question. Thus, a comparative analysis of higher education system among countries is conducted. The last part consists of conclusions and recommendations.

© 2015 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of Academic World Research and Education Center

Keywords: Higher Education Finance, Country Comparisons

1. Introduction

The increasing importance given to education in a country leads to contribute both the improvement of her economy and socio-cultural structure and to increase the quality of service which is provided to her citizens by the government. The more the quality and sufficiency of education service increase, the more the development of

* Alper Goksu. Tel.: +90-532-233-43-80
E-mail address: agoksu@sakarya.edu.tr

country enhances. So, higher education is an important phase of education. It has a significant role on the development of new generation. One of the positive effects of higher education service is the considerable contribution to the improvement of a country's human capital. As the number of students attending colleges increases, state and national income level increase as well. As a result, it can easily be assumed that higher education increases the welfare level of people. One of the major issues of higher education is about financing which changes over time. It is known that mainly public or private sector is used to finance higher education. Since the last two decades, especially, the participation of public sector has decreased in the countries where liberalization is dominant on state policies. Therefore, student and household participation rates have increased in aforementioned countries and at the same time higher education has started to be privatized. However, it can be said that public sector continues to be effective in many countries.

This study examined how much public or private sector participates in financing higher education in developed and developing countries which are members of OECD or EU. Primarily, the conceptual framework of higher education has been researched. After that, the statistical data from different countries have been analyzed, and diversities and similarities have been identified. In this context, the data, taken from “*Education at a Glance*” reports, have been used to compare the countries by using different tables. In this way, this study tries to find answers to some questions; such as; (i) What kind of changes and transformations have been observed in the participation of public or private sector in higher education financing lately? (ii) Which similarities and differences are there among countries in the participation of public or private sector in higher education financing? (iii) What is general trend in cost participation in higher education globally? In this context, this study aims to determine both the contribution levels of the actors in higher education financing and also the differences among countries.

2. Theoretical Framework

Higher education is to create and disseminate knowledge and to develop higher order cognitive and communicative skills in young people, such as, logical thinking ability, the motivation to challenge the status quo and the capacity to develop sophisticated values (Chan, Brown & Ludlow, 2014). As a short-definition, higher education can be defined as an education or learning at a college or a university. A broader definition can be; higher education, post-secondary education or third level education is an optional final stage of formal learning that occurs after secondary education. According to higher education act #2547, higher education is an education system within the national education system which consists of at least four years and is based on secondary education (Official Gazette of the Republic of Turkey, 4th November, 1981).

Karatas (2006) says that higher education has a lot of aims in line with the principles and objectives of national education. These aims are; (i) to contribute to the development of a country, (ii) to provide the society with qualified human power, (iii) to conduct scientific research and (iv) to compete with other countries in the area of knowledge, technology and research and development. Duran (1987) points out that along with these aims, higher education has some benefits for individuals and society; such as; (i) to provide new sources of income for people, (ii) to create new job opportunities for people, (iii) to allow people to have post-graduate education, (iv) to give people the chance to struggle with unemployment caused by technology, (v) to increase the consumption level of people and variety of consumer goods (vi) to increase the level of culture and life, (vii) to provide people with more respectable positions, (viii) to increase the education level of the poor, (ix) to alter the shape of the labour force employed, (x) to develop respect for the law and to increase the level of social welfare, (xi) to strengthen social solidarity and to contribute to becoming more knowledgeable voters and (xii) to increase the economic, social, cultural levels of society.

In the literature, many researches show that knowledge has been the most important leading factor and the driving force of growth and economic performance of countries over the past three decades. So, universities and research organizations have become more influential than ever before on the economic competitiveness of individual economies in the context of globalization. The countries with an expanded system of higher education with higher levels of investment in research and development activities have higher potential to grow faster in a globalized knowledge economy (Varghese, 2013). However, higher education has some costs divided into two

types. The first one is private cost and this cost should be paid by students and higher education institutions. The second one is social cost and it includes direct and indirect social costs which are reimbursed by governments and other public organizations (Duran, 1987). Higher education financing consists of a set of methods to obtain resources needed by higher education institutions in order to maintain their functions (Karakas, 2009). There are some factors which affect higher education financing. Initially, higher education which affects the improvement of society is a semi-public good with high externalities one of which is that households and students will have some advantages by studying at a higher education institution. As a result, demand for higher education increases. The more people achieve higher education, the more a country develops or her economic development accelerates so that the country can provide the citizens with free education (Ergen, 2006). Therefore, higher education has to be supported by public sector more.

Higher education expenditure is defined as the total amount of money or funds allocated from public and private sector budgets for higher education (Duran, 1987). Nowadays, one of the issues discussed about higher education financing is on who will run the higher education institutions. Some experts say that the state has to run these institutions and they base their ideas on some arguments; such as positive externalities, capital market failure, parents' being indifferent to the subject and opportunity inequality (Soyler & Karakas, 2011). Externality argument asserts that education is a mixture of goods and provides social benefits in high level. Another argument, market failure, prevents educational services from being commercialized. The third argument is that parents are usually indifferent to their children's education or not knowledgeable enough on the subject so the state takes action in planning the people's future. The last one is opportunity inequality. There has to be state intervention in education system to provide equity. Especially, the impacts of government are inevitable so that the lower income groups receive educational services (Soyler, 2009). There are four different methods to finance higher education in developed and developing countries. In the first method, higher education is financed by using public resources. However, in the second method, it is financed by tuition fees. The third method to finance higher education is using private resources and university-industry collaboration is the last method to finance higher education (Soyler & Karatas, 2011).

3. The Financing of Higher Education In Different Countries

Higher education has become more easily accessible for common people since 1950s, particularly because of the increase in the number of universities in recent years. Before 1990s, national policies were more dominant on strategic decisions and tendencies about higher education financing (Teichler, 2006). Nowadays, some changes have occurred both in the field of teaching-research and higher education financing. Also, Neo-liberal policies have become more important since 1980s and more significant changes have started to be implemented to higher education financing with the effects of these policies. An important development is the increase in private sector's participation in higher education financing. There has been a significant growth in the number of private higher education institutions in almost all developing and developed countries for the last two decades. As a consequence, the cost-sharing system in higher education financing has been accepted in many countries all around the world. As a result of this change, four groups have started to participate in higher education financing. The first group is governments and taxpayers, and governments use public revenues such as taxes to underpin higher education. The second group is parents who save or borrow money to finance their children's higher education. The third group is students and they also save or borrow money as parents do. The last group is charity organizations who support students, parents or higher education institutions (Johnstone, 2005).

The more tuition fees are paid, the more sources are supplied both to universities and colleges so that cost-sharing is a result of diversity of tuition fees in countries which have more public higher education institutions (Sam, 2011). Three different reasons lie behind cost sharing method. One of them is the raising costs for students and departments. Another reason is the significant increasing number of student enrolments as a result of the growth in university-age population in last years. Many countries' having insufficient public revenues is the last reason. (Johnstone & Marcucci, 2007). The financial sustainability of higher education is supported by governments.

Furthermore, there are four diverse independent models. While students have to pay no or low tuition fees because of munificent student incentive system in the first model, in the second model they have to pay high tuition fees but at the same time they have a chance of having highly advanced incentives from their governments. The third model includes high tuition fees and an underdeveloped student incentive system, in the last model students have to pay low tuition fees and student incentive system is underdeveloped (OECD, 2013).

Table 1. Percentage of Public and Private Expenditures on higher educational institutions in GDP

	1998		2000		2005		2008		2009		2010	
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
Australia	1,0	0,5	4,6	1,4	0,8	0,8	0,7	0,8	0,7	0,9	0,8	0,9
Austria	1,4	0,2	5,4	0,3	1,2	0,1	1,2	0,1	1,4	0,1	1,5	0,1
Belgium	0,9	m	5,1	0,4	1,2	0,1	1,3	0,1	1,4	0,1	1,4	0,1
Canada	1,5	0,3	5,2	1,2	1,4	1,1	1,5	1,0	1,5	0,9	1,5	1,2
Czech Republic	0,7	0,1	4,2	0,5	0,8	0,2	0,9	0,2	1,0	0,2	1,0	0,2
Denmark	1,4	0,0	6,4	0,3	1,6	0,1	1,6	0,1	1,8	0,1	1,8	0,1
Finland	1,6	x	5,5	0,1	1,7	0,1	1,6	0,1	1,8	0,1	1,9	0,1
France	1,0	0,1	5,7	0,4	1,1	0,2	1,2	0,2	1,3	0,2	1,3	0,2
Germany	0,9	0,0	4,3	1,0	0,9	0,2	1,0	0,2	1,1	0,2	m	m
Greece	1,0	0,1	3,7	0,2	1,4	n	m	m	m	m	m	m
Hungary	0,8	0,2	5,7	0,6	0,9	0,2	0,9	0,9	1,0	m	0,8	m
Iceland	1,7	0,0	4,1	0,6	1,1	0,1	1,2	1,2	1,2	0,1	1,1	0,1
Ireland	1,0	0,3	4,5	0,4	1,0	0,1	1,2	1,2	1,4	0,3	1,3	0,3
Italy	0,6	0,1	4,5	0,4	0,6	0,3	0,8	0,8	0,8	0,2	0,8	0,2
Japan	0,4	0,6	3,5	1,2	0,5	0,9	0,5	0,5	0,5	1,0	0,5	1,0
Korea	0,4	2,0	4,3	2,8	0,6	1,8	0,6	0,6	0,7	1,9	0,7	1,9
Mexico	0,7	0,1	4,7	0,8	0,9	0,4	0,9	0,9	1,0	0,4	1,0	0,4
Netherlands	1,1	0,0	4,3	0,4	1,0	0,3	1,1	1,1	1,2	0,5	1,3	0,5
New Zealand	1,0	m	5,8	m	0,9	0,6	1,1	1,1	1,1	0,5	1,0	0,5
Norway	1,4	0,0	5,8	0,1	1,3	m	1,6	1,6	1,3	0,1	1,6	0,1
Poland	1,1	m	5,2	m	1,2	0,4	0,9	0,4	1,1	0,5	1,0	0,4
Portugal	0,9	0,0	5,6	0,1	0,9	0,4	0,7	0,5	1,0	0,4	1,0	0,4
Spain	m	0,2	4,3	0,6	0,9	0,2	1,0	0,2	1,1	0,3	1,1	0,3
Sweden	1,4	0,1	6,3	0,2	1,5	0,2	1,4	0,2	1,6	0,2	1,6	0,2
Switzerland	1,1	n	5,3	0,4	1,4	m	1,3	m	1,4	m	1,3	m
Turkey	0,8	0,0	3,4	n	m	m	m	m	m	m	m	m
United Kingdom	0,8	0,2	4,5	0,7	0,9	0,4	0,6	0,6	0,6	0,7	0,7	0,6
United States	1,0	1,2	4,8	2,2	1,0	1,9	1,0	1,7	1,0	1,6	1,0	1,8
OECD total	0,9	0,6	4,6	1,3	0,9	1,0	0,9	0,9	1,0	1,0	1,0	1,1

Note: m: data is not available, n: magnitude is either negligible or zero and x: data included in another category or column of the table (e.g. x(4) means that data are included in column 4 of the table).

Source: OECD, Education at a Glance, 2013 and 2000.

Table 1 clearly displays that the rate of total expenditure is more than 1.5% of GDP in most countries. In some countries, such as Canada, Korea and the United States, it exceeds even 2.5%; however, Hungary, Italy and the United Kingdom allocate less than 1.5 % of GDP. In 2000, rate of public plus private sector's total expenditure was the highest in GDP. The global economic crisis has played a significant role on global economy after 2008. So, governments have had to decrease public expenditures on higher education. According to table 1, public sector plays a more important role in financing higher education than private sector in most of the countries. On the contrary, private sector expenditures on higher education have a more important role in Korea, the United States and Japan in the last decade. The OECD total rate did not markedly change during the period between 1998 and 2010.

Most of the rates in table 1 changed due to the economic crisis in 2008. Rising unemployment and poor economic condition being the negative results, the demand for education decreased. And the governments had to cut on education expenditures to minimize budget deficits (EACEA, 2013).

Table 2. Relative proportions of public and private expenditures on higher education (2010, 2000)

	2010					2000		
	Public Sources	Household Expenditure	Expenditure of Other Private Entities	All Private Sources	Private: of Which, Subsidised	Public Sources	Private Sources	Private: of which, subsidised
Australia	46,5	39,0	14,5	53,5	0,5	51,0	49,0	0,9
Austria	87,8	2,6	9,5	12,2	7,7	96,7	3,3	7,7
Belgium	89,8	4,7	5,6	10,2	4,4	85,2	14,8	4,5
Canada	56,6	19,5	23,9	43,4	1,1	61,0	39,0	1,7
Czech Republic	78,8	9,4	11,8	21,2	n	85,5	14,5	n
Denmark	95,0	x (4)	x (4)	5,0	m	97,6	2,4	n
Finland	95,9	m	x(4)	4,1	n	97,2	2,8	n
France	81,9	10,1	8,0	18,1	m	85,7	14,3	2,3
Germany	m	m	m	m	m	91,8	8,2	a
Greece	m	m	m	m	m	99,7	0,3	m
Hungary	m	m	m	m	m	76,7	23,3	n
Iceland	91,2	8,2	0,6	8,8	a	94,9	5,1	m
Ireland	81,2	16,3	2,5	18,8	n	79,2	20,8	m
Italy	67,6	24,4	8,0	45,8	5,8	77,5	22,5	6,1
Japan	34,4	51,5	14,1	65,6	m	44,9	55,1	m
Korea	27,3	47,1	25,6	72,7	1,0	23,3	76,7	1,1
Mexico	69,9	29,8	0,4	30,1	1,3	79,4	20,6	0,6
Netherlands	71,8	14,7	13,5	28,2	0,3	77,4	22,6	2,4
New Zealand	66,3	33,7	m	33,7	m	m	m	n
Norway	96,0	3,3	m	4,0	m	96,2	3,8	a
Poland	70,6	22,5	6,9	29,4	m	m	m	a
Portugal	69,0	23,4	7,6	31,0	m	92,5	7,5	m
Spain	78,2	17,6	4,2	21,8	1,7	74,4	25,6	2,5
Sweden	90,6	n	9,4	9,4	a	88,1	11,9	m
Switzerland	m	m	m	m	m	m	m	m
Turkey	m	m	m	m	m	95,4	4,6	n
United Kingdom	25,2	56,1	18,7	74,8	26,5	67,7	32,3	4,6
United States	36,3	47,8	15,9	63,7	m	33,9	66,1	m
OECD Average	68,4	–	–	31,6	3,4	78,6	21,4	1,9

Note: m: data is not available, n: magnitude is either negligible or zero, x: data included in another category or column of the table (e.g. x(4) means that data are included in column 4 of the table), and a: data is not applicable because the category does not apply.

Source: Education at a Glance, 2013 and 2003.

As shown in table 2, private sector expenditures are only 5% or less of total higher education expenditures in Denmark, Finland and Norway, but they are more than 40% in Australia, Canada, Japan and the United States in 2010. The highest rate which is more than 70% is shown in Korea and the United Kingdom. Moreover, around 80% of the students in Korea are enrolled in private institutions and 100% of the students in the United Kingdom are enrolled in government-dependent private institutions. At the same time, more than 70% of the budget of educational institutions is made up of tuition fees in Korea. This rate is approximately 50% in the United Kingdom (OECD, 2013). According to OECD average, public resources are more dominant in both 2000 and 2010. When the rates are compared, the general outlook in 2000 has not been markedly changed in 2010. The most remarkable change was in the United Kingdom. Although public resources were more important in 2000, the private resources became more significant in 2010. It can be said that the effects of cost-sharing are more dominant on decisions about higher education in the United Kingdom in last years.

Table 3. Public support for households and other private entities as a percentage of total public expenditure on higher education, (2010)

	Scholarships/ other grants to households	Transfers and payments to other private entities	Student Loans	OECD Average
Australia	12,22	n	21,66	21,66
Austria	11,02	7,18	a	21,66
Belgium	13,65	n	n	21,66
Canada	4,33	1,64	n	21,66
Czech Republic	2,59	n	a	21,66
Denmark	21,91	n	3,95	21,66
Finland	14,90	0,27	n	21,66
France	7,74	a	m	21,66
Hungary	14,33	n	m	21,66
Iceland	m	n	31,66	21,66
Ireland	13,13	n	n	21,66
Italy	22,43	n	n	21,66
Japan	0,67	0,06	n	21,66
Korea	3,36	0,35	4,77	21,66
Mexico	3,87	a	3,12	21,66
Netherlands	10,41	0,28	0,42	21,66
New Zealand	14,18	n	32,41	21,66
Norway	10,69	n	26,79	21,66
Poland	11,66	n	9,81	21,66
Portugal	16,55	m	m	21,66
Spain	9,16	n	0,25	21,66
Sweden	9,59	a	14,95	21,66
Switzerland	2,00	4,62	m	21,66
United Kingdom	0,31	33,91	33,46	21,66
United States	24,02	m	3,70	21,66
Chile	15,53	4,55	20,29	21,66
OECD Average	11,37	1,97	9,81	21,66

Note: Countries are ranked in descending order of the share of scholarships/other grants to households and transfers and payments to other private entities in total public expenditure on higher education. m: data is not available, n: magnitude is either negligible or zero.

Source: OECD, Education at Glance, 2013.

In Table 3, we can see that most of OECD members use public funds to support households and other private entities which is more or less 22% of total public expenditure on higher education. While this rate is more than 25 % in Australia, Chile, Denmark, Iceland, Japan, the Netherlands, New Zealand, Norway, the United Kingdom and the United States, it is less than 7 % in the Czech Republic, Mexico and Switzerland. Iceland supports students especially by giving them loans but both grants and loans may be predominant in most of other countries such as Australia, Chile, the Netherlands, New Zealand, Norway, Sweden, the United Kingdom and the United States. Generally, the countries where students are supplied with loans also support the families and this support accounts for the largest proportion of all public expenditure on higher education. These are also the same countries where an above-average proportion of their higher education budgets is spent on grants and scholarships (OECD, 2013).

4. Conclusion

Higher education is a mixed commodity. Considering its attribute, it is a service which makes positive contribution to its users directly but society indirectly. So it is necessary that higher education is provided to the ones who demand it. Higher education institutions should prompt the dynamics of social development and lead the society towards a better future. In this study, comparison of resources allocated to higher education financing and the participation rates in different countries were examined. At the same time, the reasons for current differences among countries in higher education financing were focused on.

This study reveals the fact that the participants in higher education financing in every country are different from each other and that some countries have distinct finance systems in higher education. While the participation of private sector in the U.S.A, the United Kingdom and Korea is more important than public sector's participation, public sector is more dominant in most European countries. As table 1 displays, most countries spend more than an average of 1.5% of GDP on higher education financing, this rate exceeds 2.5% of GDP in some countries such as Canada, Korea and the United States but some other countries such as Hungary, Italy and the United Kingdom allocate less than 1.5% of GDP. Most OECD members support higher education and its actors by using public funds which is more or less 22% of their public budgets. The last changes which are related to liberalization have affected higher education financing directly since 1980s. These changes are about cost sharing which makes private sector participation more dominant in countries if adopted.

References

- Chan R.Y., Brown G.T.L. & Ludlow L.H. (2014). What is the purpose of higher education?: A comparison of institutional and student perspectives on the goals and purposes of completing a bachelor's degree in the 21st century. The American Education Research Association (AERA) Annual Conference. Philadelphia, The United State of America.
- Duran, M. (1987). Higher financing costs and effectiveness. 3. National Public Finance Symposium, Gebze, Istanbul.
- Ergen, Z. (2006). On the Characteristic and Financing of Higher Education as a Semi-Public Goods. *Sosyo-Ekonomi Journal*, 3, 133-149.
- Johnstone, D. B. (2005). Cost-sharing and the cost-effectiveness of grants and loan subsidies to higher education. In T. Pedro, B. Johnstone, M. J. Rosa & H. Vossensteyn (Eds.), *Cost-Sharing and Accessibility in Western Higher Education: A Fairer Deal?* (pp. 84-101.). Dordrecht The Netherlands: Springer Publishing.
- Johnstone, D. B. & Marcucci, N. P. (2007). Worldwide trends in higher education finance: Cost-sharing, student loans and support of academic research. *UNESCO's Higher Education Commissioned Paper Series*, [[http://unesco.org/Education/Higher Education/UNESCO Forum on Higher Education Research and Knowledge/ Papers and Publications/commissioned papers](http://unesco.org/Education/Higher_Education/UNESCO_Forum_on_Higher_Education_Research_and_Knowledge/Papers_and_Publications/commissioned_papers)]. Access Date: 01.02.2014.
- Karatas, S. (2006), *Higher education policies and their effects on institutional success*, Unpublished PhD Thesis, Afyon Kocatepe University, Social Sciences Institution, Afyon.
- Karatas, S. (2009). An overview of higher education financing policy in European Union countries. *Bilim, Eğitim ve Dusunce Dergisi*, 9, 1.
- Organisation for Economic Co-operation and Development (1998-2013). *Education At Glance 1998-2013*. France: O.E.C.D.
- Organisation for Economic Co-operation and Development (2013). *OECD Factbook 2013: Economic, Enviromental and Social Statistic*. France: O.E.C.D.
- Resmi Gazete (2003), *5018 Public Finance Management and Control Law*. 24.12.2003 Date and Number: 25326.
- Sam, M. (2011). How should developing countries finance higher education? http://www.academia.edu/1228730/Financing_Higher_Education_in_Developing_Countries, Access Date: 01.02.2014.
- Soyler, I. (2009). The financing of higher education: A normative approach in the light of new expectations and goals. *Saystay Dergisi*, 72, 3-25.
- Soyler, I. & Karatas, S. (2011). Establishment and financing of private higher education institutions in Turkey. *International Higher Education and Congress: New Trends and Issue*, (UYK-2011), Istanbul.
- Teichler, U. (2006). Changing structures of the higher education systems: The increasing complexity of underlying forces. *Higher Education Policy*.19, 447-461.
- The Education, Audiovisual and Culture Executive Agency (EACEA) (2013), *Funding of Education in Europe: The Impact of the Economic Crisis*. European Commission, Brussel.
- Varghese., N.V. (2013). Governance reforms in higher education: a study of selected countries in Africa. Policy Forum on Governance Reforms in Higher Education. Kenya.