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Third-Level Education, Labour Force and the performance of Foreign Direct Investment in Greece. A Moral perspective for Europe

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Abstract

Foreign Direct Investment (FDI) is inevitably regarded as a major driver of economic development. The countries, both developed and developing ones, find many positive direct and indirect effects by attracting investments from abroad. However, FDI alone cannot guarantee an increase in a country's GDP. Greece, despite the current financial crisis, is among the countries in the European Union that cannot successfully attract FDI flows and a study based on its human capital structure is seemed important. The present paper gives particularly emphasis the educated labour force with respect to the tertiary education level of women while offering important results that can be implemented by policy makers in order Greece achieve higher and qualitative amounts of FDI inflows. As part of economic integration a synergy with respect to intra Eu- FDI flows across the member states seems crucial.

JEL classification numbers: I23, J24, F66
Keywords: FDI, Gender, Educated Labour Force, Greece.

1 Introduction

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The countries, either the European or the transition economies, developed or even developing, find many positive direct and indirect effects by attracting investments from abroad. The relevant literature however, is in some degree complex. Although many studies support the argument that FDI offers except capital, knowledge which though the technology spillovers may raise the productivity for the hosted economy, on the other side, FDI may lack the ability of increasing the overall growth for a country that receives capital investments and is usually limited to solely low volume of inflows that cannot easily exert a long-term development. FDI alone cannot guarantee an increase in a country's GDP or a major decrease in the unemployment when a country desires to improve its fiscal conditions through crisis.

Foreign Direct Investment (FDI) is inevitably regarded as a major driver of globalisation. In Deutse Bank's survey (2014) in 2013, FDI inflows to the EU increased by 14% (246 bn USD) compared to years 2012 and 2009 when an exceptionally low volume of inflows was registered. Even if both inflows and outflows of foreign direct investment remain significantly below their 2007 peak, when the economic crisis started in U.S.A., however, the EU is still considered an attractive location for foreign investment. From nearly 2010, EU-27 (Croatia is not included in the survey) outward and inward FDI stocks (or positions) grew steadily in 2010:

outward stocks rose by 13 % and inward stocks by 12 %, compared with gains of 10 % and 6 % respectively in 2009. Among the EU countries with the largest FDI inflows are Spain, United Kingdom and Ireland. Especially UK, besides a sharp drop in its investment in non-member countries in 2010, was the main holder of outward FDI stocks in U.S.A. (18% of the EU-27 total), followed by France (14%) and Germany (10%).

Another important issue in recent years is that although the share of investments coming from non-EU countries is steadily rising, still more than 60% of total inward FDI flows into European countries are intra-EU investments.

According to the existing literature there are a couple of factors that does not allow FDI to bring positive effects is the host economies. Among them, the most common are the political constraints, bureaucracy, political instability and social imbalances. However, in recent years there are some other parameters that many studies attempt to explore in depth; Human Capital is regarded as a significant factor for a European country which either cannot receive the so called qualitative investments from abroad either the volume of the flows is very weak as compared to other EU economies.

2 Greece and FDI

Despite the strong economic crisis facing Greece in the last six years, the country's performance in attracting foreign investment was satisfactory during 2012 compared to the previous year. According to the World Investment Report of the United Nations Conference on Trade and Development (UNCTAD) the flow of FDI into Greece returned to pre-crisis levels last year, amounting to $2.945 billion, compared to $1.143 billion in 2011. The annual report explains the increase in inward FDI to Greece "by injections of capital by parent transnational corporations to cover losses of their affiliates".

Total FDI inflow declined in the years 2010-2012 as compared to the volume of the pre-crisis period of 2006-2008, but the current year remains at levels from 2003-2005, despite some fluctuations (see in Appendix 1.1).

However, the fact above cannot constitute proof that Greece has suddenly become a major destination for investment, as FDI amounted to just 1.5 percent of the country's GDP (0,635 for 2011, in Appendix 1.2) while almost all of that was capital from parent groups abroad for participation in the share capital increases of subsidiaries in Greece, rather than new and productive investments.

Thus, the difference between total and net FDI inflows in Greece for 2012 related mainly to repayments of loans to the parent companies, as well as, acquisitions in other countries (to a much smaller extent). Even if the unemployment in Greece is almost at 27 percent, the policy makers stress the need to focus on attracting high added-value investments related to research and innovation, while simultaneously introducing more productive technology and techniques.

3 Literature

The early empirical work on the FDI-growth nexus modified the growth accounting method, which was introduced by Solow (1957). This approach defined an augmented Solow model based mainly on technology, capital, labor and inward FDI. Since then, a vast majority of researchers attempted to examine the impact of FDI in economic growth. Borensztein et al. (1998) found that inward FDI had positive effects on growth with the strongest impact through the interaction between FDI and human capital. De Mello (1999) supported that the long-term growth in host countries was determined by the spillovers of technology and knowledge from the investing countries to host countries. Alfaro et al. (2004) and Durham (2004) focused on the ways in which the FDI effect depended on the strength of the domestic financial markets of the host country. Both found that only countries with well-developed banking and financial institutions gained from FDI. Additionally, Durham (2004) found that only countries with strong institutional development and investor-friendly legal environment enjoyed the positive effects of FDI on growth.

As far as the Human Capital – FDI relationship is concerned, the majority of the researchers supported that human capital exerts positive effects for FDI flows in a

domestic economy. Root and Ahmed (1979) showed that literacy and school enrolment for the developing countries were statistically significant determinants of inward FDI. Saggi (2000), reached similar policy conclusions, "without adequate human capital or investments in R&D, spillovers from FDI will fail to materialise. This finding underscores the importance of the countries' policies toward education, the accumulation of human capital, and R&D". Paloni et al. (2001) empirically tested the hypothesis that the level of human capital in host countries may affect the geographic distribution of FDI while Fallon et al (2001) suggested that increased levels of human capital and government assistance to industry tended to attract increasing levels of inbound FDI. Also, resources related factors, such as its 'highly skilled, flexible workforce;' and efficiency-related factors. Blomström and Kokko (2003) examined the relation between human capital development and FDI in closer detail noting that the interaction between the two was complex and highly non-linear and that several different outcomes were possible. Mamuneas T et al. (2002) used the mean years of schooling to measure human capital and found a nonlinear effect on economic growth. Their evidence was consistent with the theoretical suggestion that there existed threshold levels of human capital and that the growth experience of a country may well differ according to which side of the threshold it finds itself in. At the end, Hanushek (2009) found significant growth effects in cognitive skills when instrumented by institutional features of school systems.

4 Human Capital and FDI

FDI tends to improve the prospects for growth by increasing the total level of capital investment in the economy and by introducing more productive technology and techniques. There are a variety of FDI discrimination types. The most common type lies between inward and outward FDI. The Inward FDI results in a net FDI inflow (either positive or negative), while the outward is the sum of FDI stock, which is the cumulative number for a given period. We are placing emphasis in inward FDI as dependent variable.

For our purposes, we have collected inward FDI data from UNCTAD (United Nations Cooperation for Trade and Development) and a number of explanatory variables from the World Development Indicators the World Bank, as well as, from Eurostat. Our data set covers a long time period, i.e., 1960-2010, which enabled us to draw more accurate results.

Human capital data set is taken from Barro and Lee (2010). Barro and Lee (2010) provide human capital data for the age group 25+ both in stocks and inflows. That is to say, they provided data for average years of schooling in secondary and

tertiary education which are perceived as stock variables, as well as enrollment in secondary and tertiary education which are assumed flow variables. The author, by using a panel data analysis found interesting empirical results, as summarized in the Table 1.1 below.

Table 1.1

25+	Enrollment Ratio	Completion Ratio	Average Year of Schooling
FemSec	**+ * / *** **	**+ ** / *** **	**+*** **
FemTer	**+ *** **	**+ *** **	**+ *** **
MaleSec	**+ */*** **	**+ **/*** **	**+ */*** **
MaleTer	**+ *** **	**+*** **	**+ *** **

1) *, **, and *** represent significance at 10, 5, and 1 percent, respectively.

Secondary and tertiary education for females appears more significant than the ones for males. The above are more pronounced in high income countries (excluding the ones in OECD classified as an upper middle income). For some countries the secondary education level may include upper and post secondary items and consequently are presented in this article.

More concretely, starting with the 25+ age group, both females and male tertiary enrolment ratio can affect FDI at a percentage of 1%. Regarding the completion rates, the secondary education level of females affects again at the 1% level of significance and secondary education for males from 1% to 5% with a continuous positive sign for both genders. In the end, the average year of schooling for the secondary education level seems to affect inward FDI at a higher percentage of significance of 1% for females rather than for males (1% and 10% level of magnitude).

The above results obtained from author's PhD Thesis could easily implemented in case of Greece's human capital development in order to attract more FDI. Based on some recent findings of the Hellenic Statistical Authority, in the 1st Quarter of 2014 the number of employed amounted to 3,483,716 persons while the number of unemployed was 1.342.299. The unemployment rate amounted 27.8% as compared with 27.8% in the previous quarter (3rd Quarter of 2013), and 27.6% in the corresponding quarter of 2013. The number of employed persons decreased by 0.1% compared with the previous quarter, and decreased by 0.6% compared with the 1st Quarter of 2013. The number of unemployed persons increased by 0.4% compared with the previous quarter and by 0.5% compared with the 1st Quarter of 2013.

Based on some recent findings of the Hellenic Statistical Authority, in Table 1.2 below, the unemployment rate for females (31,4%) is considerably higher than the unemployment rate for males (25.0%). Furthermore, a major finding is that the

highest unemployment rate is recorded among young people in the age group of 15-24 years (56.7%). For young females, the unemployment rate is 61.5%.

Table 1.2 Unemployment rate (%) by gender and age groups

1st

Age Groups	2013 Males	2013 Females	2013 Total	2014 Males	2014 Females	2014 Total
Total	**24.9**	**31.1**	**27.6**	**25.0**	**31.4**	**27.8**
15-24	55.1	66.1	60.0	52.6	61.5	56.7
25-29	39.3	43.2	41.1	40.7	44.2	42.4
30-44	22.8	30.2	26.1	23.4	30.8	26.7
45-64	18.3	21.5	19.6	18.5	22.7	20.3
65+	8.3	5.1	7.4	14.4	7.9	12.6

Source: Hellenic Statistical Authority

The unemployment rate for females (31,4%) is considerably higher than the unemployment rate for males (25.0%). Furthermore, a major finding is that the highest unemployment rate is recorded among young people in the age group of 15-24 years (56.7%). For young females, the unemployment rate is 61.5%, (Table 1.2)

The very low share of the country's GDP during the last decades predestined in the educational institutions has inevitably appeared as a financial obstacle for Greece as compared either to OECD or the Euro 27 countries (see in appendix 2.1 and 2.2). However, the upgrade of the tertiary educational level seems to be consistent with the creation of qualitative methods, as well as the improvement of the existing ones.

Actually, the weak absorbance of the EU funds dedicated to the country's educational system through the last decades shows a shortage of the implementation process in Greece that has caused imbalances, compared to the majority of the rest of the European countries. Furthermore, we cannot ignore the ongoing difficulties faced by European institutions in their efforts to improve the management of shared resources.

5 Labour Force and FDI

Analogous is the view regarding the quality of the labour force for both genders in Greece, as these appeared to be significant in attracting FDI and usually regarded as a disadvantage for a country's overall weak level in private investment. This fact arises from the major structural changes that should be done in the public

educational system through the various academic levels and, especially, to the tertiary academic level. On the other hand, the timeless gap between men and women regarding a country's labour force has a negative impact on its economic growth (see in appendix 2.3 and 2.4).

As far as the Greek educational attainment level is concerned, the unemployment rate is higher among persons who did not complete primary education (45.0%), and among those who have not attended school (38,4%). The lowest unemployment rates are observed among persons who either have completed post-graduate studies or have a doctorate (15.3%), and among those who have completed university (18.7%), (Table 1.2).

Table 1.3 Unemployment rate (%) by gender and educational level

1st

Levels of Education	2013 Males	2013 Females	2013 Total	2014 Males	2014 Females	2014 Total
Total	**24.9**	**31.1**	**27.6**	**25.0**	**31.4**	**27.8**
Post Graduate Studies,	13.6	18.3	15.6	15.6	14.9	15.3
University	14.7	20.7	17.8	16.1	21.0	18.7
Tertiary Vocational – Post Secondary	23.8	36.3	30.0	23.8	35.0	29.2
Secondary Education	26.3	35.7	30.1	26.8	37.2	31.1
Lower Secondary	31.6	37.4	33.7	31.5	36	33.1
Primary Education	28.6	26.8	27.9	27.0	28.6	27.6
Did not complete	37.8	20.2	32.2	35.7	62.9	45.0
Did not attend school	39.2	47.7	43.1	34.4	45.4	38.4

Source: Hellenic Statistical Authority

According to Nunnenkamp and Spatz (2002), based on a cross country analysis, a highly skilled labor force is expected to be crucial. By using an unprecedented number of both host and source countries of FDI, they support the view that foreign investors are more likely to favor locations where education-related gender disparities are small. Also, for them a highly skilled labour force is expected to be crucial. Since they use transitional economies in their sample, it might be useful to extend our analysis into the host transition countries and consequently, find if we can gather different conclusions regarding the way at which gender can affect FDI. The results also depict that education at all levels of an educated labour force is positively associated with inward FDI. The last

finding is consistent with Shatz's study (2003), who found in total that better educated workers attract more inward FDI.
Also, our results are consistent with those of Nonnemberg and Mendonca (2004), where the level of labor qualification appears as a crucial variable of inward FDI for the developing countries in order to achieve economic growth.
At the end, Khan (2005) used South Asian regions in his analysis in order to examine the nexus between human resource development and competitiveness that arises from globalization. The previous empirical works, as well as, our sample includes foremost developed countries like Euro 27 or OECD. Hence, based on the findings that educated and creative people are increasingly affecting capacities of South Asian countries to compete in the world market and thereby also affecting their prospects to attract FDI.
Regarding Greece, the quality of the labour force both for females and males has appeared to be significant in attracting FDI and usually regarded as a disadvantage for a country's overall weak level in private investment. This fact results from the major structural changes that should be done in the public educational system through the various academic levels and, especially, to the tertiary one, as we saw earlier. On the other hand, the timeless gap between men and women regarding a country's labour force has a negative impact on its economic growth (see in appendix 2.3).
Hill and King (1995) analyzing the benefits of women's education, describes the importance of women's education for country-level measures of economic development, and examines the implications of a gender gap in education for aggregate social well-being. According the authors, the education enhances labour market productivity and income growth for all, yet educating women has beneficial effects on social well-being not always measured by the market. Rising levels of education improve women's productivity as a whole which in turn can increase family health, as well as and the investment in children's human capital.
The above argument is supported by Thévenon et. al (2012) who in a recent study of OECD, which covers 30 countries from 1960 to 2008 on education and growth, suggested a positive and significant impact on the increase in women's educational attainment relative to that of men's on output per capita growth – as measured by GDP per capita. The increase in female educational attainment implies that the comparative advantage of men relative to women regarding educational attainment has weakened over time, and has even reversed in many countries. They particularly find that the increase in the years of study of the total population has a positive influence on output per capita growth (around 10% of GDP per capita increase per additional year of education on average), and that a more equal ratio of education by gender boosts economic growth.

6 Irelands' Paradigm

Except Greece, Ireland is another European country and member in Euro zone that suffered in some depth by the financial crisis since has signed a Memorandum of understing, as Greece. Ireland and Greece are two small countries in the European region were under pressure from the economic crisis, with common characteristics but differentiations, too.
However, in nowadays, while Greece has lost 25% of GDP since the beginning of the crisis and unemployment has reached 27% and 60% among young people, Ireland has returned to positive growth with an unemployment rate around 14 % (Appendix 3.1).

Ireland's economy in contrast to the Greek was healthy and long-term strategy was to acquire production base attracting export business. Many multinational IT, software and financial services went to Ireland exploiting the advantages of the country. So Ireland, a rural country with a small domestic market, became export, with exports counting now over 100% of GDP, when in Greece the figure is 30%. The Irish GDP grew 1.7%, investments increased 8.3% and Irish exports increased by 12.6%. In 2014 Ireland recorded a growth of 4.8%, the fastest in the EU. Even during the worst years of the economic crisis, Ireland has attracted more jobs per capita through foreign direct investment than any other economy. This external 'push' has acted as a catalyst as supported by country's policy makers and institutions.

Table 2.1

Direct Investment Abroad (Outward)	**2010**	**2011**	**2012**
Ireland	9,681	17,630	-162
Greece	608	837	-202
Direct Investment Domestic (Inward)	2010	2011	2012
Ireland	8,883	26,894	22,785
Greece	197	376	1,716

Source Eurostat (Millions of Euro)

Ireland, however, even from 2000s has achieved to support, among other parameters such as lower corporate tax and telecommunication infrastructure- an educational system that is tightly integrated with the country's FDI oriented development strategy. Besides that the Ireland, as UK and France, traditionally belongs to the favorable destination for US private investments, Irish educational

policy ‘met’ the needs of a competitive economy with respect to its exports and especially FDI flows.
According the OECD, the country has one of the highest percentage of population group 25 to 34 with a third level qualification. The majority of these high level programmes included science and engineering degrees. Gunnigle and McGuire (2001), in a survey of executives of 10 major US MNCs, found that for the main US MNCs invested in Ireland the high skilled human capital and an educated labour force rank second in importance after the corporation tax regime.

7 A Moral Approach for Europe

The maintenance of foreign investments even in the crisis, as happened in Ireland, is regarded significant for the policy makers and governments for Euro 28 and the rest of the European countries, as well.
Between 2010 and 2013 Eu FDI flows were less affected by the global financial and economic crisis. In the Tables 3.1 and 3.2 below, are presented the countries that according to Eurostat record the highest intra EU FDI flows in both directions as compared to Greece where either the outward either the inward flows are too low.
Despite the negative sign in some circumstances, however, in 2012, the growth rate in EU-27 outward and inward FDI stocks (or positions) slowed to around 5 % for each direction; this fact can be compared with 17 % growth for outward stocks and 20 % growth for inward stocks in 2011.
In 2013, EU-28 outward flows were 34 % higher than EU-27 flows in 2012. Similarly, EU-28 inward flows were 12 % above EU-27 flows in the previous year. The income rates of return from both EU-27 outward and inward investment in 2012 were slightly down from the previous year but remained above the rates of 2008 and 2009 (see Figure in Appendix 3.2).

Table 3.1

Direct Investment Abroad (Outward)	**2010**	**2011**	**2012**
Luxembourg	91,774	156,605	95,236
Germany	55,782	35,166	51,101
France	28,970	12,377	13,091
United Kingdom	11,379	18,270	11,083

Source, Eurostat (Millions of Euro)

By increasing the percentage of intra-FDI to Greece, which is still under economic recession as compared to the other Eu members, the country could more easily improves its negative investment profile and meets successfully the recovery in the forthcoming years. At meantime, the massive export of its human capital it will have reduced; a major parameter, for country's performance to import qualitative investments either European or from the large USA, Asian and Brics investors.

Table 3.2

Direct Investment Domestic (Inward)	**2010**	**2011**	**2012**
Luxembourg	100,299	175,420	113,654
Germany	26,018	23,803	-6,483
France	21,632	18,650	6,701
United Kingdom	-7,663	20,381	21,520

Source, Eurostat

As we saw the majority of researchers, supporting the argument that FDI can play an important role in raising a country's technological level, decreasing the unemployment and promoting growth. However, in a globalized economy, countries with currently low levels of FDI flows cannot compete successfully in the long run.

Li and Liu (2005) found a negative coefficient for FDI when it interacted with the technology gap between the source and host economies. According to the authors many countries found important to attract foreign investors in order to promote their economic development, particularly at times when a country's domestic growth prospects appear weak.

Hence, a shift of outward flows from countries, mentioned above, that have already received high amounts of investments (either intra EU or worldwide) to countries with weak amounts facing recession it will undoubtedly be beneficial in periods of recession. Countries such as Greece, Italy, Portugal, and Spain recording deficits because of the financial crisis as well as the transition economies, members of Euro 28, could be benefited.

8 Policy Implications

Despite the author's nationality, the nations across Europe and especially those that join the same currency with Greece, they should promote a pattern with respect the economic integration through the next decades. Historically, except Greece a series of countries faced recession periods, after wars or political and social imbalances. However, at that periods of time the trade was not internationalised and the investments were mainly in a domestically way. The pattern has already changed and all the members in a world competitive market may need complementary efforts to each other and thus facing successfully not only the forthcoming business cycles in the globalised economy but also the increased competitive world arena.
For Greece, this period, the statistical authorities predict drop in GDP of 1.4% for the current year and 1.2% in 2016, while for 2017 forecasts growth of 2.1%. It estimates that recovery will be strengthened in 2017, as well as structural reforms and stronger external demand will boost investment and job creation. For unemployment, the OECD forecasts a reduction in the rate of year to 25.2% from 26.5% last year and a further reduction in 2016 to 24.8% in 2017 and 23.4%. The report notes that unemployment will decline, but gradually, which stresses the importance of efforts to reduce poverty, the report notes.
Greece has made significant efforts to raise educational attainment levels according the OECD (2011) report. Despite these improvements in the last decades, the country continues to lag behind the OECD average by an average of six percentage points in upper secondary, post-secondary non tertiary and tertiary attainment.

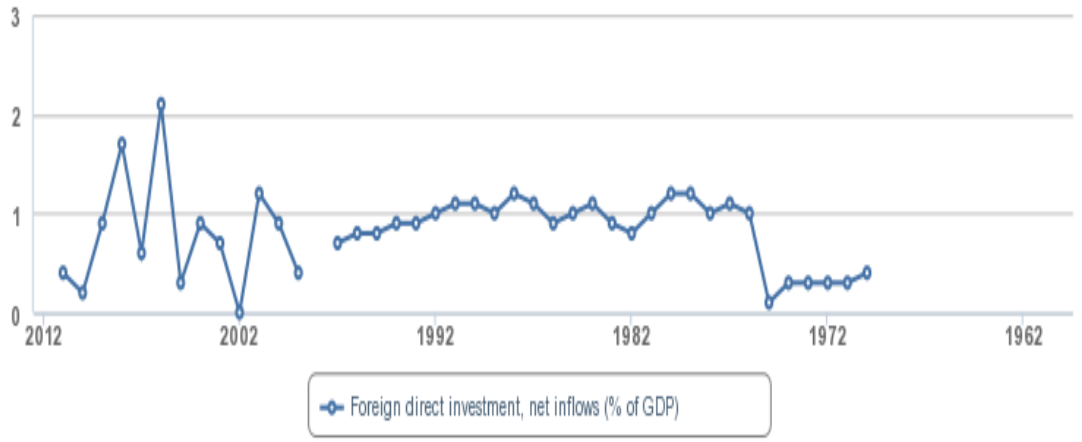
Our dissertation has the potential to be developed into a broader analytical framework by imputing new measures and recent variables that have been obtained through new data sets by organisations like those mentioned throughout this paper. In this way, more specific and valuable results could be handed in. Hence, we will be able to achieve an even broader knowledge on this promising scientific field of economic analysis, known as Foreign Direct Investment.

9 Conclusion

The reason behind this work was to continue with the unanswered questions from previous empirical works concerning human capital variables in attracting inward FDI. We were especially confronted with the interesting issue of gender impact on FDI. Our results until now either for the whole population or for the two genders separately, gives us a clear picture of the significance of women labour force for the third academic level.
In line with these findings, an econometric analysis based in the author's research provides guidance on major human capital determinants of FDI, where a strong emphasis should be placed on, by policymakers in these countries, regarding

enrolment, completion ratios, labour force with academic orientation. In a next stage, we should to identify the main factors which negatively affect the labour market position of women in Greece and have implications for the country's productivity.The recent experience of the financial crisis states -among others – that the relationship between the Foreign Direct Investment and the socio-economic cohesion among the Member States in European Union becomes crucial and imperative. The impact of the international trade and investments should be evaluated by governments and policy makers and consequently all the members record positive growth rates; a moral perspective for Europe.

Appendix 1.1



Source: World Development Indicators

Appendix 1.2

Year	Value	Year	Value
1970	0.40	1991	1.13
1971	0.30	1992	1.03
1972	0.34	1993	0.94
1973	0.29	1994	0.88
1974	0.28	1995	0.81
1975	0.09	1996	0.77
1976	1.03	1997	0.73
1977	1.12	1999	0.43
1978	1.01	2000	0.87
1979	1.18	2001	1.22
1980	1.24	2002	0.04
1981	1.04	2003	0.69
1982	0.84	2004	0.92
1983	0.93	2005	0.29
1984	1.06	2006	2.07
1985	0.98	2007	0.64
1986	0.88	2008	1.68
1987	1.09	2009	0.86
1988	1.25	2010	0.18
1989	1.00	2011	0.38
1990	1.08		

Source: International Monetary Fund

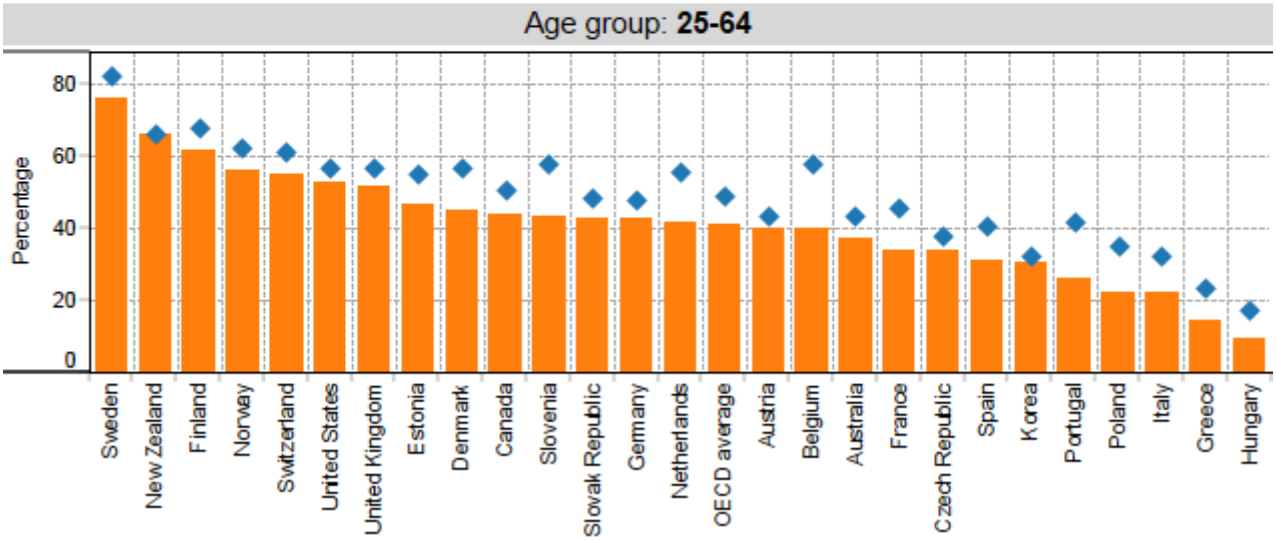
Appendix 2.1

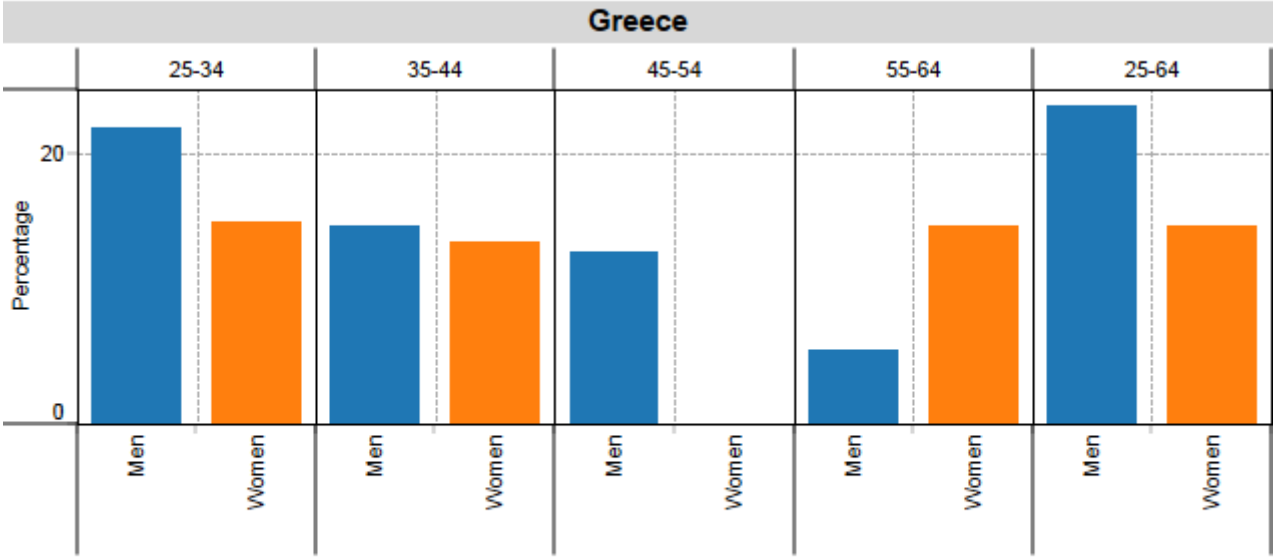
2007 data.

Seelct an age group to compare countries 25-64

Select a country to compare age groups Greece

Sex Men Women





Source. OECD Education at a Glance, 2012

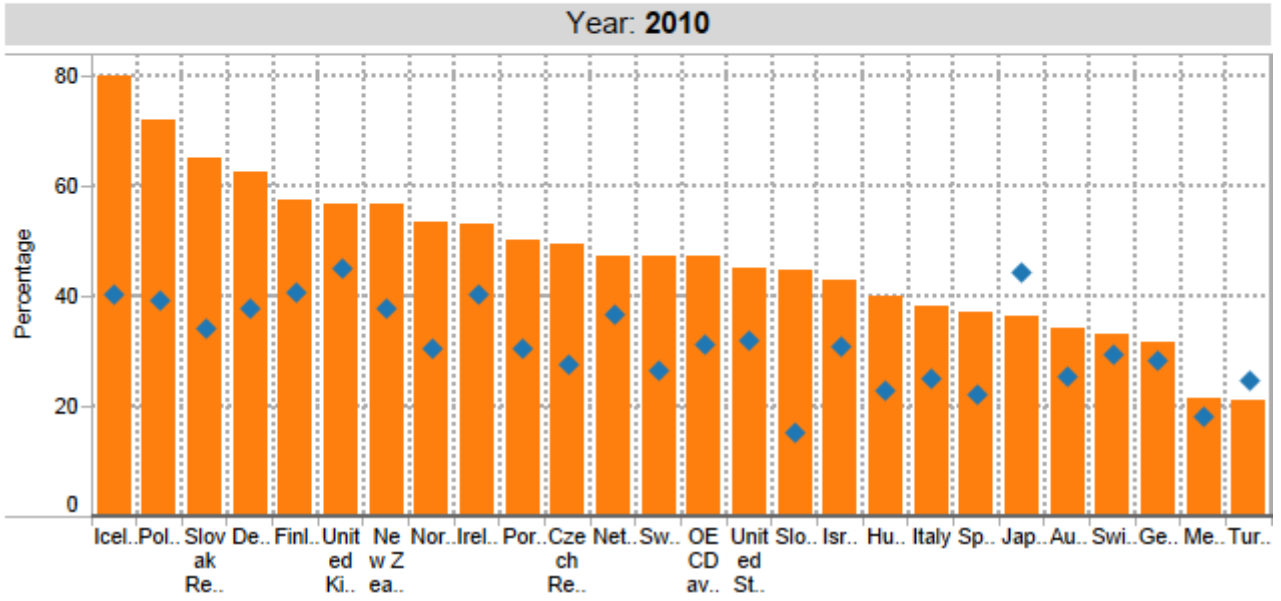
Appendix 2.2

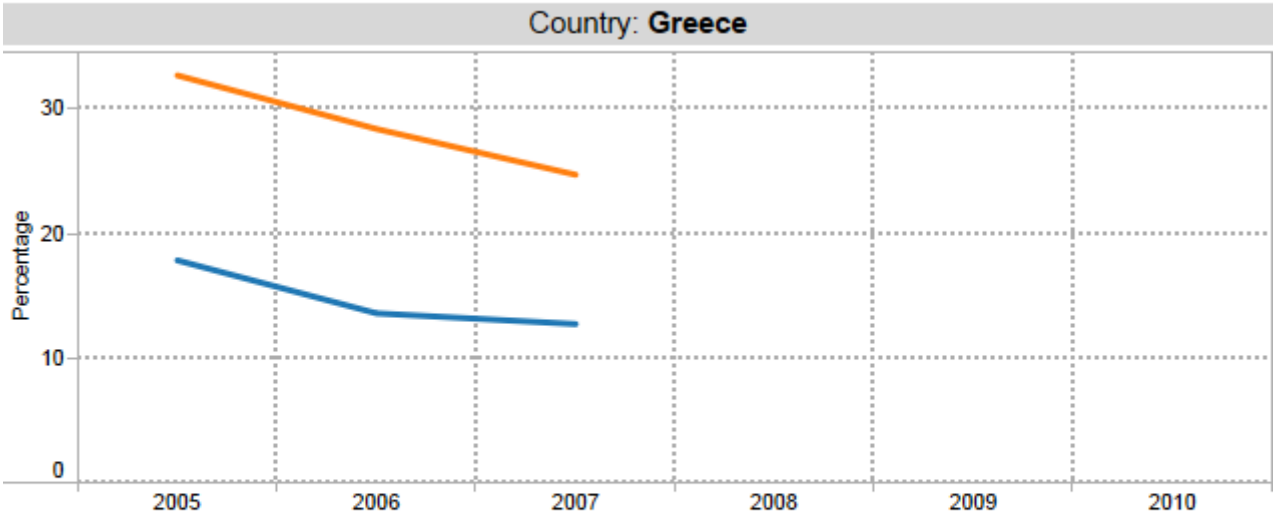
Sum of age-specific graduation rates in tertiary type A education, first graduations only.

Select a year to compare countries 2010

Select a country to compare years Greece

Sex Female Male





Source: OECD Education at a Glance, 2012

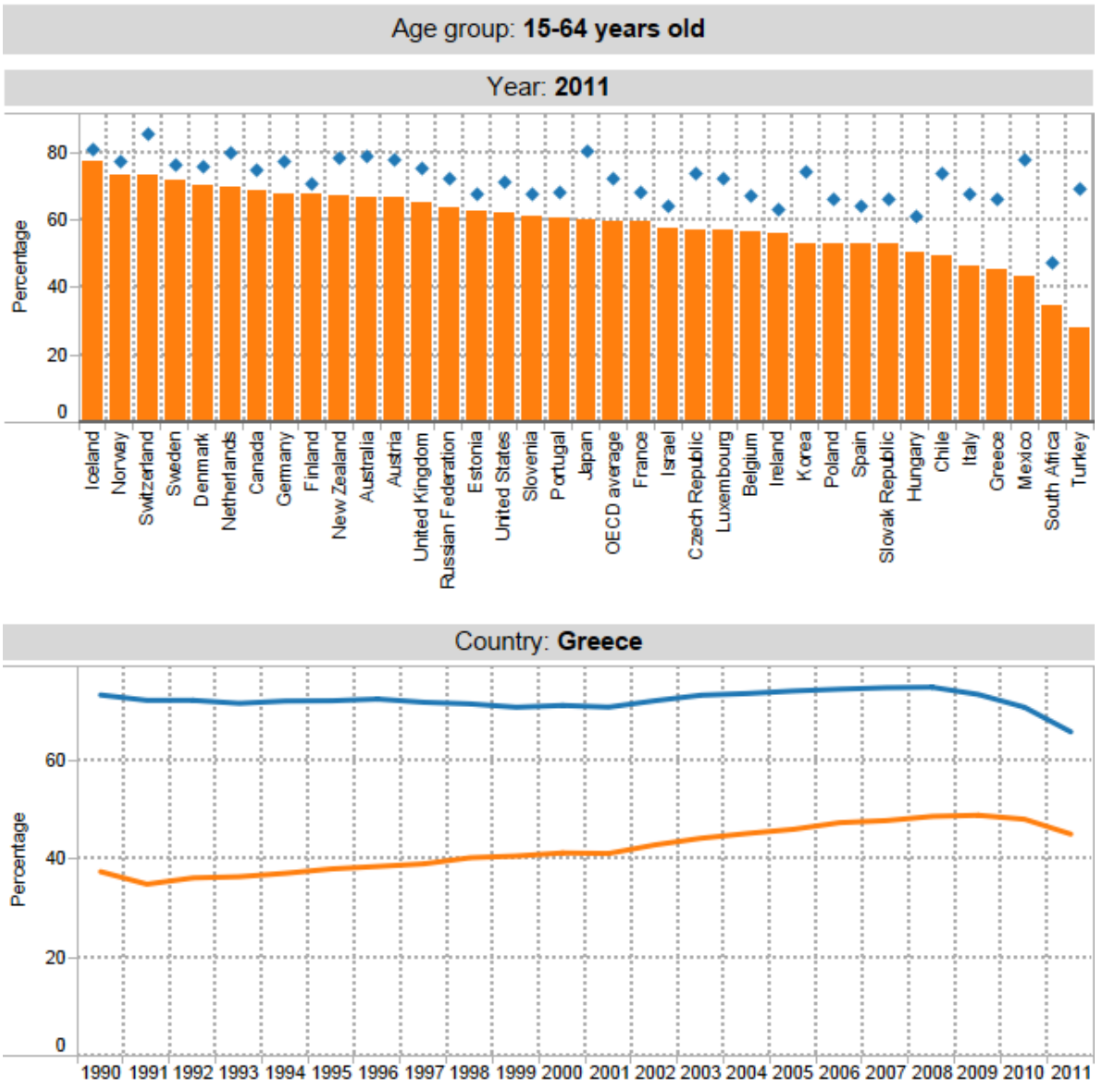
Appendix 2.3

Select an age group 15-64

Select a year to compare countries 2011

Select a country to compare years Greece

Sex Men Women



Source: OECD Employment Database 2012

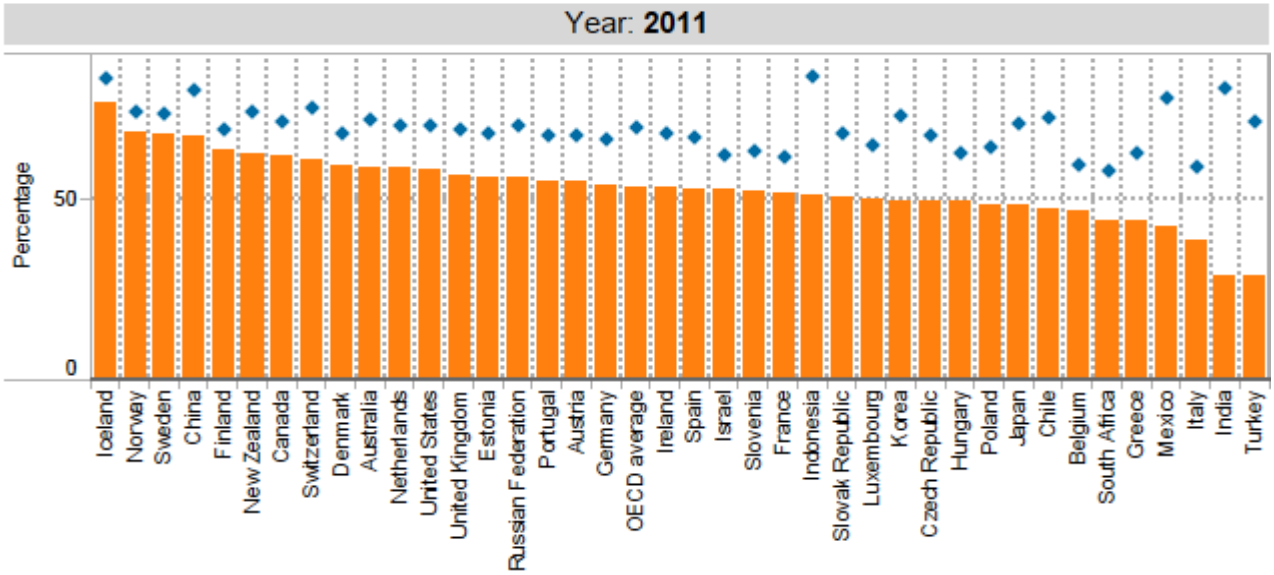
Appendix 2.4

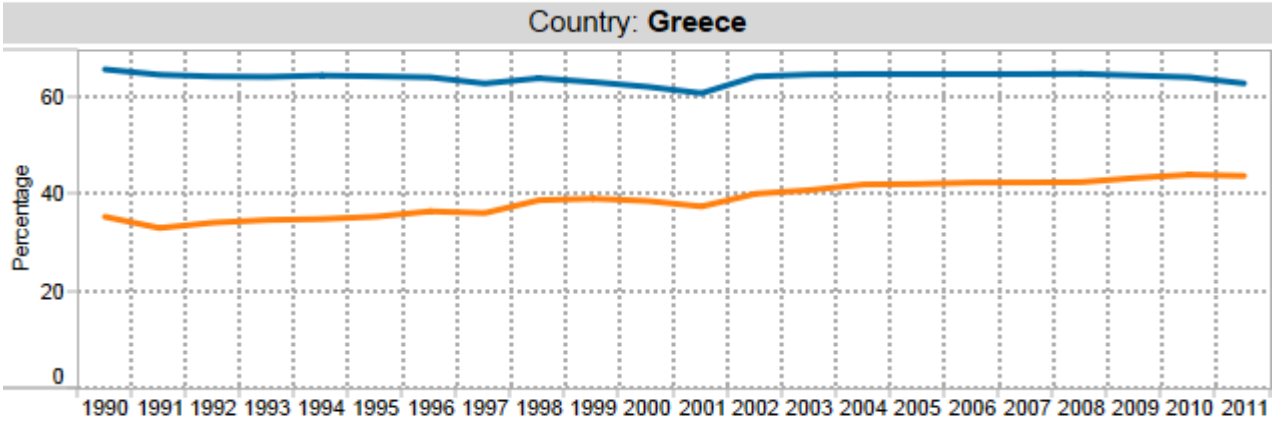
Select an age group 15+

Select a year to compare countries 2011

Select a country to compare years Greece

Sex Men Women



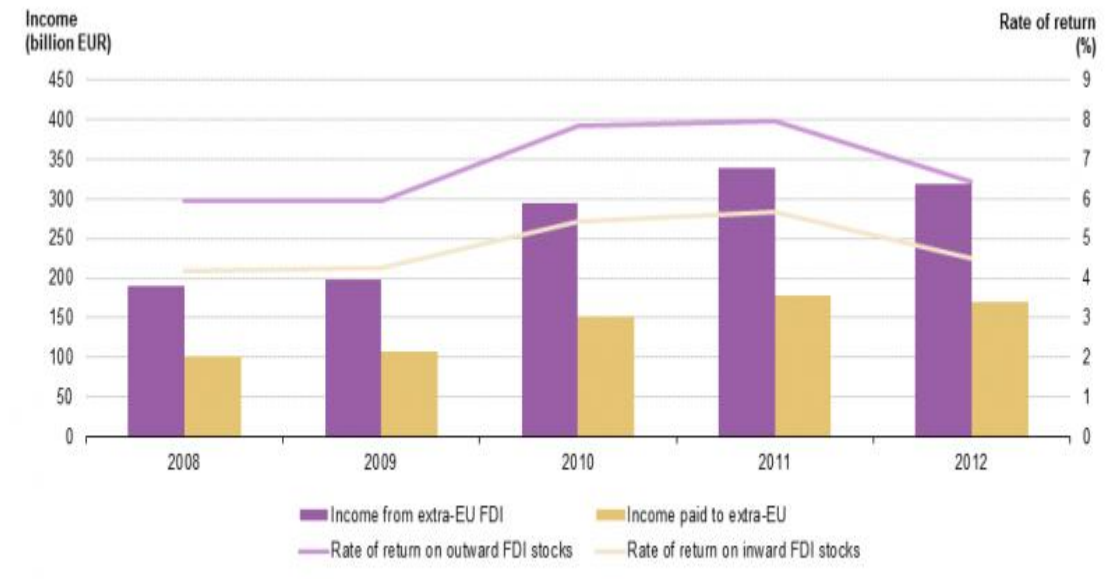


Source(s): OECD Employment Database 2012

For China, India and Indonesia, ILO (2012), "Key Indicators of the Labour Market (KILM)"

Appendix 3.1

Appendix 3.2



(1) Rate of return: income in year t / stocks at the end of year t-1.
Source: Eurostat (online data code: bop_fdi_main)

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