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Skilled Labour market and economic development in the Mediterranean area

by

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Skilled Labour market and economic development in the Mediterranean area

by

Adriana Luciano*, Roberto Di Monaco**

Abstract

Steady growing literature has examined the relationship between human capital and economic development. However, there is no empirical evidence that the increase in education is always related to growth. The purpose of this paper is to explore the links between human capital and growth in Mediterranean countries to put the premises for further research on single countries and on the functioning of the Mediterranean high skill labour market and the relationship with the economic development of the whole area. The First step of our analysis is to measure the increasing stock of human capital in the labour force and the population in a working age over the past twenty years, for the Mediterranean countries (Italy, France, Spain, Greece, Croatia, Slovenia, Turkey, Syria, Israel, Egypt, Libya, Tunisia, Algeria, Morocco). The second step will be to single out the contribution of human capital to the economic development. Data of the World Bank is available to carry out this study. The third step will be to study the allocation of labour across sectors of the economy; and the public and private sector. This allocation will be put in relationship with labour market institutions. Furthermore, to deepen the relation between human capital and growth, the fourth step will be to utilize UNPD's aggregate indexes to measure gender inequalities (GDI) and the importance of women in society (GEM) in Mediterranean countries, as intervenient variables. In the last step, we will analyse migration flows of skilled people among these countries in order to introduce the topic of brain drain and brain waste in the analysis. In conclusion, the analysis shows that the relationship between the development of tertiary education and economic development is not at all linear. The countries overlooking the Mediterranean not only have differing levels of economic and educational development, but, above all, they have employment markets regulated by different institutions and different social institutions determine the opportunities for access to resources by women and men. Deeper analyses by country which could enrich statistical analysis with information concerning the structures of the economic and non-economic institutions that regulate the development of education and the functioning of the labour market, as well as suitable further investigations into the structure of respective economic systems, are needed to formulate useful hypotheses in order to reach agreements which foster a balanced exchange of persons and knowledge between countries that are increasingly interconnected in economic, social and cultural terms.

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1. Introduction

The popular uprisings that have spread through numerous countries on the southern shore of the Mediterranean sea have forcefully placed at the centre the problem of relations between the sixteen countries in the area, relations which have seen several changes since the end of the Second World War. Decolonisation, the six-day war, the Suez canal crisis and the bitter conflicts involving the eastern shore after the collapse of the communists regimes are only a few of the events that have marked important turning points in the relationships between the countries in political-diplomatic terms, but also in terms of economic relations and migratory flows.

Concerning the last aspect, after the *trente glorieuses* years, which saw some countries in the area (in particular, Italy, The Maghreb, Spain and Turkey) involved chiefly in providing young manpower to the more industrialised countries of continental Europe, the migratory flows which set sail from the southern and eastern shores towards the northern shore were the product of a mesh, sometimes overly entangled, of economic and political factors. The figure of the migrant for economic reasons, the political refugee and migrants (especially women) in search of freedom and democracy have become increasingly intertwined and confused. Italy finds itself, not only geographically speaking, at the centre of these flows and its recent transition from the condition of a country of emigrants to that of host country has not favoured a timely implementation of satisfactory migratory policies to address the complexity of the phenomenon. Furthermore, Italy maintains the status of a country of both immigrants and emigrants seeing the entry of migrants who mainly occupy unskilled jobs (regardless of their real level of schooling and qualifications) and the outgoing of highly skilled migrants who are attracted by the possibilities of gaining more recognition abroad than in Italy for their educational credentials.

While it is above all fear of the real or presumed risk of invasion that has made the idea that "immigrants must be helped in their own countries" a commonly expressed, the plan to turn the Mediterranean into an area of balanced exchange and uniform growth of the different countries, which, formally, has long been at the top of the political agenda of the European Union, has so far not made much progress. However it has once again become a pressing issue at this time when the conflicts in some countries, as well as costing the unacceptable toll of blood of an entire generation of young people without a future, bear the risk of having serious repercussions on the whole area.

A realistic political agenda geared to reaching concrete objectives of balanced and sustainable development in the Mediterranean countries requires support from an analytical structure that enables assessment of the actual dynamics of development in the various countries and identification of the causal put forward a number working hypotheses for a research programme focused on the relationship between human capital and development in the countries of the Mediterranean area. It is assumed that this relationship between the economic, institutional and cultural factors which can decrease or increase the differences between the countries, foster or hinder cooperation. This article aims to, which is apparently the least controversial in the literature on economic development, is actually rife with interpretational difficulties and requires deeper investigation than is possible using the most important International data, (World Bank, ILO, UNDP, etc.) which are usually used to deal with these issues.

2. Human capital and economic development in the countries of the Mediterranean

Human capital is formed through formal education, but also through informal learning which takes place in working and non-working contexts of life, and is given value on the labour market where it meets or does not meet a demand for work that corresponds, to varying degrees, to its own qualitative characteristics. Adopting a simple and intuitive definition of human capital such as the one just proposed, immediately bring into the light the difficulties involved in research.

In international literature, human capital is measured in the number of years of formal education, the rate of literacy and participation at the different levels of education (primary, secondary and

tertiary). Only recently, the OECD set up a research programme aimed at measuring the level of skills possessed by the population at the different levels of education and the results of the first investigations have already demonstrated effectively how wide the variance is in skills possessed at corresponding levels of education or years of schooling (OECD 2007).

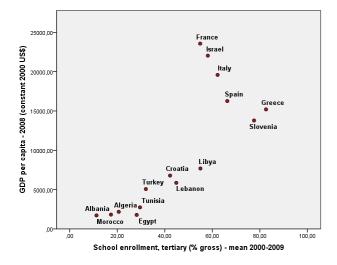
In terms of the value placed on skills in the labour market, Pissarides and Véganzonès-Varoudakis observed in a paper a few years ago (2005):

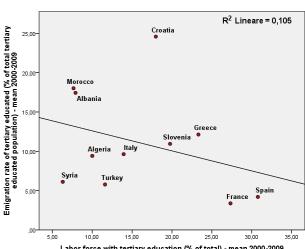
Looking at what data macroeconomists have on labor markets, and what propositions have been put forward by growth theorists for the link between labor-market outcomes and growth, it becomes obvious that not much progress can be made within the current cross-country research agenda. Deeper country research is needed that pays attention to the institutional structure of the country in question and to the links between human capital, the institutional structure and the growth outcomes.

Starting with these considerations, in the rest of this article we will retrace some of the problematic areas of the relationship between human capital and economic development to propose future lines of research. If we look at the relationship between GDP in 2009 and university enrolment in the last decade (cf. fig.1), we can identify three areas with greatly varying performances. In the countries on the northern coast, whose GDP levels and participation in tertiary education are the highest, there is an inverse relationship between the two variables: Spain, which has the lowest GDP, has the highest number of students registered at university. Two countries on the eastern coast, Slovenia and Greece, with GDP levels between those of the northern coast and countries on the southern coast, have the highest percentage of university students. In the countries on the southern coast, there is a positive relationship between the two variables

Figure 1. Economic development and higher education in mediterranean countries

Graduates who emigrate or remain in the labor force in mediterranean countries





Source: authors' calculation from WORD BANK, data catalog, World development indicators, 2011

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¹ This work is part of a research programme on the graduate labour market of the University of Turin, which has the following main references: Atlante delle professione (www.atlantedelleprofessioni.it), a web tool which provides information on the job opportunities and development dynamics of the labour market; the UNESCO Chair on sustainable development in the Mediterranean area and PRES Euro-Mediterranean of which the University of Turin is a partner along with a number of French universities. For these reasons, the analysis will mainly focus on the problems related to tertiary education.

² The data refer, where possible, to the following countries: Spain, France, Italy, Slovenia, Croatia, Albania, Greece, Turkey, Syria, Lebanon, Israel, Egypt, Libya, Tunisia, Algeria, Morocco

There is thus a tendency towards long-term convergence, which suggests that an increase in tertiary education constitutes a possible indicator of the increase of the knowledge economy in countries that have recently reached industrialisation. But it also suggests that there might be a phenomenon of over-education, and a possible wasting of intellectual resources, not only in more developed countries.

Such a hypothesis was foreshadowed in the already cited work of Pissarides and Véganzonès-Varoudakis (2005), which reconstructs the dynamics of GDP and education³ in several countries over a forty-year period.

Table 1. Average number of schooling years, total population over 15 years old

Region	1960	1980	1999
Developed economies	6.7	8.3	9.5
Eastern Europe	4.5	6.3	7.2
MENA	1.6	3.7	5.8

Source: Pissarides e Véganzonès – Varoudakis 2005

While the rise in schooling continued progressively between 1960 and 2000 (tab.1), during the same period, the GDP trends in the MENA countries progressed differently. After a significant rise in the 1960s and 1970s, in the 1980s, following the fall in oil prices, growth ground to a halt, and this was accompanied by a strong reduction in investments and employment. The recovery during the 1990s did not reach sufficiently high levels to bridge the gap with more developed countries. Since, as we have seen, the level of schooling in the population continued to rise throughout the period, we must conclude that the economic return on investment in human capital did not progress linearly and was lower than forecasted. The working hypotheses that Pissarides and Véganzonès-Varoudakis made from this analysis were that:

it is possible for human capital to have a high private rate of return but not contribute to growth, when the institutional structure of the labor market is such that "rent seeking" or other less productive activities yield a higher private return to the individual than do growth-enhancing activities. In some cases, the contribution of human capital to growth can be hampered by its low quality, or by its unsuitable nature, as when skill mismatches and market rigidities lead to the unemployment of qualified people. (Page 4)

3. Waste of human resources? The issue of skilled migrations

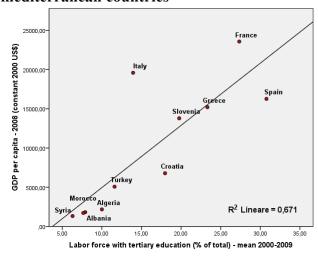
However, there are other signs that the gradual convergence of levels of education in the Mediterranean region are not in step with processes of development, but rather that it generates a waste of skilled human resources.

The first of these concerns skilled migrations. Some countries are heavy exporters of skilled human capital. Italy is among these countries on the northern shore. Among the countries on the eastern shore are Albania, Croatia, Greece and Slovenia. Among those on the southern shore are Algeria and Morocco.

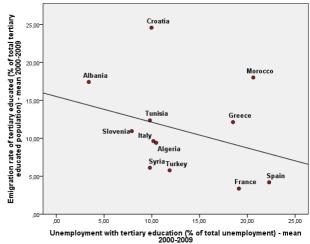
Croatia, Slovenia and Greece which have high percentages of graduate manpower are among the countries which are both heavy producers and heavy exporters of human capital. Given due differences, other countries, such as Italy, among the more developed countries, and Morocco and Albania, among the poorer countries in the area, are characterised by low production of human capital and a high level of exportation.

³ The essay refers to a paper by Barro and Lee (2000) and measures the level of education in terms of years of schooling.

Figure 2. Economic development and higher education mediterranean countries



Graduates who emigrate or remain in unemployed in mediterranean countries



(without the case 'Israele')

Source: authors' calculation from WORD BANK, data catalog, World development indicators, 2011

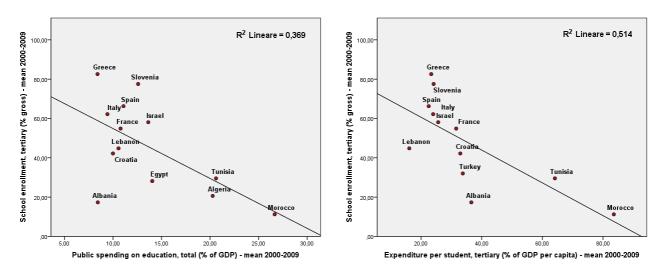
Since the 1970s, the recipient countries with the highest inflows of skilled migrants have been Australia, Canada, France, Germany, United Kingdom and United States (UN 2009, OECD 2007). The United States currently hosts 45% of all highly skilled migrants residing in OECD countries, while the only Mediterranean country which continues to benefit from skilled migration is France. This phenomenon, which has mainly been read in terms of the brain drain, in fact does not only have negative consequences for the emigrant countries. Regarding this issue, a number of scholars have underlined the fact that, in addition to being a significant source of money transfers to countries of origin, skilled migrations directly and indirectly favour cultural and economic exchanges and incentivise local investments in education (Avveduto S. Luciano A. 2010). According to this point of view, supported by a certain quantity of empirical evidence (Stark O. Fan C.S. 2007), one of the reasons driving young people in developing countries to invest in tertiary education is precisely the possibility of emigrating.

Moreover, driving factors are not the predominant explanation for skilled emigration. To give just a few examples: France and Morocco have the same graduate unemployment rate, but the latter has ten times the emigration flows as the former, when compared to the graduate population. Similar considerations can be made when comparing Italy with Croatia (cf. fig.1)

There remains the fact that investment in tertiary education, in relation with public spending, varies greatly and is particularly high in the very countries whose to increase their own human capital is greater (fig.3).

Hence, these countries go to great lengths when it comes to education policies, even though most of their trained resources do not remain within the domestic market and, when they do not emigrate, have good chances of being undervalued in their own countries.

Figure 3. Tertiary education and investment of public resources in mediterranean countries



Source: authors' calculation from WORD BANK, data catalog, World development indicators, 2011

In order to investigate the reasons for different levels of yield on capital (how much does the status quo yield? What institutions and regulatory structures enhance the yields?), the relationship between GDP and 4 factor areas were explored: investments in higher education; human capital among the employed; technologies and services; the capacity to place value on female human capital.

All the indicators used to describe variables were strongly correlated.

Nevertheless, the multiple regression analysis showed that the indicator that was able to best represent the multidimensional nature was that of the employment of women in the service sector. This indicator alone almost entirely absorbs the deviation in the level of development with an Rq of 0.76

Thus, the value placed on female human capital, in terms of education and then employment in the tertiary industry, is a proxy for the development of income and wellbeing in families (double income, reduction in poverty and vulnerability, but also of the economic system's capacity to produce growth (growth in services to businesses and individuals, growth in the knowledge economy, etc...).

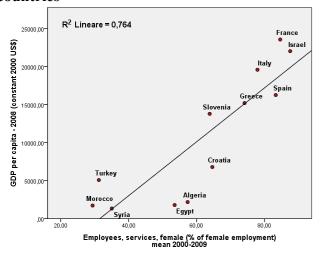
Basically, it measures both socio-cultural growth as well as economic and production growth, with all the problems that this presents in terms of models for promoting development and the role of education systems.

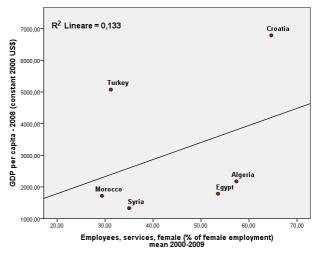
Table 2. Economic development and relevant factors in the use of Human Capital

Pearson correlations	_	capita –2008
	(constan	at 2000 US\$)
Investments in higher education (means 2000-2009)		
investments in higher education (means 2000 2007)	Sig. (2-	
	code)	N.countries
School enrol tertiary gross mean	,001	15
School enrollment tertiary male gross mean	,001	15
School_enrollment_tertiary_female_gross_mean	,000	15
level of human capital (means 2000-2009)		
Labor force with tertiary education perc of total mean	,017	12
Researchers_in_R_D_per_million_people_mean	,002	11
level of technology and services (means 2000-2009)		
ICT_expenditure_per_capitamean	,000	11
Manufacturing value added constant 2000 US\$ mean		14
Services value added constant 2000 US\$ mean		14
High technology exports of manufactured exports mean		15
Employees_services_male_of_male_employment_mean	,004	12
Women's human capital development (means 2000-2009)		
Labor force tertiary education female_of_female_l f mean	,039	11
Share of women employed in the nonagricultural sector mean		15
Labor participation rate female of f pop ag 15 mean		16
Employees services female of female employment mean		12
Labor_force_female_of_total_labor_force_mean		16
Unemployment_tertiary_education_male_of_m_unempl_mean		12

Source: authors' calculation from WORD BANK, data catalog, World development indicators, 2011

Figure 4. Economic development and female employment in services in mediterranean countries





GDP per capita<10.000 US\$

Source: authors' calculation from WORD BANK, data catalog, World development indicators, 2011

4. A critical variable: regulation of the labour market

Two ideas come out from this analysis. First: following Pissarides and Véganzonès-Varoudakis, we need a depth examination of the labour market in the various countries. To start with, the sectorial composition of employment. According to a study by the World Bank (2004) of a number of MENA countries, service-sector employment, which is frequently used as a proxy for a country's level of economic development, ranges from 33% in Morocco, 49% in Egypt and 74% in Kuwait⁴. However a previous study (Berthelemy et al. 1999), revealing a strong presence of public sector employment in the service industry of these countries, suggests that this type of employment offers little contribution to development

Table 3. Share of public sector in non-agricultural employment and human capital

Region	Average years schooling	Share of public sector	Estimated loss GDP growth, 1985-95
Sub-Saharan Africa	4.2	32.9	8.8
Asia	5.2	19.8	4.9
OECD	9	20.6	5.1
Latin America	6.2	17.7	4.3
MENA	4.4	31.7	8.4

Source: Berthelemy et al. (1999); Pissarides and Véganzonès-Varoudakis, 2004 page 9.

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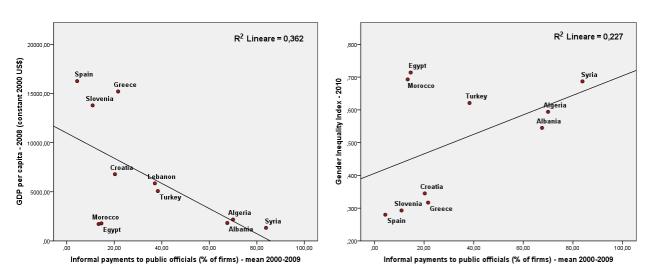
⁴ The data refer to the late 1990s.

The evaluation made by Barthelemy et al (1999) regarding the average loss of GDP growth due to public-sector employment has different explanations which, nevertheless require accurate investigation within the different countries. In fact, it is possible to hypothesise low productivity in the public sector and low contribution to economic development and, where the more educated labour force is concentrated within it, it can be supposed that privileged conditions are created for these workers in terms of wages and job security, which, in addition to significant social inequalities, also determine excessive rigidity in the labour market.

A further important indicator of the role, not only of non-productivity, but also of tampered development, that may be played by Public Administration, involves corruption, which may be measured through a proxy of the estimated percentage of companies that have to pay to obtain action from public administration. According to the data processed by World Bank the level of corruption⁵ is inversely proportionate to development and the bridging of gender inequalities. Syria, Albania and Algeria are countries whose high level of corruption is accompanied by a low GPD per capita with a high level of gender inequality.

This relationship does not become statistically significant owing to the presence, as seen in the graph, of two countries (Egypt, Morocco) which constitute a special case, with high levels of gender inequality and lower estimated levels of corruption, according to the available indicator. This also requires further investigation.

Figure 5. Economic development, gender inequality and corruption in public administration in mediterranean countries



Source: authors' calculation from WORD BANK, data catalog, World development indicators, 2011

⁵ Defined as Informal payments to public officials (percentage of firms expected to make informal payments to public officials to "get things done" with regard to customs, taxes, licenses, regulations, services, and the like). WORD BANK, data catalog, World development indicators, 2011

5. Human capital and gender inequality.

The second idea concerns female employment in the service sector and its contribution to economic development. The point to clarify concerns what we mean by service-sector employment, which, depending on the country, may involve more or less the public sector.

Employees, services, female (% of female employment) mean 2000-2009 Employees, services, female (% of female employment) mean 2000-2009 Spain eroatia Slovenia 80.00 60.00 Algeria Egypt Croatia 50.00 Egypt 40,0 Syria 30,0 R² Lineare = 0.56 R^2 Lineare = 0,294 10.00 15.00 20.00 25.00 15.00 17.50 22.50 nditure (% of GDP) enditure (% of GDP) General government final consumption mean 2000-2009 nt final consumption mean 2000-2009

Figure 6. Female employment in services and public employment in mediterranean countries

GDP per capita<10.000 US\$

Source: authors' calculation from WORD BANK, data catalog, World development indicators, 2011

As there are no disaggregated data available on the composition of employment in the public and private sectors, we have used the percentage of public spending of GDP, as an indicator for the weight of employment in the public sector.

The relationship supposes that a component of female employment in the service sector is closely related to public spending, and thus can be translated into non-productive spending in relation to the capacity to promote GDP growth. This relationship becomes significant for countries with lower incomes.

However, the issue of the economic role of women and the relationship between education level, employment and development demands further enquiry beyond these preliminary considerations. First of all, it is important to recall that the differences in levels of education for women in countries in the Mediterranean area are still very high. In 2010, the percentage of women over the age of 25 with secondary or higher education ranged from 20.1% in Morocco, 79.6% in France and in 83.2% in Albania. These differences in levels of schooling are only partly related to the other indicators that make up the Gender Inequality Index (Human Development Report 2008)⁶. Albania, for example, has an inequality index higher than 0.5, very close to that of Algeria and Morocco (0.6 and 0.7), which have decidedly lower rates of female secondary and post-secondary schooling (36.3 and 20. 1). Conversely, countries like Slovenia, Croatia and Greece, which have schooling rates ranging from 46% to 64%, have an inequality index of around 0.3, very close to that of countries like Italy and Spain whose levels of female secondary and post-secondary schooling are higher than 70%.

⁶ The eight indicators concern: maternal mortality, adolescent fertility, seats in Parliament, population with at least secondary education, labour force participation, contraception prevalence rate, antenatal coverage of at least one visit, birth attended by skilled health personnel

Again in this case, if more highly aggregate indicators are compared, such as GDP and Gender Inequality Index, the relationship appears to be very strong, in keeping with the idea that economic growth goes hand in hand with a reduction in gender inequality, and that this reduction in turn leads to further improvements in the economic conditions in the countries.

R² Lineare = 0,496 R² Lineare = 0,775 25000.0 8000.0 Libya GDP per capita - 2008 (constant 2000 US\$) (constant 2000 US\$) 20000,0 6000.00 Turkey 15000.0 - 2008 per capita 4000.00 Croatia GD 5000.0 2000.00 Egypt Egypt ,200 400 ,600 Gender Inequality Index - 2010 ider Inequality Index - 2010 GDP per capita<10.000 US\$

Figure 7. Economic development and gender inequality in mediterranean countries

Source: authors' calculation from WORD BANK, data catalog, World development indicators, 2011 and from UNDP, Human Development Report 2010, statistical annex, table 1, p.143

In a recent OECD study (Morrisson C. Jütting, J 2004) this idea is questioned. Making a comparison of four geopolitical regions (South Asia, Southeast Asia, Latin America and the Caribbean, Sub-Saharan Africa, North Africa and the Middle East), they compare the following relationship model:

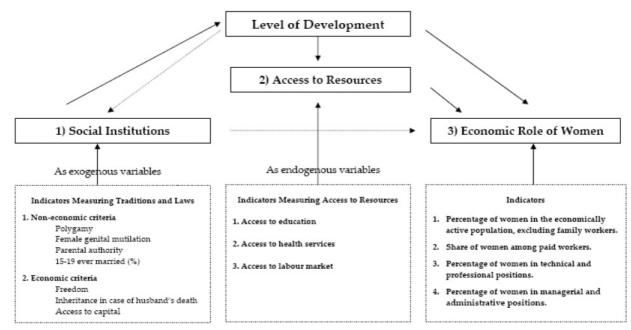


Figure 8. Indicators affecting the Economical Role of Women

Source: Morrisson C. Jütting, J 2004, page 14

The results of the analysis are important and can be summarised into three points. The first concerns the regional differences which are very strong and show how GDP growth does not always correspond to a significant participation of women in economic life, even when levels of education are relatively high. The case of countries in the Middle East and North Africa is significant, as their levels of participation in tertiary education are relatively high and comparable to those of women in Southeast Asia; however the percentages of women holding high professional positions are very low.

The second point concerns the fact that gender inequalities in participation in economic activities are not always higher in countries with a Muslim majority, demonstrating the fact that there are differing interpretations and applications of religious faiths between different countries and that these differences generate diverse social institutions.

Thirdly, the research shows that the creation of the human capital and its use in the labour market depend largely on the institutional structures present in the different countries. It is noteworthy to note the fact that, in countries where women are denied the opportunity of reaching high professional positions, the rate of participation in university studies may be twice as high, without this improving the economic role of women.

To sum up: from the brief considerations formulated above, follows that the relationship between the development of tertiary education and economic development is not at all linear. The countries overlooking the Mediterranean not only have differing levels of economic and educational development, but, above all, they have employment markets regulated by different institutions and different social institutions determine the opportunities for access to resources by women and men. Deeper analyses by country which could enrich statistical analysis with information concerning the structures of the economic and non-economic institutions that regulate the development of education and the functioning of the labour market, as well as suitable further investigations into the structure of respective economic systems, are needed to formulate useful hypotheses in order to reach agreements which foster a balanced exchange of persons and knowledge between countries that are increasingly interconnected in economic, social and cultural terms.

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