



# Nominal earnings fluctuation during the last financial turbulence in Cyprus

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## Abstract

The fluctuation of nominal earnings is highly correlated with the movement of nominal GDP growth. In boom spans, nominal earnings tend to grow, whereas in slumps tend to decline and thus, the nominal earnings path follows mostly, the business cycle.

From empirical data in Cyprus, nominal earnings growth had not always been equal to productivity gains leading to loss of competitiveness, whereas statistical data reveal the above trend was reversed as from 2012 onwards.

Furthermore, females' earnings growth has been maintained higher than males during both, earnings upswings and downturns during the decade 2006-2015. This process seems to have a positive impact on both the gender pay and employment gaps.

Moreover, nominal earnings trends in males and females employees exhibit that amid the financial crisis there existed some features embedded in the labour market that can adjust earnings without necessarily causing higher unemployment, whereby activating inter alia flexible forms of employments.

Recessions generally end with high productivity gains that continue into the initial quarters of recovery while, economic expansions are marked by growth in total hours worked and even higher growth in output resulting in higher productivity growth during the upturn in the business cycle.

The paper<sup>1</sup> examines the aforementioned tendencies containing some comparable sectoral average nominal earnings and attempts to draw some concrete implications on the earnings path of both, males and females employees in Cyprus and investigate their relationship with other extremely significant labour market variables.

Keywords: nominal earnings, unemployment rate, labour market, pay and employment gap, flexible employment

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<sup>1</sup> The views expressed herein are those of the author and do not necessarily reflect the views of the Ministry of Finance or the Government of the Republic of Cyprus

## I. THEORETICAL BACKGROUND

Nominal earnings<sup>2</sup> as reflected in gross wages and salaries determine in a large extent the fluctuation of all income earned by a labourer for its participation in the production process. Nominal earnings growth as measured by the labour component of GDP includes,<sup>3</sup> inter alia, apart from monthly wages, any 13<sup>th</sup> and 14<sup>th</sup> salary, arrears, vacant arrears, vacant payments, paid sick leave and vacant sick leave. The nominal earnings growth path seems to fluctuate around its long term trend.

At the same time, it is crucial to mention that there exists a strong relationship between labour market conditions and nominal earnings growth<sup>4</sup>. In general terms, it is obvious that labour market institutions influencing money wages, like legislation on employment protection, the existence or not of a minimum wage nationwide, legislation that determines employers and employees rights on strikes and the existence of powerful or powerless trade unions can influence labour and industrial peace and thus, the money wage rate in a specific economy. In parallel, the fluctuation of nominal earnings is linked with the fluctuation of total business activity and thus, it has a pronounced relationship with the business cycle, its implications and with other connotations implied.

Furthermore, the conditions<sup>5</sup> prevailing in the labour market can determine to some significant extent how money wages are set<sup>6</sup>. In this context, union coverage is positively correlated with higher unemployment rate, the same as union density. Moreover, the net effect of employment protection<sup>7</sup> legislation is ambiguous while tightening of it definitely raises long term unemployment. Additionally, a decrease in the tax wedge on employment by around 10% could reduce the unemployment rate by as much as 1.5 percentage point.

In theory, nominal earnings should reflect productivity growth to achieve efficiency gains and thus, retain unit labour costs and competitiveness at sustainable levels. In periods of time when wage growth increases of a faster pace than productivity growth the economy is heading to lower competitiveness and growth prospects, whereas when the opposite occurs growth prospects pick up. Under equilibrium conditions, earnings growth equals productivity growth and thus, labour cost is retained stable and employment is free to expand efficiently.

The nominal earnings path of Cyprus in 2006-2015 has exhibited signs of following the business cycle with some downward delay for 2007 and some upward delay in 2014 (Figure 1).

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<sup>2</sup> Nominal earnings reflect total gross earnings and the source is the Cyprus Social Insurance Services.

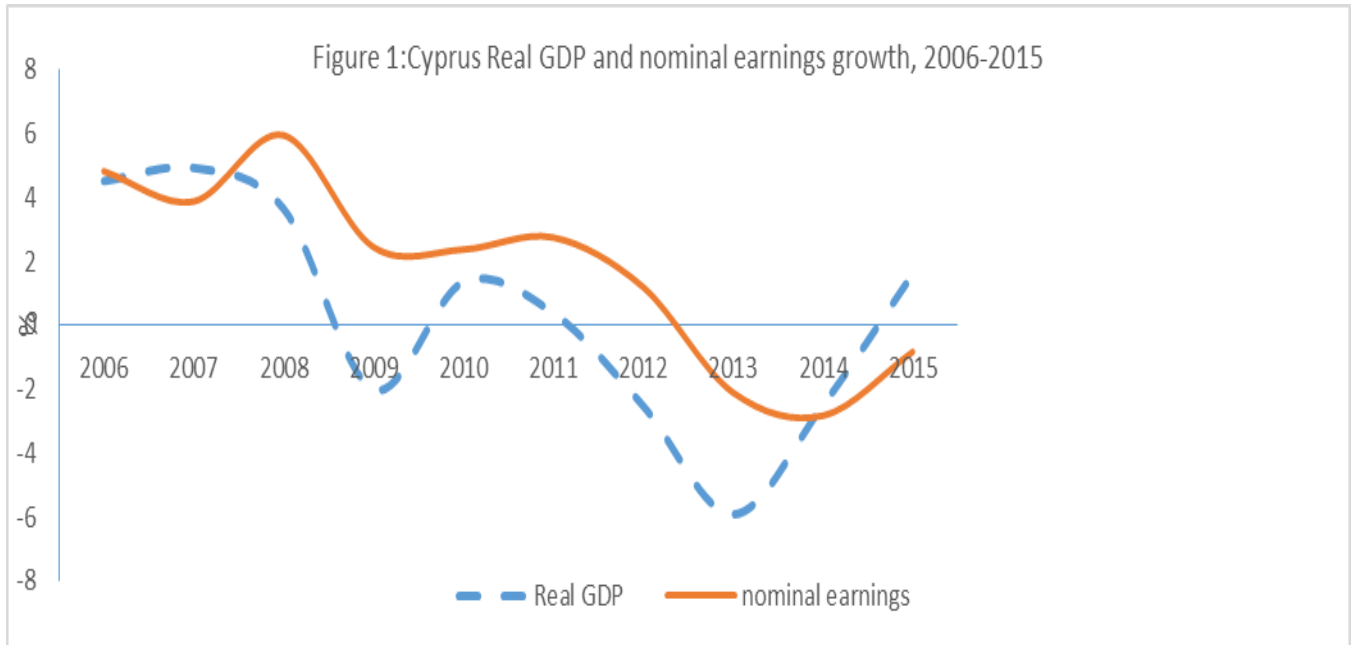
<sup>3</sup> Cyprus Statistical Service.

<sup>4</sup> ECB monthly bulletin, September 2007.

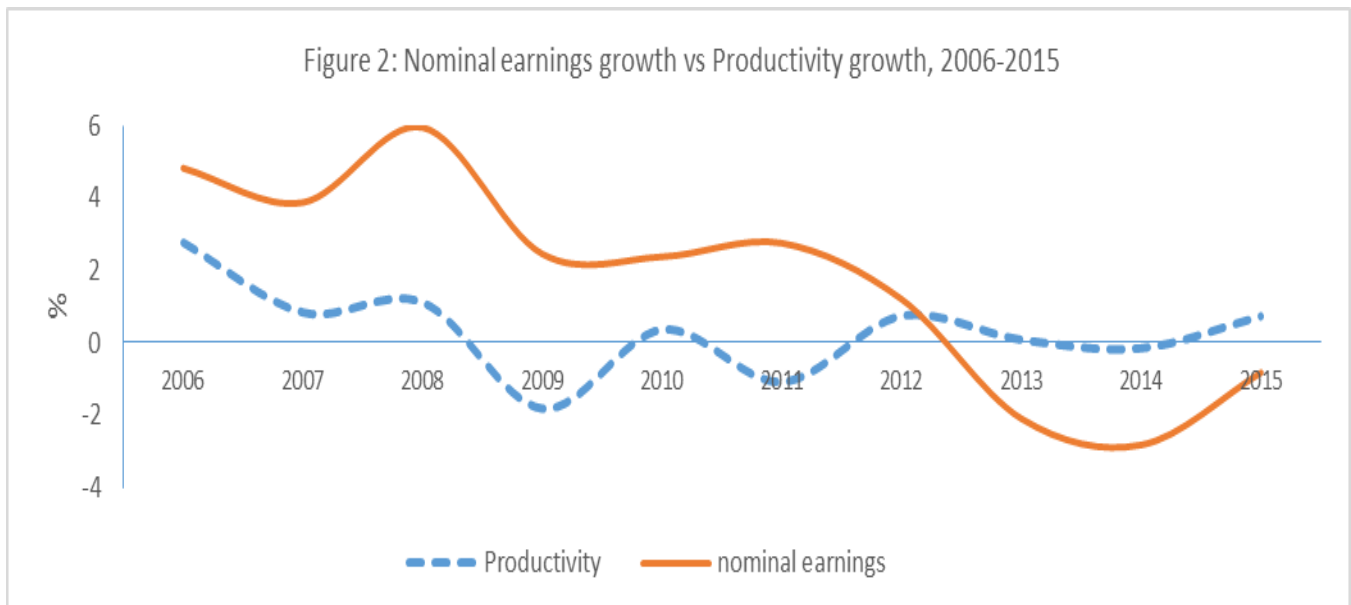
<sup>5</sup> Tvrdon Michal "Labour Market institutions and Labour Market performance in the European Union", 2008

<sup>6</sup> R. Layard "Labour economics and the current crisis", keynote address to the ECB/CEPR, Labour market workshop-11/12/2008.

<sup>7</sup> ILO "Economic and Labour Market Analysis", 2012



In Figure 2 in period 2011-2015, nominal earnings growth was highly correlated with the business cycle. In the period 2006-2012 nominal earnings have exceeded productivity<sup>8</sup> gains, whereas for 2007 and 2014 real GDP growth was equal or higher than nominal earnings. One significant observation is that when nominal earnings growth increase more than productivity gains, GDP will follow with a decline in next quarters.

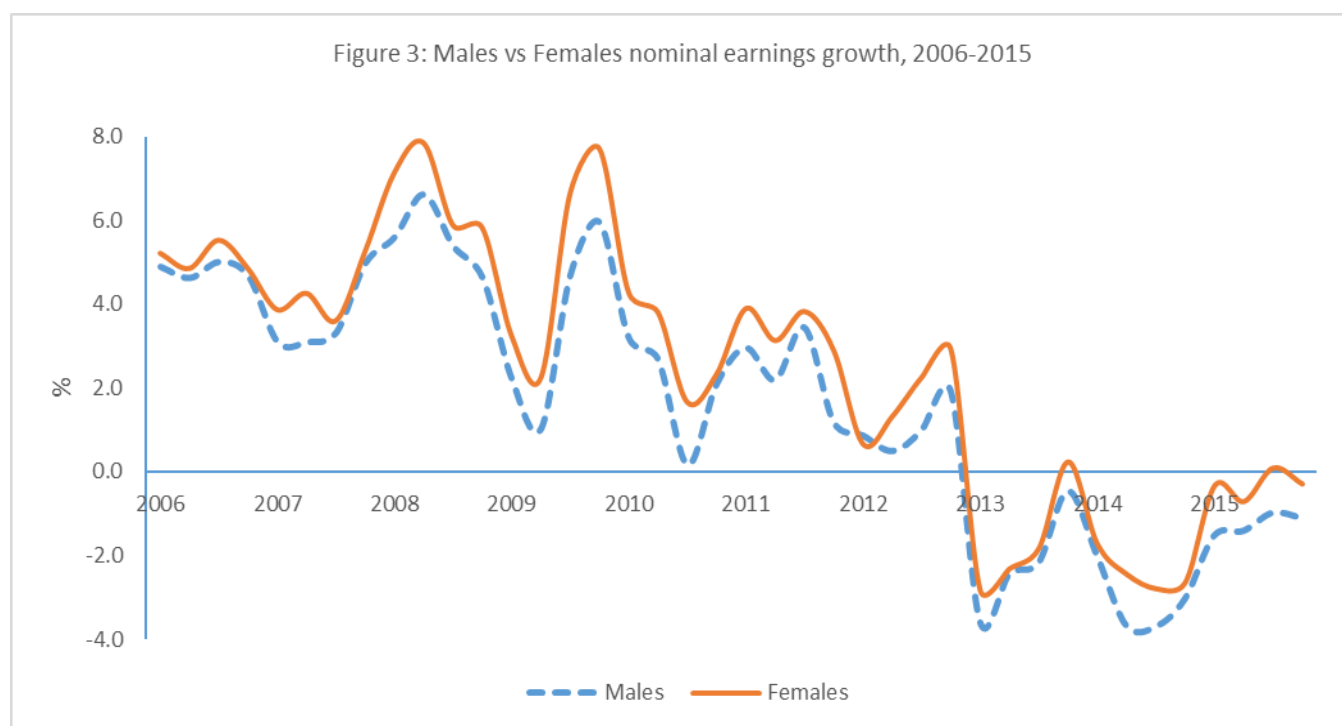


<sup>8</sup> Productivity is computed as real GDP by per person employed per annum.

This observation was validated in 2008 when nominal earnings were higher than real GDP leading to 2009 negative growth, while productivity has declined during years when nominal earnings have denoted earlier major upswings. For the period 2012-2015 productivity seems to have stood higher than nominal earnings, a sign that has led to the reversal of financial turbulence and has set the conditions for a steady growth thereafter.

## II. EARNINGS GROWTH FOR MALES AND FEMALES IN 2006-2015

Nominal earnings have denoted a steady decline since mid-2012 onwards, which was accelerated amid the financial crisis years. Earnings downward fluctuation was attributed mainly to wage cuts imposed for the implementation of the Economic Adjustment Programme and they were more severe in 2013 and 2014. The downward adjustment was sustained by the wage freeze in both public and private sector employees impeding from Cola, scale increments and general wage increases. This situation, inter alia, has improved, at the end of the day, the unit labour cost that is necessary to facilitate growth enhancing policy measures.



As observed in Figure 3, females' earnings growth was sustained higher than males in both upswings and downswings signifying that females' earnings growth has retained this trend in pre-crisis (2006-2011) and during crisis years (2012-2014). This process exhibits that although females' earnings are on average lower than males in absolute terms, their growth path seems to be higher during the last decade.

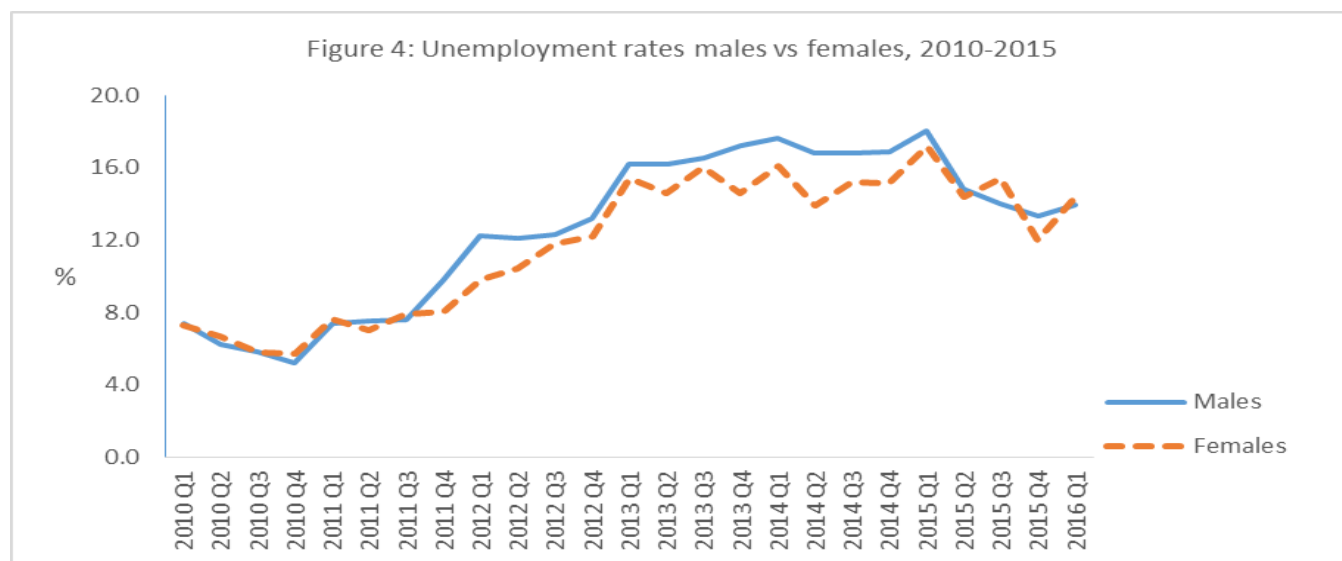
Investigating further the reasons as to why the abovementioned has occurred somebody could determine a great many factors leading to this outcome.

In fact, the last decade consists of a decade that Cyprus experienced its EU membership merits in full. This has resulted in different types of advantages attributed mainly on the transposition of the EU

acquired in the Cyprus’ legal system. Thus, female employment is more efficiently protected in many different forms and there has been a better address of women’s role in the society concerning child birth and employment in sectors where they can perform well by combining professional work with family life. Additionally, the EU relevant legislation on flexible forms of employment, whereby facilitating their working, pension and other working rights has also contributed to confront successfully with the financial crisis effects. Another issue related has to do with the fact that females have on average comparatively higher educational background than males, whereas they work more in occupations covered by minimum wage<sup>9</sup> and they select more non-risky jobs in sectors such as the public sector leading to a steadiness of their earnings profile.

Moreover, what is of high importance is the fact that females’ employment has exhibited certain characteristics, which are more “crisis friendly” meaning that they can better cope with such situations.

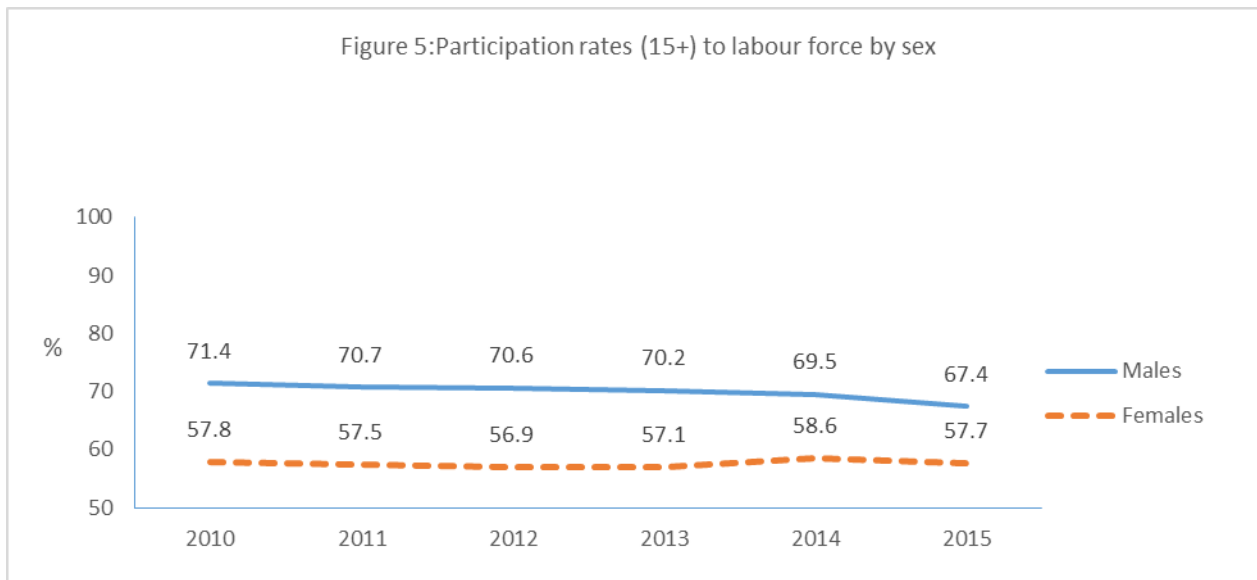
Figure 4 below shows that females unemployment rate compared with the corresponding males’ unemployment rate during 2010-2015 are steadily lower and the gap widens during 2012-2014 when males’ unemployment rate exceeded 16%.



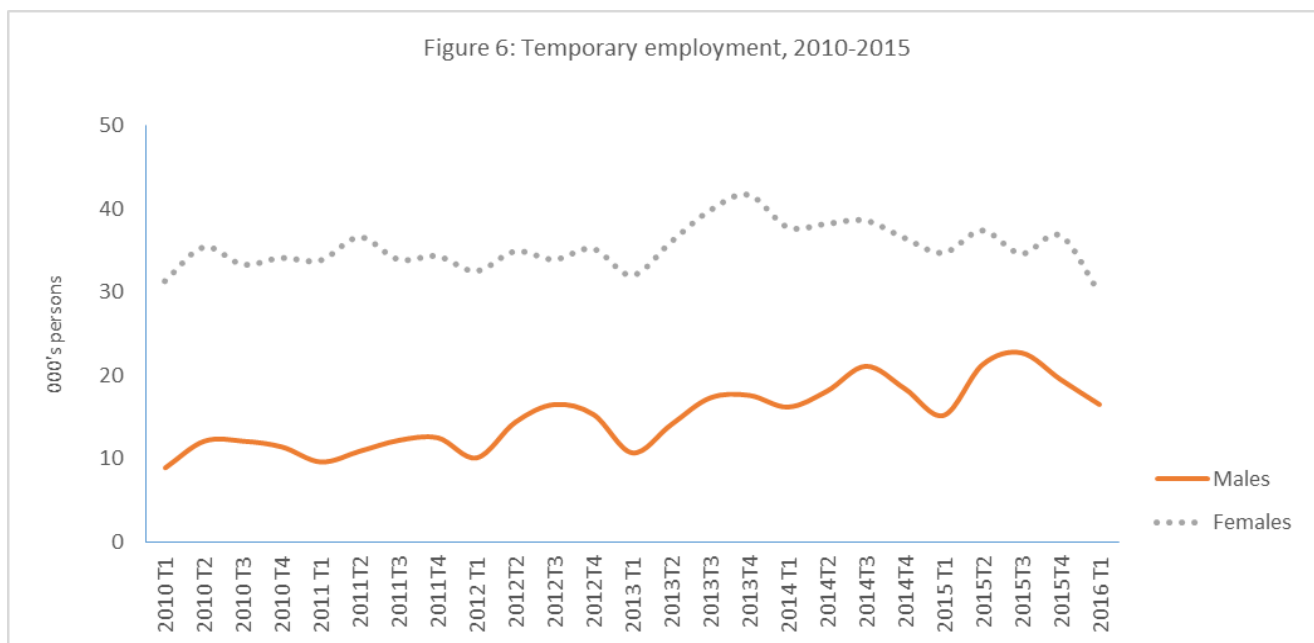
The same is true if somebody observes for the same period, employment of both males and females in flexible forms type, such as temporary and part time employment as shown in the figures underneath. It should be noted however, that despite the similar variances of both curves, it could be emphasized that when the recession was warranted, employers attempted to reduce losses by bringing in other forms of employment in order to reduce hours worked without at the same time laying off permanent staff. That resulted in reducing their labour costs and thus, minimize any losses associated with lower productive capacity.

<sup>9</sup> Minimum wage covers the following occupations: clerks, sales persons, cleaners, guards, assistant nurses and school assistants and covers around 20% of total employment.

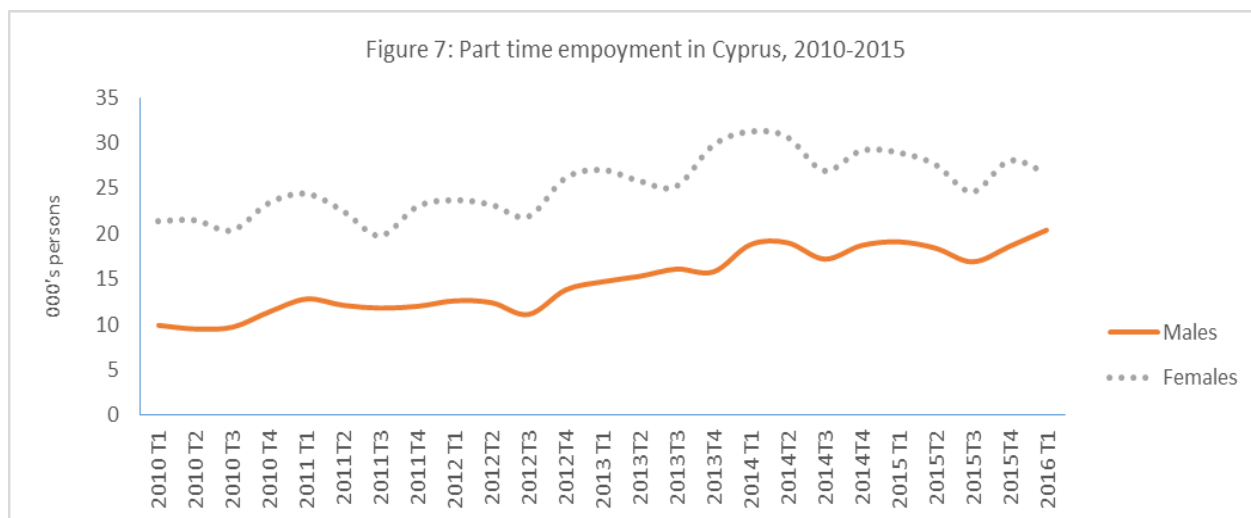
Additionally, it is interesting to regard the participation rates of both males and females as a ratio to labour force for the ages above fifteen years old as represented in Figure 5 below.



The sketch above exhibits that female participation rate in 2015 was at the same level as it was back in 2010, whereas males participation rate in 2015 was lower than 2010 by nearly 4 percentage points. This finding is related to all other findings on males employment and unemployment rates leading to the inference that males labourers proved to be much more less resilient than females workers through the financial turbulence.



Figures 6 and 7 show that women labour is indeed a more flexible form of employment than men. As depicted in Figure 6 with an average ratio of around 1:2,4 for the whole reference period, females<sup>10</sup> are on average 2 to 3 times more in persons opting to work as a flexible laborer. Similarly, Figure 7 shows that women prefer more than men to work as part time workers in a ratio of approximately 1:2.



### III. THE PAY AND EMPLOYMENT GENDER GAPS

The gender pay and employment gaps<sup>11</sup> in Cyprus are illustrated in Figure 8 below, which suggests that they pursue a downward adjustment path during the reference years, 2007-2014. The following figure recommends that both, pay and employment gender gaps have been tending to decline during the last 8 years. The gaps still remain but comparing with 8 years earlier it could be identified that the gender pay gap had a cumulative reduction by around 30% and the employment gender gap was reduced by nearly twice, approximately 60%. The figure also reveals that the speed of reduction is much more intense of the employment gender gap than the gender pay gap while in relative terms the former is half of the latter.

It should be highlighted that both gaps go in parallel, since the reduction (increase) of the one can reduce (increase) the other. In fact, the employment gender gap could first trigger the reduction of the gender pay gap, thereby increasing female employment. It is worthwhile noting that the employment gap was mostly reduced within the period 2012-2014 by more than 30% or 3.6 percentage points,

<sup>10</sup> Part time employment as a percentage of total employment from 2010 to 2015 exhibit that males over doubled in this type of employment (from 5.1% to 10.3%) while females from 11.8% increased to 15.8% whereas in the EU(28) the increase was more moderate from 7.8% to 8.9%.

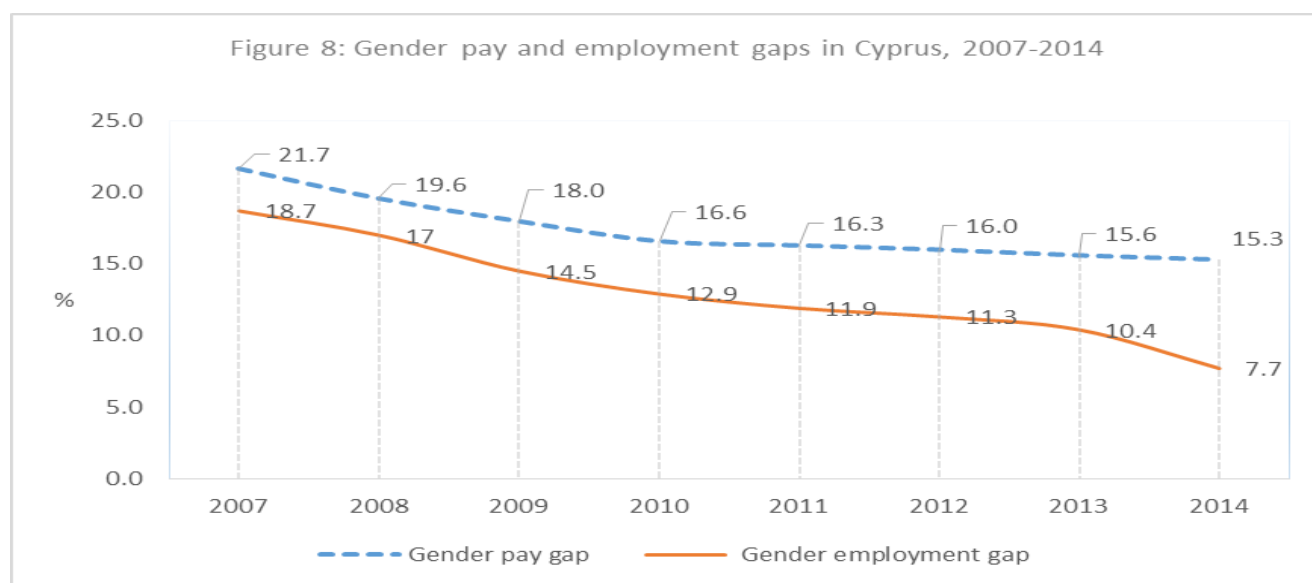
<sup>11</sup> Source: Eurostat EU 2020 statistics



whereas the pay gap was only reduced by more than 4% reflecting a decline by only 0.7 percentage point.

The basic reason explaining the above connotation is that females' employment was reduced less during the financial crisis years and that has led to the shortening of both gaps. The pay gap is harder to be reduced effectively once it needs more time to experience significant downward adjustments and provided that other factors related to the labour market enter into the whole procedure.

Nonetheless, it should be pinpointed that the downward fluctuation of both gaps is related with the reasons referred earlier at page 6 in part II.



Quoting from a paper by the CEPR: “Gender gaps in earnings exist in high-skill industries despite male and female workers having similar educational backgrounds. This column uses evidence from the legal industry to assess how performance affects career outcomes across genders. Performance gaps, defined by hours billed and new revenue raised, explain a substantial share of the gender gaps in earnings, as women’s working hours are affected by having young children while those of men are not. An important implication is that gender-based inequality in earnings and career outcomes might not decrease in the near future as more high-skilled workers are explicitly compensated based on performance<sup>12</sup>”.

The reduction of the gender pay gap can further reduce economic and social inequality leading to increased social cohesion sustainability. However, and based on the above reference, in so far as social and biological factors lead females to have by definition the need to give birth and bring up children, a higher tendency towards lower performance, not necessarily in hours worked is envisaged to be observed in high-skill industries. The latter might envisage to lead to lower gender pay gap reduction in the future.

<sup>12</sup> CEPR, Ghazala Azmat, Rosa Ferrer, July 2016 “Gender gaps in performance among high-skilled professionals”.

It is worthy to note that the gender employment gap for 2014 in the EU (28) stood at 10%, while the gender pay gap was at 16%. Based on these results it seems that Cyprus is on the right track to reduce both gaps as it moves towards 2020.

The gradual reduction of the gender pay gap as observed from the data above shall continue in the years to come but its definite elimination is highly susceptible to occur due to social and value driven factors.

All these above-mentioned features determine a distinct labourer profile among men with women and this could be explained by analyzing sectors of economic activity that different gender opts to work. In Table 1 below, a presentation is illustrated of the average earnings series of both males and females for 2010-2014 in eight significant economic sectors of the Cyprus economy. These sectors are manufacturing, construction, wholesale and retail trade activities, accommodation and food services activities and financial intermediation and insurance activities, public administration and compulsory social insurance, education and health.

Table 1 suggests that female monthly earnings were reduced less than males in both absolute and relative terms in the reference period, especially in sectors where the public sector is prominent in economic activities. Furthermore, it shows that on average nominal earnings of both, males and females are paid more in sectors such the financial and the public administration sectors.

<b>Table 1, € average monthly earnings per sector, (Nace Rev. 2)<sup>13</sup></b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Average earnings of total economy Males	2,090	2,142	2,165	2,117	2,053
Average earnings of total economy Females	1,700	1,758	1,789	1,758	1,716
<b>MANUFACTURING</b>					
Males	1,725	1,746	1,725	1,671	1,633
Females	1,203	1,233	1,255	1,237	1,223
<b>CONSTRUCTION</b>					
Males	1,579	1,608	1,607	1,525	1,498
Females	1,385	1,423	1,462	1,413	1,390
<b>WHOLESALE AND RETAIL TRADE ACTIVITIES</b>					
Males	1,688	1,706	1,691	1,600	1,565
Females	1,209	1,229	1,237	1,210	1,197
<b>ACCOMMODATION AND FOOD SERVICES ACTIVITIES</b>					
Males	1,444	1,439	1,426	1,376	1,332
Females	1,079	1,094	1,101	1,070	1,049
<b>FINANCIAL INTERMEDIATION AND INSURANCE ACTIVITIES</b>					
Males	3,985	4,095	4,093	3,866	3,620
Females	2,771	2,892	2,926	2,788	2,592

<sup>13</sup> Average gross monthly earnings by economic sector and by sex, 2010-2014, Cyprus Statistical Service.

<b>PUBLIC ADMINISTRATION AND COMPULSORY SOCIAL INSURANCE</b>					
Males	2,838	2,930	2,899	2,826	2,758
Females	2,580	2,688	2,691	2,649	2,615
<b>EDUCATION</b>					
Males	3,005	3,071	3,019	2,794	2,802
Females	1,613	1,680	1,733	1,656	1,589
<b>HEALTH</b>					
Males	2,399	2,351	2,307	2,242	2,109
Females	1,360	1,389	1,407	1,367	1,349

The above Table reveals that both average monthly earnings of males and females have shrunk in the reference period while it obviously depicts that the shrinkage for females was relatively lower than men. In all sectors, males' earnings have exhibited a larger downward adjustment, whereas females' earnings in relative terms were reduced less. Males average nominal earnings decline was the most in the financial services sector and the least in construction while for females the highest rise was observed in the manufacturing sector and the highest decline was denoted in the financial sector.

Women are more resilient to work in sectors such as in the education and health sectors and generally in the civil service and other more "safe" and low risk jobs, whereas men are more resilient to work in higher risk jobs in terms of "danger" or hours of work.

<b>Table 2, Self-employment vs Employees by sex</b>					
	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Self-employment</b>					
Males	43,757	44,005	42,811	33,172	32,451
Females	20,206	20,100	22,077	20,302	19,414
<b>Employees</b>					
Males	157,754	146,179	142,311	150,479	148,450
Females	163,510	154,794	155,542	154,249	151,701
<b>Total</b>	<b>385,227</b>	<b>365,078</b>	<b>362,741</b>	<b>358,202</b>	<b>352,016</b>

Table 2 reveals one of the reasons why females opt to work in more safe and stable jobs. For the last 5 years it seems that males prefer more to take on jobs involved with self-employment whereas females prefer to work more as employees. On average the ratio of males to females as self-employed is around 1.75 while the same ratio for employees is almost 1. Self-employment on its own contains features of higher risk involved with the risk of setting up a business and the uncertainty that involves, whereas working as an employee reduces the volume of risk and uncertainty.

From the above features, a female's employee's profile seems to entail higher flexibility, a higher likelihood to work in more stable than risky jobs and with higher educational background rendering female employees to be more resilient in economic crisis. Reasonably speaking business firms under normal circumstances shall be willing to employ females more as a way to confront with crisis consequences. This explains why female labour can better cope with crisis environment and tend to have lower unemployment rates and maintaining a more steady earnings profile.

## IV. CONCLUDING REMARKS

The foregone investigation of nominal earnings fluctuation in Cyprus during the reference period has demonstrated that the pay gap in terms of earnings growth of men and women employees is tending lower. It furthermore suggests that the impact of the financial crisis did not halt the gradual nominal earnings downward variation and signified that women laborers may be possible to reduce effectively the gender pay gap against men. Additionally, it should be indicated that the women earnings growth path was sustained higher than men in upswings while it was reduced less during slowdowns.

Moreover, it should be emphasized that all relevant labour market components explicitly reveal that unemployment was sustained higher for men than women, especially for the period of the financial influx, whereas employment was much higher for females' employees, particularly in flexible types of employment.

The abovementioned analysis has discovered that differences in both, employment and pay gaps are still significant but declining. Especially, throughout the period analyzed, both gaps have exhibited a substantial shortening.

As a concluding remark, the study on earnings growth fluctuation and other crucial labour market mechanisms reflect a distinct labourer gender profile that is apparent between males and females employees. The business firms are expected to adjust their strategy in employment decision making and they shall be taking it into account in their labour recruitment and human resources strategies.

Finally, it is imperative consider that all labour market adjustments referred earlier, amid the recent financial turbulence are necessary and sufficient conditions to enhance labour market flexibility and thus, retain economic growth prospects sustainability.

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