Financialisation, the ‘Great Recession’ and the Stratification of the US Labour Market

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Abstract:
This paper explores the possibility that over the last three decades financialisation has created a social hysteresis effect by linking managerial and financial occupations to high earnings, and in turn high earnings to the social status of the dominant demographic group in the US labour force, namely White men. The empirical results of the paper confirm that a wage premium exists for individuals working in managerial and financial occupations, and that this finance wage premium is not equally distributed between all gender and race groups present in the US labour market. For each ethnic group, men have taken an increasing share of the finance wage premium at the expense of women. More generally, White men (and increasingly also Hispanic men) have enjoyed a disproportionate share of the finance wage premium at the expense of Black women and Hispanic women. Financialisation has been neither race nor gender neutral. It has in fact exacerbated gender and ethnic stratification in the US labour market.

JEL Codes: E24, G20, J31, J71

Key words: Financialisation, Great Recession, Income Inequalities, Race Stratification, Gender Stratification, Social Norms
INTRODUCTION

The so-called ‘Great Moderation’ period of the last two decades, with low and stable inflation and low output variability, has now been replaced by the worst global recession of the last sixty years or so, the ‘Great Recession’. One of the most striking features of the ‘Great Recession’ in the US is the creation of persistent level of high unemployment. Compared with job declines in the second post-war period, the recent decline in employment stands out as the longest and the most severe. From 1948 until the summer 2007, the US unemployment rate averaged around 5.5 percent with a surprisingly low variance. However, starting in late summer 2007, the unemployment rate has been close on average to 8 percent. More disturbingly, despite the fiscal and monetary stimulus provided by the US Treasury and the Fed, it has shown no sign of declining. Even worse, over the years 2009 and 2010 the US unemployment rate has been in fact consistently close to a record 10 percent level. As a result, economists and policy makers alike are debating the desirability of further fiscal and monetary stimulus.

However, there is another feature of the ‘Great Recession’ in the US beyond the creation of a persistent level of high unemployment, which is not less striking. This feature is hardly discussed by academics and policy makers: the gender and race stratification of the US labour market. Looking at the evolution of the gender earning gaps and the dynamics of full-time and part-time employment in 2008 and 2009, Aurelie Charles (2011a) suggests that White men sit at the top of a gender and ethnic stratification process caused by the Great Recession. At the other extreme of this process, women and minorities have experienced a
disproportionate share of the negative effects of the current downturn. In short, Charles (op. cit.) maintains that the empirical evidence supports the view that the Great Recession has been neither race nor gender neutral. It has exacerbated gender and ethnic stratification in the US labour market.

This paper argues that the financialisation process, which started in the early 1980s and intensified over the period leading to the ‘Great Moderation’ period, has played a major role in causing the ‘Great Recession’. Financialisation has set in motion dramatic changes in income distribution in the US, which together with financial liberalisation and the securitisation process have led to the ‘Great Recession’. The paper highlights three important changes in income distribution, which have taken place during the last three decades. First, the capital share of national income has increased at the expense of the labour share. Secondly, profit payments have taken an increasing portion of the capital share at the expense of interest payments. Finally, an increasing portion of domestic corporate profits has been taken by the financial sector at the expenses of the non-financial sector. But if financialisation has played a major role in causing the ‘Great Recession’, which in turn has exacerbated gender and ethnic stratification in the US labour market, could it also be the case that financialisation itself has had an unequal impact on the different demographic groups in the US labour market? Drawing on unpublished data from the US Bureau of Labour Statistics (BLS) of the Current Population Survey (2010), the aim of this paper is to explore the possibility that over the last three decades financialisation has had an effect on the dynamics of race and gender stratification in the US.
What is Financialisation?

The term ‘financialisation’ has now entered the lexicon of academics and policy makers (e.g. Turner 2010), though there is still no agreement on its meaning and significance. Greta Krippner (2005) has reviewed the origins of the term and its various definitions. She shows that some use the term ‘financialisation’ to mean the dominance of ‘shareholder value’ as a mode of governance. For other writers, the term refers to the rising popularity of market-based over bank-based financial systems. Finally, others use the term to describe the increasing economic and political power of a particular social group, namely the ‘rentiers’ class. The essential feature of this social group is that it derives its income mostly from productive activities rather than from the ownership of financial property, which provides a claim to a revenue stream in the form of interests, dividends and capital gains. Drawing on the sociology literature, Krippner (2005) suggests that utilising financialisation to indicate the “pattern of accumulation in which profit-making occurs increasingly through financial channels rather than through trade and commodity production” (Krippner 2005: 181). All these definitions describe some important features of the financialisation process. However, this paper adopts a broader meaning of the term, which allows for a deeper understanding of the income distribution effects of the financialisation process, including the possibility of gender stratification and race stratification in the labour market. Therefore, financialisation here refers to the growing weight of financial motives, financial actors and markets in the operation of modern economies, both at the national and international level, from the early 1980s until today (Epstein 2005).
There are several studies that have tried to capture the salient features of the financialisation process, but very little has been said of the rising inequality over the last three decades in terms of its contribution to the ‘Great Recession’, and especially so from the point of view of its potential role in making the financial sector more fragile and vulnerable to systematic failure, with deleterious effects on the real economy. There are of course exceptions. Philip Arestis and Elias Karakitsos (2010a, 2010b) emphasise the importance of income distribution, essentially from the real sector wage-earners to the financial sector profit-earners, as one of the main causes of the ‘Great Recession’ (see also Wisman and Baker 2010). In other words, some labour share (essentially that of workers) has shifted to capital share (essentially profits going to the financial sector). Tom Palley (2007) offers a summary of the effects of financialisation on the functional distribution of income in the US. Figure 1 above shows the national income tree for the US. National income can be split into labour income and capital income. In turn, the former can be broken down into payments to individuals working either in management and financial occupations or other occupations, while the latter category can be decomposed into interest payments and profit payments. Finally, the profits can be split into profits of the non-financial sector and profits of the financial sector.

According to Palley (op. cit.), over the last three decades the financialisation process has had three main effects on the functional distribution of income in the US. First, the capital share of national income has increased at the expense of the labour share of national income.
Secondly, profit payments have taken an increasing portion of the capital share at the expense of interest payments. Finally, an increasing portion of domestic corporate profits has been taken by the financial sector at the expense of the non-financial sector. These important changes are represented in Figure 1 in bold characters. Interestingly, all these changes take place on the left side of the National Income Tree. But what about the effects of the financialisation process on the right side of the National Income Tree? Palley (2007) candidly acknowledges that very little is known about the effects of financialisation on the labour share: “no formal data exists on its division between managerial and workers wages” (p. 14).

Drawing on unpublished data from the US Bureau of Labour Statistics (BLS) of the Current Population Survey (2010) for the period 1983-2009, the contribution in this paper is able to shed light on several aspects characterising the right side of the National Income Tree. First, the paper examines the effects of the financialisation process on the distribution of income between different occupations. From this perspective, one of the main objectives of the paper is to explore the possibility that over the last three decades individuals working in management and financial occupations have taken an increasing portion of the labour share at the expense of other occupations. Putting it slightly differently, is there any evidence supporting the existence of a finance wage premium in the US labour market? Secondly, the paper analyses the effects of the financialisation process on the distribution of income between different ethnic and gender groups. In this case, one of the main objectives of the paper is to examine the possibility that the financial process has exacerbated race and gender stratification in the US labour market. In other words, assuming the existence of a finance wage premium, has this premium been equally distributed between all individuals working in management and financial occupations, irrespective of their race or gender? Furthermore, if there is a wage premium for some demographic groups in management and financial
occupations, then has the financialisation process also helped to spread it out to all occupations in the US labour market? The original data used in the paper offers a breakdown of earnings in US by occupations, ethnicity and gender. This allows for an empirical analysis, which makes explicit the link between the financialisation process, on the one side, and gender and race stratification in the labour market, on the other side.

Financialisation, Income Distribution Changes and the ‘Great Recession’

An important but rarely discussed factor that has contributed substantially to the ‘Great Recession’ emerged from the steady but sharp rise in the unequal distribution of income between capital and labour, in the US but elsewhere, too; for example similar, but clearly also with some differences, trends are observed in the UK and Europe. Arestis and Karakitsos (2010b) offer clear evidence of these distributional effects. The share of national income taken up by the capital share, and within it by profits, had reached a level close to a post World War II high before the onset of the recession; while compensation of production and non-supervisory workers had fallen even behind productivity. The declining wage share and rising profits share were compounded by another long-term economic term: the increasing concentration of earnings at the top, especially in the financial sector. An interesting statistic on this score is reported in Thomas Philippon and Ariell Reshef (2009) in the case of the US. This is the pronounced above average rise in the salaries of those employed in financial occupations: relative wages, i.e. the ratio of the wage bill in the financial sector to its full-time-equivalent employment share, enjoy a steep increase over the period mid-1980s to 2006. What explains this development is financial deregulation in a causal way, followed by financial innovation. The deregulation impact accounts for 83% of
the change in wages. Indeed, compensations in the financial sector are higher than in other sectors, even after controlling for education.

The rising profits share aped financial institutions thereby increasing leveraging (debt to assets ratio) and high risk-taking in the financial institutions. In the words of the Chairman of the UK Financial Services Authority, “There has thus been an increasingly ‘financialisation’ of the economy, an increasing role for the financial sector. Financial firms as a result have accounted for an increased share of GDP, of corporate profits, and of stock market capitalisation. And there has been a sharp rise in income differential between many employees in the financial sector and average incomes across the whole of the economy” (Turner 2010: 6). This promoted the financial engineering based on the US subprime mortgages as explained below in this section. These are important distributional effects, which are not accounted for by the prevailing view of theoretical macroeconomics and the economic policy implications of this framework, essentially monetary policy in the form of interest rate manipulation to hit a set inflation target, either implicit or explicit. The financial liberalisation framework in the US is of particular importance for the purposes of this paper. Both the redistribution just referred to along with the financial liberalisation policies led to a period of financial engineering in the US, which spread worldwide to produce the current ‘Great Recession’. The remaining of this section now turns to financial liberalisation essentially in the US, and the financial engineering there, in an attempt to explain the origins of the current crisis.

Financial liberalization in the US began in the 1970s. More precisely in 1977, when the US started to deregulate its financial system. There was the deregulation of commissions for stock trading in 1977 to begin with, and subsequently investment banks were allowed to introduce unsecured current accounts. The removal of Regulation Q in the 1980s followed,
that is removing the placing of ceilings on retail-deposit interest rates. The repeal of the key regulation Glass-Steagall Act of 1933 in 1999 (promoted by the US financial sector, using as their main argument the Big Bang of 1986 in the UK) was the most important aspect of US financial liberalization for the purposes of the question in hand. The final step in the process was the Commodity Futures Modernisation Act (CFMA) of December 2000, which repealed the Shad-Johnson jurisdictional accord, which in 1982 had banned single-stock futures, the financial instrument that allows selling now but delivering in the future. All these financial liberalization initiatives were important in promoting financial innovations in the US financial markets.

The repeal of the Glass-Steagall Act in 1999 allowed the merging of commercial and investment banking, thereby enabling financial institutions to separate loan origination from loan portfolio; thus the originate-and-distribute model. Indeed, financial institutions were able to use risk management in their attempt to dispose of their loan portfolio. Actually, risk aversion fell sharply. This was fostered by a new financial architecture in the form of securitisation and slicing risk through repackaging subprime mortgages, which were turned into Collateralised Mortgage Obligations (CMOs) and, more generally, Collateralised Debt Obligations (CDOs). This underpricing of risk came about by low risk spreads whereby the differentials between risky assets and safe assets declined substantially. It came about particularly over the period 2001-2005 of unusually low nominal, and very low real, interest rates. But even over the longer period of the late 1980s to 2007, macroeconomic risks were reduced substantially in view of the ‘great moderation’ era of low and stable inflation and steady growth. The mispricing of risk should not be surprising in that financial institutions had excessive incentives for risk-taking. This is associated with the ‘moral hazard’ problem, the result of governments offering protection to financial institutions against bankruptcy,
which protects largely lenders from bad decisions. The attempt to avoid contagion effects in the economy results in ‘moral hazard’, thereby encouraging financial firms to take excessive risk.

The sale of CMOs and CDOs as well as other relevant securitized assets to international investors made the US housing bubble a global problem and provided the transmission mechanism for the contagion to the rest of the world. The collapse of the subprime market spilled over into the real economy through the credit crunch and collapsing equity markets in August 2007. A breakdown of trust between the financial sector and households occurred, most specifically in the case of the subprime mortgage holders. As the losses on these mortgages and other toxic assets accumulated, banks lost trust between themselves, which led to the freezing of the interbank lending market in the second half of 2007. These problems further constrained the ability of the banking sector to lend to the real economy. Bank failures ensued, which further eroded the ability of banks to lend. Then credit conditions in the real economy tightened further leading to corporate distress due to significant lack of bank credit; trade credit provided between firms also dried up. In short, it is clear from the analysis in this section that distributional effects lie at the heart of the ‘Great Recession’. With this background in mind, next section examines more closely how these distributional effects relate to the labour market, and more precisely how the financialisation process has affected the different demographic groups present in the US labour market.

THE EFFECTS OF FINANCIALISATION ON THE DYNAMICS OF RACE AND GENDER STRATIFICATION IN US
Financialisation and the Stratification of US Labour Market

The US economy now faces the longest and the most severe decline in employment in its post-war II history. For the last three years the unemployment rate has been close on average to 8 percent and, worryingly, despite the stimulus of fiscal and monetary policies it has shown no signs of declining; if anything, unemployment has shot up to 10 percent! The previous section argues that the process of financialisation has set in motion a variety of changes in the income distribution in US, which together with financial liberalisation and the securitisation process have led to the ‘Great Recession’ and the current high level of unemployment. Building on the identity model developed by George Akerlof and Rachel Kranton (2000, 2010), Aurelie Charles (2011a) adds further striking features of the ‘Great Recession’, which are often ignored by economists and policy makers alike: job losses in the US labour market have not been evenly distributed between sectors and demographic groups within the labour markets. The ‘Great Recession’ has had a dramatic negative effect in terms of the occupations and earnings in the real sector at the advantage of occupations and earnings in the financial sector. Furthermore, looking at the evolution of the gender earning gaps and the dynamics of full-time and part-time employment in 2008 and 2009, Charles (op. cit.) suggests that White men sit at the top of the gender and ethnic stratification during the ‘Great Recession’. At the other extreme of the stratification process, women and minorities have experienced a disproportionate share of the negative effects of the current downturn. In short, Charles (op. cit.) maintains that the empirical evidence supports the view that the ‘Great Recession’ has hit the hardest occupations in the real sector rather than in the financial sector. Furthermore the Great Recession has been neither race nor gender neutral. It has exacerbated gender and ethnic stratification in the US labour market.
Thomas Philippon and Ariell Reshef (2009) look at the evolution of the US financial sector over the past century. They uncover the pronounced above average rise in the compensation of employees in the financial sector compared to compensations in the rest of the private sector’s employees during the financialisation period. Even after controlling for education, the finance wage premium amounted to around 10 percent for most of the 1980s. The premium stabilised at 15 percent in early 1990s, and then kept rising to over 20 percent in 2005. Puzzled by this result, they investigate the possibility that the finance wage premium is caused by compensating differentials, employment and wage risk, and unobserved heterogeneity. They conclude that “something other than returns to education, skill intensity, and risk factors have caused the actual wage to deviate from the benchmark. Compensating differentials are unlikely to explain the evolution of the excess wage ... we conclude that a large part of the excess is due to rents” (Philippon and Reshef 2009: 27, 29). Drawing on this conclusion, Philippon and Reshef speculate that the finance wage premium is expected to disappear soon. Figures 2 and 3 below confirm the existence of the finance wage premium highlighted by Philippon and Reshef, but they also highlight the incompleteness of their explanation for it. The finance wage premium is not evenly distributed between all demographic groups in the financial sector. Furthermore, it does not show signs of declining, let alone of disappearing.

**PLEASE INSERT FIGURE 2**

Figure 2 shows the weekly earnings for managerial and financial occupations of the dominant ethnic and gender group, namely White men, compared to the weekly earnings for
all occupations and all demographic groups in the US labour market from 1983 to 2009. As said above, Figure 2 confirms the existence of the finance wage premium. However, it also shows that the finance wage premium taken by White men is rising rather than decreasing. Strikingly, this is not a unique phenomenon. After each recession since the early 1990s, and especially of 2001 and 2007, the finance wage premium taken by White men suddenly rose above trend.

**PLEASE INSERT FIGURE 3**

Figure 3 shows the weekly earnings in managerial and financial occupations for all demographic groups in the US labour market from 1983 to 2009. Again, the existence of the finance wage premium is confirmed, and this time for all demographic groups. However, the premium is not evenly distributed. White men receive weekly earnings well above all other demographic groups. For example, in 1996, White men earned on average $1039 a week, while the second best earners were Black men with $719 a week. In 2009, White men earned $1727 a week, while the second best earners were Hispanic men with $1340 a week. Furthermore, Figure 3 also shows that in addition to ethnic stratification, managerial and financial occupations in US are also characterised by gender stratification. Men of all ethnic groups earn more than their female counterparts. Aurelie Charles (2010) maintains that this gender wage gap is a matter of ‘fair-wage constraints’, which derive from social norms of fairness regarding reservation wages for men and women within the household. Since a lower income entitlement for women is the norm at the household level, a lower income entitlement for women in the labour market is then considered reasonable, irrespective of education and
abilities. In other words, if on average at the household level men earnings are higher than women earnings, this pattern is likely to be reproduced in the labour market, regardless of the occupation. Also, since different ethnic groups have different norms of behaviour at the household level, this also explains why ‘fair-wage constraints’ and hence gender wage gaps differ across ethnic groups. In short, Figures 2 and 3 confirm that from 1983 to 2009 there is a wage premium for managerial and financial occupations compared to other occupations. Furthermore, these figures also show that an increasing share of the premium is taken by the dominant ethnic and gender group, namely White men, at the expense of women and other minorities.

‘Identity Preferences’ as an Explanation of Race and Gender Stratification

Charles (2009, 2011a) offers a theoretical framework that may help to explain both the existence of the finance wage premium and its uneven distribution between demographic groups. Charles (op. cit.) maintains that employers have ‘identity preferences’ affecting their hiring and firing decision, in the sense that when making these decisions employers are affected by the identity of the demographic group to which they belong, and the social norms attached to this identity. So, for instance, White men will consciously or, most likely, unconsciously make use of the social norms of their dominant demographic group when making job or pay offer to potential employees. Similarly, White men will make use of the same social norms when dismissing employees or reducing their pay. In practice, this means that a white man employer will consider certain jobs appropriate for White men and others for women and ethnic minorities, irrespective of individual tastes, education and abilities. The same idea will also apply to pay offer. Charles (op. cit.) concludes that these ‘identity
preferences’, and the social norms attached to them, may lead to an exacerbation in the
demographic stratification of the US labour market.\textsuperscript{4} But, where these ‘identity preferences’
come from and how can they explain the existence of the finance wage premium and its
uneven distribution between demographic groups? The theoretical hypothesis put forward in
this paper is that the process of financialisation has affected the ‘identity preferences’ of the
demographic groups operating in the US labour market in a way that has exacerbated rather
than reduced gender and race discrimination.

There are three potential features linking financialisation to the dynamics of race and
gender stratification in US labour market. First, the financialisation process may have created
a social hysteresis effect by linking high-paid earnings to one particular group of occupations,
namely managerial and financial occupations. The private returns in these occupations may
have then led to an outflow of human capital out of all remaining occupations, irrespective of
the social benefits and costs of this movement. So the first empirical hypothesis to be tested is
the existence of a finance wage premium in the US labour market. Secondly, the
financialisation process may have also established a link between high-paid earnings in
managerial and financial occupations and the high social status of one particular demographic
group. This could be another interesting feature of the social hysteresis effect described above
(Fontana 2011). It is indeed a well-established phenomenon that the social stratification of
occupations and related employment opportunities depends, to a great extent, on the level of
earnings associated with them. Social norms sustain the perception that highly valued
occupations, which are defined by their level of earnings, should go to the demographic
groups with the highest social status. Here the empirical hypothesis to be tested is that the
finance wage premium is not equally distributed between all demographic groups. Given the
previous discussion of the race and gender stratification of the US labour market, the
expectation is that White men are the winner in managerial and financial occupations at the expense of women and other ethnic minorities. Finally, the financialisation process may have raised the social status of White men beyond managerial and financial occupations to all occupations in the US labour market. In other words, the hypothesis here is that the stratification of wages in the group of occupations with the highest social status, namely managerial and financial occupations, may serve as a benchmark for the stratification of wages in all remaining occupations in US. Therefore, the third and final empirical hypothesis to be tested is the existence of a wage premium for White men beyond managerial and financial occupations.

EMPIRICAL ANALYSIS

The Long-run Dynamics of Financialisation

The main purpose of this section is to test the potential links between the financialisation process on one side and the gender and race stratification in the US labour market, on the other side. The previous section has identified three hypotheses to be tested:

H1: the existence of a wage premium for individuals working in managerial and financial occupations, what has been labelled a finance wage premium;

H2: the distribution of the finance wage premium described above between different ethnic and gender groups, namely White men, White women, Black men, Black women, Hispanic men, Hispanic women.\(^5\)
H3: the existence of a wage premium for individuals of a particular ethnic or gender group working in all occupations beyond managerial and financial occupations.

Each of the above theoretical hypotheses leads to an empirical model made of few cointegrating (long-run) equations. Cointegration analysis is a unique tool able to reveal the long-run dynamics of wage stratification in the US labour market. In this regard, the paper adopts an empirical method different from the traditional approach. The current macroeconomic literature on gender and ethnic inequality uses exclusively stationary time-series data in order to implement Vector AutoRegression (VAR) analyses. For example, Yelena Tachtamanova and Eva Sierminska (2009) turn non-stationary employment variables into first-difference stationary variables in order to implement a VAR analysis. However, the three theoretical hypotheses presented above can only be tested through an analysis of non-stationary variables representing the long-run relationships between earnings of different groups. In other words, and in line with Clive Granger (2010), the rationale of the empirical models used in this paper is that non-stationarity itself provides important information about the interdependence of the variables under scrutiny, namely the existence of identity preferences and related social norms over time. For this reason, the weekly earnings variables used in the empirical models tested below, namely Vector Error Correction Models (VECMs), are all in level such that their non-stationary character is maintained. In effect, augmented Dickey-Fuller tests performed on all weekly earnings variables in level confirm that the null hypothesis of a unit root cannot be rejected.

The three theoretical hypotheses described above, namely H1, H2 and H3 lead to the estimation of three VECMs in the tradition of Robert Engel and Clive Granger (1987), and Granger (2010). The first VECM (i.e. VECM1) tests the existence of a wage premium in
managerial and financial occupations over all occupations (the so-called finance wage premium). VECM1 is composed of weekly earnings in the following activities: managerial and financial occupations, professional occupations, service occupations, sale occupations, construction trades occupations, and farming, forestry and fishing occupations. The second VECM (i.e. VECM2) tests whether the wage premium in managerial and financial occupations is equally distributed between gender and ethnic groups. VECM2 is, therefore, composed of weekly earnings in managerial and financial occupations of the following six demographic groups: White men, White women, Black men, Black women, Hispanic men, and Hispanic women. Finally, the third VECM (i.e. VECM3) tests whether a wage premium for the dominant demographic group, namely White men, exists beyond managerial and financial occupations. VECM3 is composed of weekly earnings for all occupations of White men, White women, Black men, Black women, Hispanic men, and Hispanic women.

Following the Johansen procedure (Søren Johansen 1991), non-stationary variables for each VECM will be tested in order to identify the number of cointegration vector(s) (i.e. long-run equations), if any, between them. Each VECM estimated is then of the form:

$$z_t = \Phi_1 z_{t-1} + \Phi_2 z_{t-2} + ... + \Phi_p z_{t-p} + \varepsilon_t, t = 1, ..., T,$$

(1)

where \(z_t\) is a \(m \times 1\) vector of \(I(1)\) variables under consideration, \(\Phi_i\) is a \(m \times m\) matrix of unknown coefficients and \(\varepsilon\) is the error term. The theoretical VEC model (1) of unrestricted intercepts and restricted trends becomes:

$$\Delta z_t = c_0 + c_1 t + \Pi z_{t-1} + \sum_{i=1}^{s} \Gamma_i \Delta z_{t-i} + \varepsilon_t, t = 1, ..., s, ..., T,$$

(2)

where \(z_t\) is an \(m \times 1\) vector of \(I(1)\) variables, in other words an \(3 \times 1\) vector of the variables \(pty_i, mrw_i, frw_i\); where \(\Pi\) and \(\Gamma_i\)'s are given by
\[ \Pi = \sum_{i=1}^{p} \Phi_i - I_m, \quad \Gamma_j = -\sum_{j=1}^{p} \Phi_j, \]  

(2.1)

and \( I_m \) is an \( m \times m \) identity matrix and where it is assumed that;

\[ E(\epsilon_t) = 0; E(\epsilon_t, \epsilon_s) = \begin{bmatrix} \sum \text{ for } t = s \\ 0 \text{ for } t \neq s \end{bmatrix} \text{ with } \Sigma \text{ a } m \times m \text{ symmetric positive definite matrix.} \]

The Data Set

The source of the dataset is the Current Population Survey (CPS 2010) from the Bureau of Labor Statistics (BLS), which collects annual data on weekly earnings of full-time wage and salary of the US labour force. The data set span from 1983, the earliest year data available, to 2009. It is made of unpublished files available either electronically (period 1996-2009) or in hard copy from microfiche (period 1983-1995). At this stage it should also be mentioned that in January 2003, the CPS adopted the 2002 Census Industry and Occupation classification system drawing on the 2002 North American Industry classification system and the 2000 Standard Occupational classification system, respectively. The 2002 Census Industry and Occupation classification system has many advantages, e.g. a much richer set of information, but it also creates breaks in the time series for occupation data at all levels of aggregation. As a result, the former industry and occupation categories have been discontinued. CPS developed employment estimates for 2000-2002 by recoding previously collected information and using the new 2002 Census Industry and Occupation classification system. This is of particular relevance for the financial occupations category.

Financial occupations appear for the first time as an explicit sub-category of ‘executive, administrative and managerial occupations’ only in 2000. Consequently, the

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category ‘managerial and financial occupations’ in our data set is the combination of the ‘executive, administrative, and managerial occupations’ category for the period 1983-1999, and the ‘management, business, and financial operations occupations’ category for the period 2000-2009. The remaining occupations categories represented in the data set are: professional, such as architecture, engineering, law, and education related-occupations; services, such as healthcare, personal care, cleaning and maintenance related-occupations; sales; farming, fishing, and forestry; and construction trades. All these occupation categories are not affected by the new 2002 Census Industry and Occupation classification system.

Empirical Results

This section presents the results of VECM1, VECM2 and VECM3 testing the hypotheses H1, H2 and H3, respectively. VECM1, VECM2 and VECM3 estimate cointegrating equations (i.e. long-run relationships) as well as short-run dynamics of the variables under scrutiny. Since the purpose of the analysis is to reveal the effects of ‘identity preferences’ on the working of the US labour market over the last three decades, including the possibility of exacerbating gender and race stratification, the focus of this section is on the cointegrating equations rather than the short-run dynamics of the variables examined. It is for this reason that, in what follows, the paper only reports the estimated cointegrating relationships. The number of cointegrating equations for each VECM is derived from the Johansen (1991) tests for cointegration as displayed in Table 1 of the Appendix. If there are r cointegrating vectors between the variables of the VECM and $\Pi$ in equation (2.1) has rank $r$, then $\Pi$ will have $r$ non-zero eigenvalues. Johansen (op. cit.) estimates whether the eigenvalues are different from zero via two tests, namely the trace statistic test and
eigenvalue. The null hypothesis for the trace test is the number of cointegration vectors $r \leq x$, the null hypothesis for the eigenvalue test is $r = x$. We follow the results of the trace statistic estimating that the null hypothesis of the maximum number of cointegration vectors identified with * cannot be rejected.

Looking at Table 1, the Johansen test finds two cointegrating equations for the first VECM (VECM1), three cointegrating equations for the second VECM (VECM2), and two cointegrating equations for the third VECM (VECM3). For VECM1, the left hand side variables of the cointegrating equations are the two highest-paid occupations of the US labour force, i.e. managerial and financial occupations and professional occupations, in order to assess their long-run impact on lower-paid occupations. For VECM2 and VECM3, the left hand side variables of the cointegrating equations are the earnings of the demographic groups with the highest share of the labour force, i.e. White men, White women, and Black men for VECM2 and White men and White women for VECM3, respectively. In other words, the choice of the dependent variables in all three VECMs follows closely the theoretical propositions as postulated above.

All empirical results for VECM1, VECM2 and VECM3 are presented in Table 2, Table 3 and Table 4, respectively. They are all obtained using the Stata software package (Stata version 9.0). Furthermore, constraints on all three VECMs are defined by the Johansen normalization procedure on the parameters of the cointegrating equations. The results for two diagnostic tests of each estimated VECM are also presented in the same Tables. The Lagrange-multiplier test tests the null hypothesis of no autocorrelation of the residuals for each VECM, up to four lags. We use the probability of obtaining the chi-square statistic if there is no autocorrelation of the residuals when it is significant at the five percent level. Finally, the eigenvalue stability condition assesses the stability of the cointegrating...
relationships. If the modulus of eigenvalue is less than unity, then the estimated system of cointegrating vectors is stationary (Johnson and DiNardo 1997).

Table 2 below displays the results of VECM1, which estimates two long-run cointegrating relationships between weekly earnings in managerial and financial occupations (manfin), professional occupations (prof), service occupations (service), sales occupations (sale), construction trades (constr), and farming, forestry and fishing occupations (farm). The results for the diagnostic tests of VECM1 are overall satisfactory. The Lagrangean-multiplier test shows no sign of autocorrelation in the residuals, while the eigenvalue stability condition confirms that the two cointegrating relationships are stable.

The first estimated long-run relationship (i.e. Table 2, Cointegration Equation 1) shows that over the period 1983-2009 changes in earnings for managerial and financial occupations are negatively associated with changes in earnings for services occupations, sales occupations, and farming, fishing, forestry occupations. This means that the increasing trend in weekly earnings for managerial and financial occupations has been at the expense of other occupations in the US labour market. In other words, the first estimated long-run relationship of VECM1 supports the existence of a wage premium in managerial and financial occupations vis-à-vis earnings in all remaining occupations, with the exception of professional occupations, which were not included in Cointegration Equation 1.

**PLEASE INSERT TABLE 2**

After managerial and financial occupations, the second highest-paid occupations in the US labour force are professional occupations such as architecture, engineering, and law
related-occupations. The second estimated long-run relationship of VECM1 (i.e. Table 2, Cointegration Equation 2) allows for the possibility that the finance wage premium is not specific to managerial and financial occupations, but applies to highly-paid occupations such as professional occupations vis-à-vis low-paid occupations. In effect, the second estimated long-run relationship shows that over the period 1983-2009 changes in earnings for professional occupations are positively associated with changes in earnings for services occupations, and sales occupations, while they are negatively associated with changes in earnings for construction trades occupations, as well as farming, fishing, and forestry occupations.

The positive relationship of services and sales occupations with professional occupations is the opposite of the trend shown by managerial and financial occupations. This confirms that the finance wage premium is specific to managerial and financial occupations, rather than being related to highly-paid jobs vis-à-vis low-paid occupations. One possible explanation for this result is linked to a distinctive characteristic of professional occupations compared to managerial and financial occupations. Despite of being both highly-paid occupations, professional occupations are mainly self-employed positions or positions acquired mostly without a hiring or promotion process. In other words, professional occupations are occupations whose tenure does not necessarily require the approval of managerial occupations. Therefore, they are less exposed to the effects of the ‘identity preferences’ of managers than any other occupation. Finally, the negative relationship between construction trades occupations, farming, fishing, and forestry occupations, and professional occupations is possibly explained by the dramatic decline over the last three decades in the demand for the output of these traditional sectors.
Table 3 above displays the results of VECM2, which estimates three long-run cointegrating relationships between weekly earnings in managerial and financial occupations of White men (wm), White women (wf), Black men (bm), Black women (bf), Hispanic men (hm), and Hispanic women (hf). The results for the diagnostic tests of VECM2, reported in this table, are overall satisfactory. The Lagrange-multiplier test shows no sign of autocorrelation in the residuals, with coefficients significant at the five percent level. The eigenvalue stability condition confirms that the three cointegrating relationships are stable.

There are two remarkable results of VECM2 in Table 3. First, the three long-run cointegrating relationships support the hypothesis that there has been a gender stratification process of weekly earnings in managerial and financial occupations over the data period 1983-2009. For example, the three estimated long-run relationships (Table 3, Cointegration Equations 1, 2, 3) show that changes in earnings of Hispanic men are negatively associated with changes in earnings of Hispanic women. Similarly, the third estimated long-run relationship (Table 3, Cointegration Equation 3) shows that changes in earnings of Black men are negatively associated with changes in earnings of Black women. This confirms that fair-wage constraints at the gender level clearly operate inside the Hispanic and Black groups working in managerial and financial occupations. As explained by Charles (2010), since a lower income entitlement for women is the social norm at the household level, this often translates in a lower income entitlement for women in the labour market, irrespective of education and abilities. The fair-wage constraints at the gender level does not seem however to operate inside the White group working in managerial and financial occupations. There is one possible explanation for this result. The constant terms in the first and second estimated
long-run relationships (Table 3, Cointegration Equations 1 and 2) show a significant difference in favour of White men over White women. This indicates that there is a substantial, yet stable gender earnings gap within the White group.

The second remarkable result of VECM2 is the robust empirical support for the hypothesis that there has been a race stratification process of weekly earnings in managerial and financial occupations over the data period 1983-2009. White men and Hispanic men have taken an increasing share of the wage premium in managerial and financial occupations at the expense of other demographic groups, especially Black women and Hispanic women. For example, the three estimated long-run relationships (Table 3, Cointegration Equations 1, 2, 3) show that changes in earnings of Black women and Hispanic women are negatively associated with changes in earnings of all other demographic groups. Similarly, the three estimated long-run relationships (Table 3, Cointegration Equations 1, 2, 3) show that changes in the explanatory variable \( hm \), namely earnings of Hispanic men, are always positively associated with changes in the response variables of Equations 1, 2, 3. This last result confirms the speculation made in previous Sections that Hispanic men seem to be on a catching up trajectory with White men, i.e. with the dominant demographic group in the US labour force.

The overall results of VECM2 presented in Table 3 confirm that the wage premium in managerial and financial occupations, the so-called finance wage premium, is not equally distributed between gender and ethnic groups. For each ethnic group, men have taken an increasing share of the wage premium at the expense of women. More generally, White men and Hispanic men have enjoyed a disproportionate share of the finance wage premium at the expense of Black women and Hispanic women.
Table 4 above shows the results of VECM3, which estimates two long-run cointegrating relationships between weekly earnings in all occupations of White men (wm), White women (wf), Black men (bm), Black women (bf), Hispanic men (hm), and Hispanic women (hf). The results for the diagnostic tests for VECM3, reported in this table, are overall satisfactory. The Lagrangean-multiplier test shows no sign of autocorrelation in the residuals, with coefficients significant at the five percent level. The eigenvalue stability condition confirms that the three cointegrating relationships are stable.

The first estimated long-run relationship (i.e. Table 4, Cointegration Equation 1) shows that over the period 1983-2009 changes in earnings of White men are positively associated with changes in earnings of Hispanic men (and Hispanic women), and negatively associated with changes in earnings of Black men and Black women. The second estimated long-run relationship (i.e. Table 4, Cointegration Equation 2) shows that over the same time period changes in earnings of White women are negatively associated with changes in earnings of Hispanic men and Black women. Taking together the two long-run relationships, there is mixed evidence in favour of the hypothesis that a wage premium for the dominant demographic group, namely White men, exists beyond managerial and financial occupations. Yet, there are three notable results of VECM3. First, it is once again confirmed that Hispanic men seem to be on a catching up trajectory with the dominant demographic group in the US labour force, namely White men. Secondly, the two estimated long-run relationships (Table 4, Cointegration Equations 1 and 2) show that changes in earnings of Black women are always negatively associated with changes in earnings of White men and White women. This means that over the period 1983-2009 earnings of Black women have increasingly diverged from the
earnings of the two White groups. When this is coupled with the notion discussed in previous sections that earnings act as a proxy for social status, then the conclusion follows that over the last decades the social status of Black women has been on a continuously downward trend compared to White men and White women. Finally, the third notable result of VECM3 is the existence for all occupations of fair-wage constraints at the gender level inside the White group. This last result confirms the finding of VECM2, especially Cointegration Equations 1 and 2 in Table 3, showing that over the period 1983-2009 there has been a stable but substantial gender earnings gap within the White group.

SUMMARY AND CONCLUSIONS

In the words of Lord Turner, the Chairman of the UK Financial Services Authority, “a striking fact about the last 30 to 40 years of economic history is that ... the overall size of the financial system relative to the real economy has dramatically increased. ... There has thus been an increasingly ‘financialisation’ of the economy” (Turner 2010: 6). This paper has tackled head on the financialisation process of the last three decades. What is financialisation? Is financialisation related to the ‘Great Recession’? How financialisation has affected the US economy? This paper has answered these questions and many more.

There is one striking feature of financialisation that has escaped most commentators: the dramatic effects of financialisation on the dynamics of race and gender stratification in the US labour market. Building on the identity model developed by Charles (2009, 2011a), the paper has argued that over the last three decades the financialisation process has created a
social hysteresis effect by linking managerial and financial occupations to high earnings, and in turn high earnings to the social status of the dominant demographic group in the US labour force, namely White men.

Drawing on unpublished data from the US Bureau of Labour Statistics (BLS) of the Current Population Survey (2010), the paper has empirically assessed the validity of this theoretical proposition. Three hypotheses emerge from this theoretical consideration, which are subsequently empirically tested: 1) the existence of a wage premium for individuals working in managerial and financial occupations, i.e. the existence of a finance wage premium; 2) the unequal distribution of the finance wage premium between different ethnic and gender groups; 3) the existence of a wage premium for individuals of a particular ethnic or gender group working in all occupations beyond managerial and financial occupations.

The results of the cointegration analysis presented in the paper suggest that the first and the second hypotheses are empirically confirmed, whereas there is inconclusive evidence for the third hypothesis, although the results derived fully explained still provide support for the hypotheses as postulated therein. In other words, the empirical analysis of this paper supports the notion that a finance wage premium exists for individuals working in managerial and financial occupations, and that this finance wage premium is not equally distributed between all gender and race groups present in the US labour market. For each ethnic group, men have taken an increasing share of the wage premium at the expense of women. More generally, White men (and increasingly also Hispanic men) have enjoyed a disproportionate share of the finance wage premium at the expense of Black women and Hispanic women. Putting it boldly, the theoretical and empirical analyses presented in the paper suggest that financialisation has been neither race nor gender neutral. It has in fact exacerbated gender and ethnic stratification in the US labour market.
REFERENCES


Figure 1: The Effects of Financialisation on US National Income Tree (Source Palley 2007 and authors’ elaborations)
Figure 2. Weekly Earnings in Managerial and Financial Occupations for White Men versus Average Weekly Earnings in All Occupations for all Demographic Groups

Note: Earnings represent the annual average of mean weekly earnings by ethnicity (current $).

Figure 3. Weekly Earnings in Managerial and Financial Occupations by Gender and Ethnicity
The Johansen tests are performed with a restricted trend and one lag. The Johansen test finds the rank of cointegration between the variables of the VECM via either the trace statistic test or eigenvalue. We follow the results of the trace statistic, denoted with *, testing for the null hypothesis that the number of cointegration vectors $r \leq x$. 

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Note: the Johansen tests are performed with a restricted trend and one lag. The Johansen test finds the rank of cointegration between the variables of the VECM via either the trace statistic test or eigenvalue. We follow the results of the trace statistic, denoted with *, testing for the null hypothesis that the number of cointegration vectors $r \leq x$.

Table 1. Johansen tests for cointegration
Long-Run Relationships

Cointegration Equation 1: \[ \text{manfin} = 703 - 1.2 \times \text{service} - 1.8 \times \text{sale} - 0.1 \times \text{constr} - 0.9 \times \text{farm} + 32.1 \times t \]

Cointegration Equation 2: \[ \text{prof} = 125 + 0.1 \times \text{manfin} + 2.8 \times \text{service} + 1.1 \times \text{sale} - 1.5 \times \text{constr} - 4.65 \times \text{farm} - 23.8 \times t \]

Note: Standard errors below coefficients with * and ** representing a coefficient significant at the 5 percent and 10 percent level, respectively.

Lagrangean-multiplier Test for Autocorrelation of Residuals

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Note: The Lagrange-multiplier test, up to four lags, tests the null hypothesis of no autocorrelation of the residuals. Prob. > Chi-square represents the probability of estimating a Lagrange multiplier test greater than the observed value under the null hypothesis, with the degrees of freedom (Df) allowed by the dataset. The eigenvalue stability condition assesses the stability of the cointegrating relationships. The specification of VECM1 imposes 4 unit moduli before computing the eigenvalue. Modulus refers to the absolute value of the eigenvalue as appropriate.

Table 2. Long-run Relationships of Weekly Earnings between Occupations (VECM1)
**Long-Run Relationships**

**Cointegration Equation 1:**
\[ \text{wm} = 2430 - 0.1 \text{bm} - 2.4 \text{bf} + 3.4 \text{hm} - 9.8 \text{hf} + 113t \]

**Cointegration Equation 2:**
\[ \text{wf} = 1432 - 0.1 \text{wm} - 1.5 \text{bf} + 1.6 \text{hm} - 5.3 \text{hf} + 65t \]

**Cointegration Equation 3:**
\[ \text{bm} = 6626 - 6.5 \text{bf} + 10 \text{hm} - 25 \text{hf} + 34t \]

Note: Standard errors are below each coefficient with * and ** representing a coefficient significant at the 5 percent and 10 percent level, respectively. The first letter of each variable refers to ethnicity (White, Black, or Hispanic), while the second letter refers to gender (male or female).

<table>
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Note: The Lagrange-multiplier test, up to four lags, tests the null hypothesis of no autocorrelation of the residuals. Prob > Chi-square represents the probability of estimating a Lagrange multiplier test greater than the observed value under the null hypothesis, with the degrees of freedom (Df) allowed by the dataset. The eigenvalue stability condition assesses the stability of the cointegrating relationships. The specification of VECM2 imposes 3 unit moduli before computing the eigenvalue. Modulus refers to the absolute value of the eigenvalue as appropriate.

**Table 3. Long-run Relationships of Weekly Earnings in Managerial and Financial Occupations between Different Demographic Groups (VECM2)**
Long-Run Relationships

Cointegration Equation 1: $wm = -61 - 1.9bm - 0.9bf + 1.1hm + 0.5hf + 0.7t$

Cointegration Equation 2: $wf = -22 + 0.3bm - 0.5bf - 0.6hm - 0.1hf - 7.8t$

Note: Standard errors are below each coefficient with * and ** representing a coefficient significant at the 5 percent and 10 percent level, respectively. The first letter of each variable refers to ethnicity (White, Black, or Hispanic) while the second letter refers to gender (male or female).

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Note: The Lagrange-multiplier test, up to four lags, tests the null hypothesis of no autocorrelation of the residuals. Prob > Chi-square represents the probability of estimating a Lagrange multiplier test greater than the observed value under the null hypothesis, with the degrees of freedom (Df) allowed by the dataset. The eigenvalue stability condition assesses the stability of the cointegrating relationships. The specification of VECM3 imposes 4 unit moduli before computing the eigenvalue. Modulus refers to the absolute value of the eigenvalue as appropriate.

Table 4. Long-run Relationships of Weekly Earnings in All Occupations between Different Demographic Groups (VECM3)
The authors thank Stella Cromartie (BLS) for help and support with the data used in the paper, and also Malcolm Sawyer for helpful comments.

1 From 1989 to 2005 corporate interest payments have fallen back from 101.3 percent to 36.3 percent of corporate profit (after interest payments). Palley (2007) arrives at a slightly different conclusion because he considers a longer time period starting early 1970s.


3 See Brancaccio and Fontana (2010) for a brief chronology of the financial crisis.

4 See Young (2008) and Burke and Young (2009) for a discussion of the nature and origin of social norms using evolutionary game theory. Charles (2011b) critically assesses this literature and explains how social norms may actually lead to unfair allocation of resources.

5 Asian men, and Asian women should also be included. Unfortunately, data on the Asian ethnic group per se is only available from 2000, rather than for the entire data period of 1983-2009. For the sake of consistency, therefore, the Asian ethnic group is not included in the empirical analysis.