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STRATIFICATION OF THE US LABOR MARKET

FINANCIALIZATION, THE GREAT RECESSION, AND THE STRATIFICATION OF THE US LABOR MARKET

Philip Arestis, Aurélie Charles, and Giuseppe Fontana

ABSTRACT

This contribution explores the possibility that financialization has created identity preference effects 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 labor force, namely white men. The empirical results confirm that a wage premium exists for individuals working in managerial and financial occupations and that this finance wage premium is not equally distributed among all gender and ethnic groups. For each ethnic group, men have taken an increasing share of the finance wage premium at the expense of women. More specifically, white and, in smaller amount, Hispanic men have enjoyed a disproportionate share of the finance wage premium. Financialization has thus been neither race nor gender neutral. In this respect, the gender and race stratification effects of the Great Recession are at least in part the long-run outcome of structural processes generated by the financialization process.

KEYWORDS

Financialization, Great Recession, income inequalities, social norms, race stratification, gender stratification

JEL Codes: E24, G20, J71

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INTRODUCTION

One of the most striking features of the Great Recession in the United States is the gender and race stratification of the labor market. This feature is hardly discussed by academics and policymakers. Looking at the evolution of gender-earning gaps and the dynamics of full-time and part-time employment from 2007 to 2009, this study illustrates the fact that the effects of the Great Recession have not been evenly distributed across all demographic groups present in the US labor market. For instance, with the exception of Asians, a small demographic group, full-time employment has fallen significantly less in percentage terms for whites compared to other ethnicities. Furthermore, while growth rates for part-time employment have all been positive, for each ethnic group, men have fared better than women, despite women representing a larger labor share than men. The Great Recession has also had unbalanced effects on the dynamics of gender-earning gaps. For instance, while there have always been large earnings differentials in full-time employment across all demographic groups, the whites experienced by far the largest gender gap across all ethnic groups in 2009. Furthermore, with the exception of Hispanics, earnings differentials in part-time employment across all demographic groups have deteriorated considerably during the Great Recession.

This study analyzes the gender and race stratification effects of the Great Recession and explores the possibility that at least some of these effects are the long-run outcome of structural processes that have generated hierarchies and disparities in the US labor force. We specifically analyze these dynamics during the financialization period.¹ Financialization, which started in the early 1980s and intensified leading up to the Great Moderation period, has played a major role in causing the Great Recession. Financialization has set in motion dramatic changes in income

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distribution in the US (Tom Palley 2008), which together with financial liberalization and the securitization process have led to the Great Recession (for a discussion of this point, see Jon D. Wisman and Barton Baker [2010]; Philip Arestis and Elias Karakitsos [2011a, 2011b]; Aurélie Charles and Giuseppe Fontana [2011]; Emiliano Brancaccio and Giuseppe Fontana [2011]). But, if financialization has played a major role in causing the Great Recession, which in turn has had important effects on gender and race stratification, could it also be the case that financialization itself has had an unequal impact on the different demographic groups of the US labor force? This contribution deals with which this core question.

The study sets out a theoretical and empirical framework for thinking about the gender and race dimensions of the financialization process. The theoretical core of the study merges Aurélie Charles' (2011a, 2012) theory of gender identity as a social norm with William A. Darity Jr., Patrick L. Mason, and James B. Stewart's (2006) theory of racial identity as a social norm. Identity discrimination is the "fair wage constraint" that connects gender inequality at home and gender discrimination in the market, while differences in wealth and social power reinforce the norms of racial identity strategies. Additionally, the study integrates gender and racial identity analyses into the financialization hypothesis and wage inequality. Considering the norms of gender and racial identity formation simultaneously, and together with the dynamics of the financialization hypothesis, yields three empirical hypotheses: first, the study tests the existence of a wage premium for individuals working in managerial and financial occupations in the US labor market. Second, it tests the possibility that this wage premium in managerial and financial occupations (for simplicity and in accordance with conventional use, thenceforth finance wage premium) is not equally distributed among all demographic groups. Third, the

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study tests the existence of a wage premium for individuals working in all occupations, the idea being that financialization may also have helped to spread the wage premium for some demographic groups from managerial and financial occupations to all occupations in the US labor market. The study uses time series data and error correction models to empirically examine each of these hypotheses.

The study draws on unpublished data from the US Bureau of Labor Statistics (BLS; 2011) of the Current Population Survey (CPS; 2010) for the period 1983 to 2009. One of the most attractive features of this data is that it offers a breakdown of US earnings by occupation, ethnicity, and gender. This feature allows a study of the role of social norms during the financialization process. It also permits investigating the possibility that social norms have created identity preference effects 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 labor force, namely white men.

The Great Recession and income inequality in the labor market

The so-called Great Moderation period of the last two decades, with low and stable inflation and low output variability, has been replaced by the worst global recession of the last sixty years or so. As a result, full-time employment has fallen significantly across the US labor force, along with a rise of the flexible labor force, meaning part-time laborers (Ayşegül Şahin, Joseph Song, and Bart Hobijn 2010; Aurélie Charles 2011b). This outcome is not surprising. In times of

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recession, cuts in production costs are translated into higher unemployment and greater use of part-time employment. Table 1 shows the changes in full- and part-time employment,² which were due to the Great Recession:³ from 2007 to 2009, all ethnic groups suffered extensive losses in full-time employment. The growth rates from 2007–9 for full-time employment were all negative, with men of all ethnic groups experiencing a larger loss than women. However, the fall in full-time employment is not evenly spread across ethnic groups. The white group experienced a fall of 6.67 percent, while the black and Hispanic groups experienced a fall of 10.32 percent and 9.73 percent, respectively.⁴

PLEASE INSERT TABLE 1

Table 1 also shows that during the Great Recession men and women working part time experienced positive growth rates. The exception is Asian men, who together with Asian women represent the smallest ethnic minority in the US labor force. The rise in part-time employment, though, has been uneven across ethnic and gender groups. From 2007 to 2009 the growth rate in part-time employment was 18.98 percent and 62.35 percent for white and Hispanic men (the largest groups of men), respectively, and 17.09 percent and minus 3.26 percent for black men and Asian men, respectively.⁵ Furthermore, with the exception of the small Asian group, for each ethnic group, men fared much better than women, despite women representing a larger labor share than men. For instance, white and Hispanic women experienced a positive growth rate of 7.40 percent and 26.11 percent in part-time employment, respectively, while white and Hispanic men saw a growth rate of 18.98 percent and 62.35 percent, respectively.

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Table 1 confirms that the Great Recession has made the US labor force more precarious by moving individuals (mostly men) from full- to part-time employment (where women and minorities are usually overrepresented). Furthermore, with the exception of the small Asian group, Table 1 shows that: (1) full-time employment has fallen significantly less in percentage terms for the white group compared to other ethnic groups; (2) growth rates for part-time employment are all positive, but men have fared better than women for each ethnic group.

PLEASE INSERT TABLE 2

The Great Recession has also had unbalanced effects on the evolution of gender-earning gaps. Gender-earning gaps (also known as gender-pay gaps) represent the difference between men and women's median weekly earnings expressed as a percentage of men's median weekly earnings. Table 2 presents gender-earnings gaps for different demographic groups in full- and part-time occupations in 2007 and 2009.⁶ Looking at the magnitude and dynamics of US gender-earnings gaps, there are two features worth pointing out. First, there are large earnings differentials in full-time employment across all demographic groups, while in part-time employment, where women represent more than two thirds of the labor force, gender gaps are much smaller, if not negative. For example, in 2009 white women's earnings in full-time occupations were 79.17 percent of white men's earnings, which represented the largest gender-earnings gap across all demographic groups. However, for the same year, white women's earnings in part-time occupations outweighed white men's earnings by 4.52 percent. Second, the dynamics of the gender-earnings gaps favor men at the expense of women. For instance, earnings

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differentials in full-time occupations for the white and Hispanic groups, which make up circa 85 percent of the total labor force, remained stationary or worsened between 2007 and 2009, while there was some progress in the earnings differentials of the black and Asian groups. However, during the same period, earnings differentials in part-time occupations for all demographic groups except Hispanics, which represented less than 11 percent of the labor force, deteriorated considerably.

Table 2 shows that, overall, the Great Recession has had unbalanced effects on the evolution of gender-earning gaps. For instance, while there are large earnings differentials in full-time employment across all demographic groups, the white group had the largest gender gap across all ethnic groups in 2009. Furthermore, with the exception of the Hispanic group, earnings differentials in part-time employment across all demographic groups have deteriorated considerably during the Great Recession. The next section explores the possibility that some of the gender and race stratification effects of the Great Recession are nothing but the long-run outcome of structural processes that have generated hierarchies and disparities in the US labor force. It specifically analyses these structural processes during the financialization period.

Financialization and the stratification of the US labor 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 of employees in the rest of the

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private sector during the financialization period. Even after controlling for education, the finance wage advantage amounted to around 10 percent for most of the 1980s. The advantage stabilized 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 advantage 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.

PLEASE INSERT FIGURE 1

Figure 1 shows the average weekly earnings in 1999 US dollars for managerial and financial occupations compared to the average weekly earnings for all other main occupations in the US from 1983 to 2009.⁷ Figure 1 confirms the existence of a finance wage premium uncovered by Philippon and Reshef. A pronounced above-average rise in the compensation of individuals working in managerial and financial occupations compared to all other main occupations is already noticeable in the 1980s.⁸ This rise in compensation increased considerably in the early 1990s. Interestingly, it also kept rising during the 2000s, including during the Great Recession.

PLEASE INSERT FIGURE 2

Figure 2 shows the average weekly earnings in 1999 US dollars for managerial and financial occupations for the largest gender and ethnic groups present in the US from 1983 to 2009. Within all the ethnic groups, men earned more than women. Furthermore, white men received weekly earnings well above all other demographic groups. For example, in 1983, white men working in managerial and financial occupations earned on average circa US\$1,000 a week in real terms, while the second best earners in these occupations were black men with US\$850 a week. Furthermore, in that year, the worst off groups were white and Hispanic women who earned on average circa US\$640. In 2009, white men employed in managerial and financial occupations earned on average US\$1,435 a week, while the second best earners in these occupations were Hispanic men with US\$1,065 a week. Furthermore, in that year, the worst off group was black women who earned on average circa US\$780.

In summary, Figures 1 and 2 confirm the existence of the finance wage advantage highlighted by Philippon and Reshef; in addition, they highlight the incompleteness of their explanation for it. The finance wage advantage does not show signs of declining, let alone disappearing. Furthermore, it is not equally distributed among all demographic groups: in tandem with the effects of the Great Recession presented in the previous section, white men seem to enjoy a privileged economic role at the expense of women and minorities.

Drawing on the stratification economics literature, this study suggests that the existence of gender and ethnic inequalities during the financialization process and the Great Recession is the result of structural and intentional processes generating hierarchy and disparities in the US

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labor force.⁹ Stratification economics is an emerging subfield in economics that integrates the significance of group positions and status from sociology with the study of self-interested behavior from economics (Rhonda M. Williams 1993; William A. Darity, Jr. 2005, 2009). Within stratification economics, group positions and status are treated as “produced forms of individual and collective property with both income and wealth generating characteristics and whose supply and demand are responsive to changes in production costs and budget constraints” (James B. Stewart 2008: 803). From this perspective, the existence of gender and ethnic inequalities during the past three decades is nothing but the produced outcome of “investments” in social norms that have promoted structured and cumulative advantages for some demographic groups. This case is especially true for white men working in managerial and financial occupations, at the expense of other demographic groups. In other words, the dramatic change in income distribution set in motion by the financialization process has created or reinforced social norms that have produced and perpetuated gender and ethnic identities with specific income and wealth generating characteristics (for a similar view on the origin and persistence of racial identity norms, see Darity, Mason, and Stewart [2006]; James B. Stewart [2010]). The next section shows how these newly created or reinforced social norms have interacted with fair wage constraints and exacerbated the gender and race stratification of the US labor force.

Identity preferences as an explanation of race and gender stratification

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Charles (2011a, 2012) maintains that gender-wage gaps are 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 labor market is then considered reasonable, irrespective of education and abilities. In other words, if at the household level men's earnings are on average higher than women's earnings, then this pattern is likely to be reproduced in the labor market across occupations, regardless of personal abilities. Furthermore, social norms of fairness also affect job opportunities for men and women. Again, since a lower entitlement to paid work for women is the norm at the household level, fewer job opportunities for women in the labor market are then considered socially acceptable. Finally, since different ethnic groups have different norms of behavior at the household level, this also explains why fair-wage constraints, and hence gender-wage gaps and job-opportunity gaps, differ across ethnic groups.

The idea of fair-wage constraints can be extended to explain both the existence of a wage premium in managerial and financial occupations and its uneven distribution among different demographic groups. This study argues that the considerable changes in income distribution caused by financialization have had an effect on, and in turn have been influenced by, social norms of fairness regarding reservation wages and job opportunities for men and women across different ethnic groups. In other words, income distribution changes have created and reinforced social norms that have interacted with fair-wage constraints to produce and perpetuate socially acceptable gender and ethnic identities with different income and wealth characteristics, and especially different bargaining power in the labor market. The formation and persistence of

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socially acceptable gender and ethnic identities has therefore established a source of intergroup conflict.

Individuals with a similar identity have an incentive to engage in personal and collective behavior that reduces negative externalities generated by the identity of other individuals, that is, individuals manifest “identity preferences.” These preferences are especially relevant for the analysis of the labor market. Employers manifest identity preferences in their hiring and firing decisions since when making these decisions, employers are affected by the identity of the demographic group to which they belong, and the social norms (and associated social sanctions) attached to this identity (Patrick L. Mason 1999). 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 offers to potential employees. Similarly, white men will make use of the same identity preferences when dismissing employees or reducing their pay. In practice, this means that a white male employer will consider certain jobs appropriate for white men and others for women and ethnic minorities, irrespective of individual education and abilities. The same idea will also apply to pay offers.

Therefore, the theoretical proposition put forward in this study is that the process of financialization has affected the identity preferences of the demographic groups operating in the US labor market in a way that has exacerbated rather than reduced gender and race inequality. There are three potential features linking financialization to the dynamics of race and gender stratification in US labor market. First, the financialization process may have created identity preference effects 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

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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 labor market. Secondly, the financialization 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 identity preference effects described above. It is indeed a well-established phenomenon that the social stratification of occupations and related employment opportunities depend, 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 among all demographic groups. Given the previous discussion of the race and gender stratification of the US labor market, the expectation is that white men are the winners in managerial and financial occupations at the expense of women and other ethnic minorities. Finally, the financialization process may have raised the social status of white men beyond managerial and financial occupations to all occupations in the US labor 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. 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. In summary, the following three hypotheses, all three of which follow from the theoretical premises put forward in this section, will be tested in the next section:

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H1: the existence of a wage premium for individuals working in managerial and financial occupations, which has been labeled as the finance wage premium.

H2: the unequal distribution of the finance wage premium described above among different ethnic and gender groups, namely white men, white women, black men, black women, Hispanic men, and Hispanic women.¹⁰

H3: the existence of a wage premium for individuals of a particular ethnic or gender group across all occupations.

A cointegration analysis of financialization

The theoretical hypotheses H1, H2, and H3 presented above are tested through cointegration analysis in order to reveal the long-run equilibria and short-run dynamics of earnings for different demographic groups within and across occupations. The rationale behind the use of a cointegration analysis is to test the interdependence of earnings variables endogenously determined by the gender and race identity preference effects described in the previous section. Cointegration analysis is the study of the interdependence of nonstationary variables. Unlike a stationary variable, the mean and variance of a nonstationary variable can change over time. This means that a nonstationary variable follows dynamic processes and is said to be integrated of order 1 or greater than 1. “Cointegration,” then, means that nonstationary variables can share a common (stationary or integrated of order 0) relationship, in which case their common relationship helps to explain their individual movements. Furthermore, this procedure enables us

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to derive corresponding short-run dynamic relationships that embed in them a relevant error-correction mechanism. This term is the error-correction term from the related long-run relationship. The relevant error-correction coefficient thereby derived is interpreted as providing the extent to which deviations from the long-run position are eliminated in each period. It is also the case that estimating this common long-run relationship together with its short-run dynamics requires some *a priori* knowledge of the theory behind the phenomenon under scrutiny. The covariance of nonstationary variables provides an empirical meaning that needs to be grounded into *a priori* economic theory (Hashem M. Pesaran and Yongcheol Shin 2002; Anthony Garratt, Kevin Lee, M. Hashem Pesaran, and Yongcheol Shin 2006).

The current literature on gender and ethnic inequality in effect uses either stationary time-series data in order to implement Vector Auto Regression (VAR) analyses (for example, see Yelena Takhtamanova and Eva Sierminska [2009]), or cross-section data (Rhonda M. Williams and Robert E. Kenison 1996). For example, Takhtamanova and Sierminska (2009) turn nonstationary employment variables into first-difference stationary variables in order to implement a VAR analysis across nine OECD countries. However, the literature on cointegration shows that non-stationarity in itself provides important information about the interdependence of the variables under study (see, for example, Robert F. Engle and Clive W.J. Granger [1987]; Pesaran and Shin 2002). For this reason, the weekly earnings variables used in the empirical models tested below, namely Vector Error Correction Models (VECMs), are all in level in order to maintain their nonstationary character. Furthermore, augmented Dickey–Fuller tests are performed on all weekly earnings variables in level, in order to confirm that the null hypothesis of a unit root cannot be rejected.¹¹ The three theoretical hypotheses described above, namely H1,

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H2, and H3, lead to the estimation of three VECMs in the tradition of Engle and Granger (1987), and Clive W. J. Granger (2010).

The first VECM (or VECM1) tests for the existence of a wage premium in managerial and financial occupations over earnings across occupations (the so-called finance wage premium). VECM1 includes weekly earnings in the following activities: managerial and financial occupations (*manfin*), professional occupations (*prof*), service occupations (*service*), sale occupations (*sale*), construction trades occupations (*constr*), and farming, forestry and fishing occupations (*farm*). Provided that all variables are nonstationary, VECM1 is then split into two VECMs, namely VECM1a and VECM1b. This division isolates in VECM1b the effect of the earnings in the declining sectors, meaning construction trades, farming, fishing, and forestry, on earnings in managerial and financial occupations. VECM1a is thus composed of weekly earnings in managerial and financial occupations (*manfin*), professional occupations (*prof*), service occupations (*service*), and sale occupations (*sale*). By contrast, VECM1b is composed of weekly earnings in managerial and financial occupations (*manfin*), construction trades occupations (*constr*), and farming, forestry and fishing occupations (*farm*).

The second VECM (or VECM2) tests whether the wage premium in managerial and financial occupations is equally distributed among gender and ethnic groups. Therefore, VECM2 includes weekly earnings in managerial and financial occupations of the following six demographic groups: white men (*wm*), white women (*wf*), black men (*bm*), black women (*bf*), Hispanic men (*hm*), and Hispanic women (*hf*). Furthermore, in order to distinguish between ethnic and gender groups, and provided that all variables are nonstationary, VECM2 is split into two VECMs, namely VECM2a and VECM2b. VECM2a is composed of weekly earnings in

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managerial and financial occupations for the different ethnic groups, namely white men (*wm*), black men (*bm*), and Hispanic men (*hm*). The mutually reinforcing gender stratification effects are analyzed with VECM2b, which is composed of weekly earnings in managerial and financial occupations for white men (*wm*), white women (*wf*), black women (*bf*), and Hispanic women (*hf*).

Finally, the third VECM (or VECM3) tests whether a wage premium for the dominant demographic group, namely white men, exists beyond managerial and financial occupations. VECM3 includes weekly earnings for all occupations of white men (*wm*), white women (*wf*), black men (*bm*), black women (*bf*), Hispanic men (*hm*), and Hispanic women (*hf*). Bearing in mind the ethnic and gender stratification of the US labor force, and again provided that all variables are nonstationary, VECM3 is split into two VECMs, namely VECM3a and VECM3b. VECM3a is composed of weekly earnings in all occupations for white men (*wm*), black men (*bm*), and Hispanic men (*hm*), while VECM3b is composed of weekly earnings in all occupations for white men (*wm*), white women (*wf*), black women (*bf*), and Hispanic women (*hf*).

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

$$z_t = \Phi_1 z_{t-1} + \Phi_2 z_{t-2} + \dots + \Phi_p z_{t-p} + \varepsilon_t, t = 1, \dots, T, \quad (1)$$

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

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$$\Delta z_t = c_0 + c_1 t + \Pi z_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta z_{t-i} + \varepsilon_t, t = 1, \dots, s, \dots, T, \quad (2)$$

where z_t is a $m \times 1$ vector of $I(1)$ variables, with $m=4$ in VECM1a, $m=3$ in VECM1b, $m=3$ in VECM2a, $m=4$ in VECM2b, $m=3$ in VECM3a, and $m=4$ in VECM3b as stated with the above variables; where Π and Γ_i 's are given by

$$\Pi = \sum_{i=1}^p \Phi_i - I_m, \quad \Gamma_i = - \sum_{j=i+1}^p \Phi_j, \quad (2.1)$$

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

$$E(\varepsilon_t) = 0; E(\varepsilon_t \varepsilon_s') = \begin{cases} \Sigma & \text{for } t = s \\ 0 & \text{for } t \neq s \end{cases} \text{ with } \Sigma \text{ a } m \times m \text{ symmetric positive definite matrix.}$$

The data set

The source of the data set is (CPS 2010) from BLS (2011). The CPS presents annual averages of weekly earnings of the full-time wage and salary of the US labor force, which are gathered monthly by personal and telephone interviews. The data allow a detailed analysis of earnings inequalities among demographic groups within and across occupations. The data set spans from 1983, the earliest year data is available, to 2009, and has been deflated using the annual CPI, base year 1999=100, from BLS (2011). It is made of unpublished files available either electronically (period 1996–2009) or in hard copy from microfiche (period 1983–95). 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

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Classification System (NAICS) and the 2000 Standard Occupational Classification System (SOC), respectively. The 2002 Census Industry and Occupation Classification System has many advantages, for example, 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. To consolidate their data set, CPS developed employment estimates for 2000–2 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 with the title of “business and financial operations occupations” and as an explicit subcategory of “management, business, and financial operations occupations” (the old “executive, administrative, and managerial occupations”) only in 2000. Consequently, the category “managerial and financial occupations” in the data set is the combination of the “executive, administrative, and managerial occupations” category for the period 1983–99, and the “management, business, and financial operations occupations” category for the period 2000–9. It is worthy to note that the criterion used for grouping occupations into one title is stability in occupational shares over time (for a similar method, see Philippon and Reshef [2009]). The remaining occupation categories represented in the data set (with comparable levels of aggregation) 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.¹²

Empirical results

This section presents the results for VECM1, VECM2, and VECM3 testing hypotheses H1, H2, and H3, respectively. VECM1, VECM2, and VECM3 estimate the cointegrating equations (or long-run relationships) as well as the short-run dynamics of the variables, with the relevant error-correction terms under scrutiny. The long-run relationships VECM1, VECM2, and VECM3 show the equilibrium level of earnings on the left-hand side of each equation given equilibrium earnings on the right-hand side of each equation over the period 1983–2009. The equilibrium relationship is stable over the period since the error term is stationary, reverting back to its zero mean value. The changes in gaps between earnings variables are therefore investigated through the short-run dynamics and the impulse responses of the variables.

The number of cointegrating equations for each VECM is derived from the Johansen (1991) tests,¹³ which reveal one cointegrating equation per VECM according to the trace statistic. By construction, the Johansen procedure imposes restrictions on the cointegrating equations. The number of restrictions should be equal to the square number of cointegrating equations (r^2), and an equal number of restrictions should be placed on each equation in order to consider all variables as endogenous (Pesaran and Shin 2002). As part of these restrictions, the choice of the left-hand side variables in all cointegrating equations closely follows the theoretical propositions as postulated above. Therefore, the cointegrating equation of VECM1 is normalized with the highest paid/social status occupation, meaning managerial and financial occupations.

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Similarly, the cointegrating equations of VECM2, and VECM3 are normalized with the demographic group displaying the largest share of the total labor force, meaning white men.

All empirical results for VECM1, VECM2, and VECM3 are presented in Table 3, Table 4, and Table 5, respectively.¹⁴ Results for diagnostic tests of each estimated VECM are also presented in the same tables. The Lagrange multiplier tests the null hypothesis of no serial correlation of the residuals for each VECM, up to two lags. When describing the results, the probability of obtaining the LM statistic, if there is no serial correlation of the residuals, is used when statistically significant, at the 5 percent level. We also use the white heteroskedasticity test, which assesses the null hypothesis of no heteroskedasticity (or no misspecification) of the residuals. The test regression is run by regressing each cross product of the residuals on the cross products of the regressors and testing the joint significance of the regression, using only the levels and squares of the original regressors. Finally, impulse responses are presented in Figures 4, 5, and 6 of the Appendix for VECM1, VECM2, and VECM3, respectively. For consistency with the restrictions made, the tables report the responses of the left-hand side variables in each cointegrating equation (namely managerial and financial occupations for VECM1 and white men for VECM2 and VECM3) to generalized one standard deviation innovation of all right-hand side variables.

Table 3 displays the results of VECM1, which estimates one long-run cointegrating relationship between weekly earnings in managerial and financial occupations (*manfin*), professional occupations (*prof*), and service occupations (*service*). Given that sales (*sales*), construction trades (*constr*), and farming, forestry, and fishing occupations (*farm*) are found to be stationary or trend-stationary, they are entering VECM1 as exogenous variables and therefore

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only appear in the short-run dynamics equation. . All diagnostic tests for VECM1 are satisfactory.¹⁵

PLEASE INSERT TABLE 3

The long-run relationship estimated in Table 3 show that the increase in total earnings in real terms over the period 1983–2009 across the total labor force has benefited earnings in managerial and financial occupations at the expense of earnings in professional and service occupations. For instance, the increase of earnings in managerial and financial occupations over the period is 1.75 times greater than the increase of earnings in service occupations (see also Figure 3 in the Appendix for the breakdown of weekly earnings in different occupations). Furthermore, in Figure 4 of the Appendix, impulse response graphs show that managerial and financial earnings respond positively to one standard deviation innovation of managerial and financial earnings, and earnings in professional and service occupations, which confirms the results of the co-integrating equation VECM1.

In the short-run dynamics of VECM1, the error correction coefficient (EC1) describes the speed at which short-run changes adjust to the long-run equilibrium. The EC1 coefficient is negative and less than unity. It is also statistically significant at the 5 percent level. The value of the EC1 coefficient (-0.63) reflects a fast adjustment process of managerial and financial earnings to the long-run relationship VECM1. Furthermore, the sign and value (-0.77) of the

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short-run coefficient of earnings in service occupations is fully consistent with the long-run equilibrium, and significant at the 10 percent level.

In summary, the long-run relationship for VECM1, short-run dynamics, and impulse responses presented in Table 3 and Figure 4 support the existence and exacerbation of a wage premium in managerial and financial occupations vis-à-vis earnings in all other occupations, and more specifically vis-à-vis earnings in service and professional occupations. These results confirm the findings of Philippon and Reshef (2009). Also, the exacerbation of this wage premium is specific to managerial and financial occupations, rather than being related to highly paid jobs, such as professional occupations, vis-à-vis low-paid occupations.

PLEASE INSERT TABLE 4

Table 4 displays the results for VECM2a, which estimates one long-run co-integrating relationship between weekly earnings in managerial and financial occupations of white men (*wm*), black men (*bm*), and Hispanic men (*hm*). Table 4 also displays VECM2b, which estimates one long-run co-integrating relationship between weekly earnings in managerial and financial occupations of white men (*wm*), white women (*wf*), black women (*bf*), and Hispanic women (*hf*). All diagnostic tests for VECM2a and VECM2b are satisfactory.¹⁶

The results of VECM2a and VECM2b essentially describe the distribution across demographic groups of the finance wage premium identified with VECM1. The long-run co-integrating relationships VECM2a and VECM2b support in several ways the hypothesis that

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there is a distribution process of earnings in managerial and financial occupations toward white men over the period 1983–2009. In Figure 5 of the Appendix, impulse-response graphs show that earnings of white men ($r99wm2$) respond positively to one standard deviation innovation of black men's earnings ($r99bm2$), which confirms the unequal distribution of the wage premium at the expense of black men's earnings in the co-integrating equation VECM2a. Short-run dynamics of white men's earnings in VECM2a show a slow adjustment process to its long-run relationship VECM2a with an error correction coefficient (EC2a) of -0.08 (significant at 10 percent level). The co-integrating equation VECM2b also shows that the distribution process of earnings in managerial and financial occupations toward white men has been made at the expense of white and Hispanic women. The co-integrating equation VECM2b shows a rising gender-wage gap between white men and women, which is confirmed by the impulse responses in Figure 5 of the Appendix. In effect, impulse responses show that earnings of white men ($r99wm2$) respond positively to one standard deviation innovation of white women's earnings ($r99wf2$), black women's earnings ($r99bf2$), and Hispanic women's earnings ($r99hf2$). Short-run dynamics of white men's earnings in VECM2b show that short-run changes in white men's earnings revert very quickly to the long-run relationship VECM2b with an error-correction coefficient (EC2b) of -0.88 (significant at 5 percent level).

In summary, the long-run relationships for VECM2, short-run dynamics, and impulse responses presented in Table 4 and Figure 5, respectively, support the hypothesis of an unequal distribution of the increasing wage premium in managerial and financial occupations. White men benefit more than any other demographic groups in the US labor force from the increasing wage

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premium. Whether this pattern is restrained to managerial and financial occupations, or is repeated across all occupations, is displayed in Table 5.

PLEASE INSERT TABLE 5

Table 5 displays the results of VECM3a, which estimates one long-run co-integrating relationship between weekly earnings in all occupations for white men (*wm*), black men (*bm*), and Hispanic men (*hm*). Table 5 also displays VECM3b, which estimates one long-run co-integrating relationship between weekly earnings in all occupations for white men (*wm*), white women (*wf*), and Hispanic women (*hf*). The variable representing the earnings of black women in all occupations (*bf*) is found to be trend-stationary. Therefore, it enters VECM3b as an exogenous variable, and as a result it only appears in the short-run dynamics equation. All diagnostic tests for VECM3a and VECM3b are satisfactory.¹⁷

The long-run relationship VECM3a shows that the increase in white men's earnings is essentially at the expense of Hispanic men's earnings, although the coefficient of 0.49 is not statistically significant. In Figure 6 of the Appendix, impulse responses show that earnings of white men (*r99wm9*) respond positively to one standard deviation innovation of black men's earnings (*r99bm9*) and Hispanic men's earnings (*r99hm9*). Short-run changes in white men's earnings in VECM3a revert relatively quickly to its long-run relationship with an error correction coefficient (EC3a) of -0.23, which is statistically significant at the 5 percent level.

The results for VECM3b highlight a gender stratification of earnings in all occupations, although this is different from the gender stratification found in managerial and financial

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occupations in VECM2b. One explanation for this trend is the increasing labor force participation of women over the past thirty years. However, this has not benefited Hispanic and black women's earnings as much as white women's earnings. This latter finding needs to be cautiously interpreted due to the heterogeneity of all occupations, and to the change in labor force participation of each demographic group across all occupations. The evolution of earnings gaps needs further investigation with occupation-specific control factors. Finally, it is worth noting that just as in the case of VECM3a, the VECM3b error correction coefficient (EC3b) of -0.39 indicates a relatively quick reversion to the long-run equilibrium position. EC3b is statistically significant at 5 percent level.

SUMMARY AND CONCLUSIONS

There is one striking feature of the Great Recession that has escaped most commentators: the gender and race stratification of the US labor market. This study has analyzed these gender and race stratification effects and has explored the possibility that at least some of these effects are the long-run outcome of structural processes. Building on the stratification economics literature, the study has argued that over the last three decades the financialization process has created identity preference effects 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 labor force, namely white men. Drawing on unpublished data from BLS (2011) of the CPS (2010), the study empirically assessed the validity of this theoretical proposition by testing the following

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three hypotheses: 1) the existence of a wage premium for individuals working in managerial and financial occupations, meaning the existence of a finance wage premium; 2) the unequal distribution of the finance wage premium among 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.

The results of the cointegration analysis presented in the study are consistent with the first and the second hypotheses, whereas there is inconclusive evidence for the third hypothesis. In other words, the empirical analysis of this study supports the notion that a growing wage premium exists for individuals working in managerial and financial occupations over the period 1983–2009, and that this growing wage premium is not equally distributed among all gender and race groups present in the US labor market. For each ethnic group, white and, in smaller amount, Hispanic men have taken an increasing share of the wage premium at the expense of black men, white women, and Hispanic women. More generally, white and Hispanic men have enjoyed a disproportionate share of an exacerbating wage premium. Putting it boldly, the theoretical and empirical analyses presented in this study suggest that financialization has been neither race nor gender neutral. It has in fact exacerbated gender and ethnic stratification in the US labor market. From this perspective, the gender and race stratification effects of the Great Recession are at least in part the long-run outcome of structural processes generated by the financialization process.

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NOTES

¹ Gerald A. Epstein (2005), Greta R. Krippner (2005), William Lazonick and Mary O'Sullivan (2000), and Engelbert Stockhammer (2004), among others, present a discussion of the financialization process and its main features.

² These figures do not account for “foregone” employment, namely the employment growth that would have occurred if the Great Recession had not happened. Noting that women’s employment has tended to grow faster than men’s employment, Howard J. Wall (2010) shows that the difference between men’s and women’s employment (minus 6.4 percent and minus 2.6 percent, respectively) is reduced dramatically once foregone employment is taken into account (minus 8.9 percent and minus 6.7 percent, respectively). Wall also shows that there are interesting differences in the race effects of the Great Recession. Since black employment has tended to grow faster than white employment, the difference between white and black employment (minus 4.4 percent and minus 7.5 percent, respectively) increases substantially once foregone employment is taken into account (minus 7.4 percent and minus 11.3 percent, respectively).

³ According to the Business Cycle Dating Committee of the National Bureau of Economic Research (NBER), the Great Recession lasted eighteen months. It began in December 2007 and ended in June 2009. This makes it the longest of any recession in the US since World War II.

⁴ It is important to note that the growth rate in full-time employment for each ethnic group is a weighted average of the growth rates of men and women in full-time employment. The weights are men and women’s share of the total employment in each ethnic group.

⁵ It should be noted that the Hispanic group is coded in the CPS (2010) under the “Hispanic origin” category, meaning that Hispanic is an ethnic category rather than a racial category. Also, please note that from 1983 until 1999, the Hispanic group was coded in CPS (2010) as “Hispanic Origin,” while from 2000 onwards it is coded as “Hispanic” or “Latino Origin.”

⁶ For more recent data on gender-earning gaps in the US, see Institute for Women’s Policy Research (IWPR; 2010).

⁷ Figure 1 shows the increasing gap between earnings in managerial and financial occupations and earnings in all other occupations. Figure 3 in the Appendix shows the evolution of earnings for the different occupational categories covered in the cointegration analysis (VECM1). Figure 3 confirms the existence of a finance wage premium.

⁸ The occupation category “managerial and financial occupations” is a broad, aggregative earnings group, encompassing occupations with diverse pay and working conditions. For instance, it includes “Chief executives” as well as “Social and community service managers.” Furthermore, given the profound technological changes experienced by the finance sector over the last thirty years, the latest data includes new occupations (e.g. software and hardware related) that were not part of the category “managerial and financial occupations” when the data series started.

⁹ Along similar lines, Patrick L. Mason (1995, 1999) establishes a casual nexus among racial segregation, racial wage inequality, and the wage–profit distribution.

¹⁰ Asian men and women should also be included. Unfortunately, data on the Asian ethnic group per se is only available since 2000, rather than for the entire data period of 1983–2009. For this

reason, and in order to maximize the degree of freedom, the Asian ethnic group is not included in the cointegration analysis.

¹¹ The results of the augmented Dickey–Fuller tests can be obtained from the authors upon request.

¹² It is important to note that one of the main limitations of income data sets, including the CPS (2010) data set, is that in order to maximize confidentiality and minimize disclosure risk the data are right-censored, meaning they are top-coded. This means that CPS data above the source-specific threshold are replaced in the public use data files by the threshold itself (the “top-code”). For instance, the higher category of weekly income in the CPS is top-coded at “\$2,000 and above.” In 2002, 11 percent of people surveyed in managerial occupations fell within this category before rising to 20 percent in 2009. Similarly, in 2002, 5.6 percent of people surveyed in financial occupations fell within the “\$2,000 and above” category, before rising to 10 percent in 2009.

¹³ The results of the Johansen tests can be obtained from the authors upon request.

¹⁴ Results are obtained using the EViews software package (Eviews version 5.0).

¹⁵ The Lagrangean multiplier tests show no sign of serial correlation in the residuals up to two lags for VECM1 which is significant at the 5 percent level. The white test shows no sign of heteroskedasticity in the residuals, and is significant at the 5 percent level.

¹⁶ The Lagrangean multiplier test shows no sign of serial correlation in the residuals up to two lags, which is significant at the 5 percent level for VECM2a and VECM2b. Similarly, the white test shows no sign of heteroskedasticity in the residuals of VECM2a and VECM2b, and is significant at the 5 percent level.

¹⁷ The Lagrangean multiplier test shows no sign of serial correlation in the residuals up to two lags, which is significant at the 5 percent level, for VECM3a and VECM3b. Similarly, the white test shows no sign of heteroskedasticity in the residuals of VECM3a and VECM3b, and is significant at the 5 percent level.