Financialization and its Consequences: the OECD Experience

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Abstract This paper examines the incidence and consequences of financialization in the industrialized countries of the Organization for Economic Cooperation and Development (OECD). Using the latest panel data from the OECD and the ILO, the paper first documents the extent of financialization in OECD countries and then analyzes the relationships between financialization and three other variables: inequality, growth and unemployment. There is strong empirical evidence for considerable financialization across the OECD, with significant and negative impacts on all three variables.

Index Terms Finance, Value Added, Inequality, Growth, Unemployment

I. INTRODUCTION

Over the past decade, a growing literature has focused on the causes, patterns and consequences of financialization. Krippner (2005), for example, highlights recent corporate scandals as dramatizing “the degree to which financial machinations have superseded productive enterprise in the US economy”. In the wake of the recent financial and economic crises, some have even argued that financialization was a contributing factor to the meltdown. Freeman (2010) documents “the huge costs to the real economy of the finance-induced ‘Great Recession’, in terms of lost employment and likely reductions in public goods and economic growth as countries re-stabilize their fiscal budgets following costly bailouts and stimulus packages.” Kedrosky and Stangler (2011) specifically mention the financialization of the US economy as leading, “in part, to the financial crisis of 2008/2009.”

These authors focus on financialization in the US economy. However, as Palley (2007) points out, “judging by the increase in rentier income shares, financialization appears to have infected all industrialized economies”. This claim is supported by Power, Epstein and Abrena (2003) as well as Jayadev and Epstein (2007) for OECD countries. The present paper analyzes the latest panel data from the OECD and the ILO and confirms the strong incidence of financialization in the OECD since 1970. Furthermore, we find that financialization indeed has negative effects on inequality, growth and unemployment.

II. LITERATURE REVIEW

The literature on financialization points out the negative impacts of financialization on both the real and financial sides of the economy. Palley (2007) notes that “the era of financialization has been associated with tepid real economic growth, and growth also appears to show a slowing trend...[as well as]...increased financial fragility.” Epstein (2001) finds financialization to be “associated with substantial economic costs: increased income inequality; increased shares of GDP going to owners of financial assets, who tend to be among the very rich in most countries”. Stockhammer (2004) builds a model to show how financialization slows economic growth, explained by a shift of corporate power from managers to shareholders who prefer a higher profit-rate to a faster growth rate (assuming an explicit growth-profit trade-off built into the model). Yeldan (2000) conducts a detailed case study of Turkey (an OECD member), where the process of deregulation and financialization caused a widening of the income distribution. Yeldan is able to “associate the rising income inequality with the broad tendency towards the marginalization of labor due to informal industrial relations, advances in new technologies which favor skill-intensive production patterns, and an unequivocal trend towards the disassociation of the financial sector from the productive sphere of the economy and the concomitant expansion of financial rents”. The same paper observes not only the adverse effect of financialization on inequality, but also its negative impact on economic growth: “With the complete deregulation of financial transactions [in Turkey] and the consequent ascendancy of finance over industry, international finance capital was able to assume a dominant role so as to act as the sole arbiter, aiming at immediate financial gains rather than at long-term economic development and sustainable growth”. The mechanisms suggested by Yeldan are globalization, deregulation and financialization, all severing “the links between the processes of savings generation and the productive use of these funds in the enhancement of capital accumulation”...[the] unbalanced structure failed to generate the necessary accumulation patterns to achieve sustained growth”.

Finally, financialization appears to negatively impact unemployment as well, as found by both Stockhammer (2004) and Freeman (2010), either through the channel of financial crises or through slower accumulation of (real) capital. The increasing automation of financial trading could be another contributing factor to reductions in employment as the economy becomes more financialized.

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The present paper uses the latest available panel data and several models to examine both the extent and the consequences of financialization in the 34 member countries of the OECD. The following four hypotheses will be tested:

1. OECD countries have experienced a significant process of financialization of their economies since around 1970
2. Financialization in these countries has been associated with increased inequality
3. Financialization in these countries has been associated with slower growth rates of GDP
4. Financialization in these countries has been associated with higher rates of unemployment

Based on the literature surveyed we expect to find strong evidence for accepting all four of these hypotheses.

The rest of the paper proceeds as follows. Section III discusses alternative definitions and measures used in the literature on financialization. Section IV examines the extent to which financialization has taken place in OECD countries since 1970, using two indicators. Section V looks at data and models used to test the impacts of financialization, section VI describes the results of the estimation and section VII concludes.

III. DEFINITIONS AND MEASUREMENT

There are many definitions of financialization. Epstein (2001) defines it as “the increasing importance of financial markets, financial motives, financial institutions, and financial elites in the operation of the economy and its governing institutions, both at the national and international level” (quoted in Palley 2007). Krippner (2005) defines financialization “as a pattern of accumulation in which profits accrue primarily through financial channels rather than through trade and commodity production”. Stockhammer (2004) defines it as “the increased activity of non-financial businesses on financial markets”.

Associated with this variety of definitions is a plethora of indicators used to measure the extent of financialization. Kedrosky and Stangler (2011) measure it using the size of the financial sector as a percentage of GDP. Stockhammer (2004) uses interest and dividend income (‘rentiers’ income’) of non-financial businesses as a proxy for financialization. Freeman (2010) looks at the financial sector’s share of profits, the ratio of financial-sector profits to the wages and salaries of all private-sector workers, and the ratio of financial assets divided by GDP. Krippner (2005) uses portfolio income of non-financial firms and profits of financial vs. non-financial firms.

The present paper will measure the extent of financialization in OECD countries (both in Europe and beyond) using two aggregate indicators:

- Value added in finance as a percentage of total value added
- Employment in finance as a percentage of total employment

Finance in the national accounts is defined as the sum of financial intermediation, real estate, renting and business activities (FIRE for short)

This approach looks at financialization from both the output and input sides of the economic process, as value added measures economic output (in this case, in financial services), while employment in finance is the labor input into these industries.

IV. THE EXTENT OF FINANCIALIZATION IN OECD COUNTRIES

Using the first indicator of financialization, the share of finance in total value added, a dramatic shift is visible. In 1970 only two OECD members – France and Mexico – had more than a fifth of value added coming from finance (20.6% and 23.2% respectively). By 2008, fully 28 of the 34 members of the organization had finance shares exceeding 20%, and 15 countries had shares of over 25%. At the top of the list, excluding Luxemburg (which is an outlier being a small and specialized financial center), are Israel, France, United States, United Kingdom, Australia, and New Zealand – each with more than 30% of their value added coming from the financial sector. In relative terms, 11 countries more than doubled their initial finance share by 2008 (Korea, Austria, Belgium, Germany, Ireland, Netherlands, New Zealand, Australia, Iceland, United Kingdom, and Finland). Luxemburg increased its share by a factor of 7, from 7% of total value added in 1970 to 49.2% in 2008.

The other measure of financialization, employment in finance as a percentage of total employment, tells a similar story. In the earliest years for which data are available (1970 through 1994), no OECD countries had 10% or more of their working force employed in finance. Only five countries had more than 5% in the first year for which data is available (Iceland with 9.6% in 1991, New Zealand 8.6% in 1986, Belgium 7.9% in 1988, Germany 7.5% in 1991 and Australia with 7.1% in 1970). By 2008, a majority of OECD members – 23 countries - had more than 10% employed in finance. Even if we exclude the special case of Luxemburg (with 28.9% employed in finance in 2008), seven countries had more than 15% of employment in finance by 2008: Switzerland, United States, Israel, Sweden, Netherlands, Australia, and Canada.

In relative terms financialization has gone even further, with 10 countries doubling their employment in finance to total employment ratio, five countries tripling it, and seven going much farther (Korea, Luxembourg and Spain saw their ratios increase nine-fold, Italy six-fold, Japan five-fold, and Poland and Finland four-fold).

V. DATA AND MODELS

Having established the clear presence of financialization in the OECD, we can now examine the relationships between financialization and three variables - inequality, growth and unemployment - using the latest annual data from the OECD and the ILO. The explanatory variable – financialization – is measured using data from two different sources as mentioned above:
**FIRE_VA** = value added in finance as a % of total value added (1970-2008, OECD data)

**Empl_FIRE** = employment in finance as a % of total employment (1970-2008, ILO data)

Even though data for the first indicator were available up to 2010, only data up to 2008 were used, to avoid capturing the effects of the financial crisis and muddling the analysis.

For the first two dependent variables – inequality and growth – an updated panel dataset from the OECD itself is available. Data on GINI coefficients exists for income inequality before and after taxes. The before-tax GINI was selected for the present paper, since tax and transfer policies tend to reduce inequality and would thus make it hard to see the impact of financialization on the income distribution. These data as well as those for annual growth rates of GDP are available from 1970 (in most countries) to 2008. Annual unemployment figures are available from the ILO for the same time period:

**GiniAnte** = GINI coefficient for income inequality before taxes (data points for mid-70s, mid-80s, around 1990, mid-90s, around 2000 and mid-2000s, OECD data)


**Unempl** = annual rate of unemployment (1970-2008, ILO data)

**A. Correlation Analysis**

Table 1 in the Appendix presents the matrix of correlation coefficients between the five variables used in this paper (two independent variables, three dependent variables). As predicted by the literature, the first measure of financialization – the share of finance in total value added - is strongly and positively correlated with inequality (before taxes and transfers). It also has a negative relationship with growth and a positive relationship with unemployment, though the last two correlations are weaker. There is also a strong positive correlation between the two explanatory variables (the two measures of financialization), as would be expected.

The second measure of financialization - employment in finance as a percentage of total employment – also has a positive relationship with inequality and a negative relationship with growth, but a negative rather than positive correlation with unemployment. This could be due to Luxembourg’s outlier position (28.9% of total employment is in finance as mentioned above), and should be reversed using a fixed-effects regression as below.

**B. Regression Analysis**

Moving beyond correlations to regression analysis, the following models have been estimated, using both the **FIRE_VA** and Empl_FIRE measures of financialization. The models also include a control for per capita income - Per_Capita - to account for various levels of development of countries.

The following three models in four variants will be estimated using fixed-effects panel regression:

**Financialization and Inequality**

1) \( GINI = \alpha + \beta_1 FIRE_VA + \varepsilon \)
2) \( GINI = \alpha + \beta_1 FIRE_VA + \beta_2 Per_Capita + \varepsilon \)
3) \( GINI = \alpha + \beta_1 Empl_FIRE + \varepsilon \)
4) \( GINI = \alpha + \beta_1 Empl_FIRE + \beta_2 Per_Capita + \varepsilon \)

**Financialization and Growth**

1) \( GDP_growth = \alpha + \beta_1 FIRE_VA + \varepsilon \)
2) \( GDP_growth = \alpha + \beta_1 FIRE_VA + \beta_2 Per_Capita + \varepsilon \)
3) \( GDP_growth = \alpha + \beta_1 Empl_FIRE + \varepsilon \)
4) \( GDP_growth = \alpha + \beta_1 Empl_FIRE + \beta_2 Per_Capita + \varepsilon \)

**Financialization and Unemployment**

1) \( Unempl = \alpha + \beta_1 FIRE_VA + \varepsilon \)
2) \( Unempl = \alpha + \beta_1 FIRE_VA + \beta_2 Per_Capita + \varepsilon \)
3) \( Unempl = \alpha + \beta_1 Empl_FIRE + \varepsilon \)
4) \( Unempl = \alpha + \beta_1 Empl_FIRE + \beta_2 Per_Capita + \varepsilon \)

**VI. Estimation**

In all three fixed-effects panel regressions, the null hypothesis that the groups have a common intercept could not be rejected. For financialization and inequality, the critical value of 1.68745 was far below the test statistic of \((16, 231) = 28.716\). Likewise for financialization and growth, the critical value of 1.46518 was well below the test statistic of \((31, 825) = 7.26987\), and for financialization and unemployment, the critical value of 1.46576 was far below the test statistic of \((31, 792) = 35.0983\).

**A. Financialization and Inequality**

Table 2 shows the fixed-effects regression results where the dependent variable is inequality before taxes and transfers. The relationship between finance as a share of value added and inequality is strong and positive, with a coefficient of 0.57 in column 1 (significant at the 1% level). Controlling for per capita income yields a similarly strong parameter, 0.49 (column 2). The share of finance in employment is also significant and bigger (at 0.73 without and 0.81 with a control for per capita income in columns 3 and 4 respectively), and the regressions explain even more than those with the value added indicator (as shown by the higher R^2 scores). It seems that the financialization is strongly correlated with higher inequality. Each percentage increase in the share of finance in total value added is associated with up to 0.57% more inequality, while each percentage increase in the share of finance in total employment is associated with up to 0.81% more inequality.

**B. Financialization and Growth**

Table 3 shows the fixed-effects regression results where the dependent variable is GDP growth rate. The share of finance in total value added has a small but negative relationship with GDP growth (column 1), as predicted by the literature (and significant at the 1% level). Controlling for per capita income (column 2) results in a somewhat larger coefficient, still negative and significant. Employment in finance does not have a significant coefficient (column 3), unless we control for per-
capita income (column 4), in which case it has a strong negative relationship with the growth rate of GDP. Financialization is then clearly correlated with slower GDP growth. Each percentage increase in the share of finance in total value added is associated with up to 0.12% slower growth, while each percentage increase in the share of finance in total employment is associated with up to 0.2% slower growth.

C. Financialization and Unemployment

Table 4 shows the fixed-effects regression results where the dependent variable is the rate of unemployment. Once again, the share of finance in value added has a strong positive relationship with the dependent variable, in this case the rate of unemployment. The coefficient is even larger with a control for per capita income (column 2). Employment in finance also has a significant positive relationship with unemployment, especially when controlling for income (column 4). Each percentage increase in the share of finance in total value added is associated with up to 0.34% more unemployment, while each percentage increase in the share of finance in total employment is associated with up to 0.74% more unemployment.

VII. CONCLUSION

The empirical evidence analyzed in this paper confirms all four hypotheses presented in section II. First, financialization has definitely taken place on a large scale in all countries of the OECD, whether measured by the increase in the share of value-added coming from the financial sector or in employment in that sector as a percentage of total employment.

Second, and more importantly, this strengthening of finance vis-à-vis the rest of the economy did not come without a price. The empirical evidence clearly confirms the relationships discussed in the literature on financialization, and in particular its negative effects on equality, growth, and employment. Each percentage increase in financialization is associated with between 0.49% and 0.81% more inequality (depending on which indicator of financialization is used). A similar increase in financialization is related to a 0.2% slower growth of GDP, and between 0.12% and 0.74% higher unemployment.

Some blame the process of financialization for the recent economic and financial crises. Whether or not it served as one of the key factors leading up to the meltdown, financialization over the past four decades certainly seems to have negatively impacted the real economy in the developed countries of the OECD by increasing inequality, slowing down economic growth, and contributing to unemployment. It appears that, when financial machinations supersede productive enterprise, to use Krippner’s language, the overall economy suffers.

APPENDIX

For all tables, sources include OECD (accessed 17 January 2012); ILO, LABORSTA database (accessed 25 October 2011). t-statistics are in parentheses. *** denotes significance at the 1% level; ** denotes significance at the 5% level; * denotes significance at the 10% level.

Table 1: Correlation coefficients (missing values were skipped)

<table>
<thead>
<tr>
<th>GiniAnte</th>
<th>GDP_growth</th>
<th>Empl_FIRE</th>
<th>Unemployment</th>
</tr>
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<tr>
<td>0.537</td>
<td>-0.160</td>
<td>0.745</td>
<td>0.1440 FIRE_VA</td>
</tr>
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<td>0.264</td>
<td>0.331</td>
</tr>
<tr>
<td>1.000</td>
<td>-0.007</td>
<td>-0.049</td>
<td>GDP_growth</td>
</tr>
<tr>
<td></td>
<td>1.000</td>
<td>-0.037</td>
<td>Empl_FIRE</td>
</tr>
</tbody>
</table>

Table 2: Financialization and Inequality before taxes and transfers

| Fixed-effects. Dependent variable: GiniAnte. Robust (HAC) standard errors |
|-----------------------------|---------------------|-----------------|-----------------|
| Sample Size | N = 17 | N = 17 | N = 16 | N = 16 |
| (1) | (2) | (3) | (4) |
| Constant | 0.31*** (12.15) | 0.31*** (12.14) | 0.36*** (21.2) | 0.37*** (12.44) |
| FIRE_VA | 0.57*** (5.06) | 0.49** (2.32) | 0.73*** (4.41) | 0.81** (2.33) |
| Empl_FIRE | 0.00 (0.46) | 0.00 (0.00) | 0.00 (0.27) | 0.00 (0.00) |
| Per_Capita | 0.75 | 0.75 | 0.80 | 0.80 |
| Adj. R² | 0.00 | 0.00 | 0.00 | 0.00 |

Table 3: Financialization and GDP growth rate

| Fixed-effects. Dependent variable: GDP_growth. Robust (HAC) standard errors |
|-----------------------------|---------------------|-----------------|-----------------|
| Sample Size | N = 33 | N = 33 | N = 32 | N = 32 |
| (1) | (2) | (3) | (4) |
| Constant | 0.04*** (6.88) | 0.05*** (7.02) | 0.04*** (8.72) | 0.03*** (4.18) |
| FIRE_VA | -0.06* (-1.78) | -0.12** (-2.25) | -0.05 (-1.14) | -0.20*** (-3.13) |
| Empl_FIRE | 0.00 (1.34) | 0.00 (2.15) | 0.00 (2.15) | 0.00 (2.15) |
| Per_Capita | 0.17 | 0.18 | 0.21 | 0.21 |

Table 4: Financialization and Annual rate of unemployment

| Fixed-effects. Dependent variable: Unempl. Robust (HAC) standard errors |
|-----------------------------|---------------------|-----------------|-----------------|
| Sample Size | N = 33 | N = 33 | N = 32 | N = 32 |
| (1) | (2) | (3) | (4) |
| Constant | 0.04*** (3.03) | 0.03*** (2.78) | 0.05*** (5.72) | 0.09*** (5.72) |
| FIRE_VA | 0.12* (1.89) | 0.34** (2.50) | 0.12* (1.87) | 0.74*** (2.63) |
| Empl_FIRE | 0.00 (-1.55) | 0.00 (-2.22) | 0.00 (-2.22) | 0.00 (-2.22) |
| Per_Capita | 0.55 | 0.57 | 0.53 | 0.60 |

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