

Which roads lead to Wall Street? The financialization of regions in the European Union

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Abstract This paper investigates the financialization of regions in the European Union. It zooms in on the regional level and provides a systemic and macrostructural analysis of the factors that account for an increase in finance and insurance activities. Theoretically, the argument highlights the crucial importance of various forms of indebtedness as the social, economic and political relationship that constitutes financialization processes. Empirically, the paper stresses the sub-national dimension and thus contributes to fill an important, yet largely underappreciated gap in the political economy of finance. In order to fully grasp the extent to which financialization has transformed capitalism throughout the last three decades, it seems indispensable to include regions into the analysis. By injecting geography into the political economic debate, the paper might animate future research and a renewed discussion on regional specificities.

Keywords Financialization · Regional economies · European Union · Uneven development · Household debt

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Introduction

This article takes *financialization* and the *new regionalism*, two central developments that have shaped the trajectory of global capitalism in the last three decades, as a point of departure. Albeit many researchers so far have examined either of them in detail, systematic analytical links between both continue to be rather scarce. By taking up this task, I aim at partially filling this gap and contributing to a better understanding of how regions differ when it comes to the importance of finance. Specifically, I address the political economic literature on financialization. By focusing on regions, I seek to extend its structural and macroeconomic strand beyond nation states. Of course, this is an ambitious undertaking that clearly surpasses the limitations of one single paper. However, I strive to initiate a renewed discussion on the various regional trajectories of financialization within the common context of global financial market capitalism. Zooming in on regions within national political economies seems very promising since it enables scholars to identify important differences in a more fine-grained way while at the same time maintaining an aggregate level of analysis that is not present in studies of single cases. Consequently, the research question of this paper asks which causal factors account for variation in the levels of financialization of regional economies. This implies that I am specifically looking at whether different independent variables exert significant *causal effects* on my outcome of interest. In order to provide an answer, the article casts the net widely and extracts key causal factors out of a broad literature dealing with financialization and regional economies. The corresponding hypotheses are then subject to an empirical test by OLS regression analysis. The search for underlying *causal mechanisms* that actually link x_n and Y by building on power, interest, legitimacy or function (Engelen 2008) is not part of this paper and thus up for future (case oriented) research.

Before delving further into the theoretical foundations of the argument, it is necessary to render more precisely how the sometimes-fuzzy concepts of “financialization” and “regionalism” are understood. Regarding the former, I largely draw on structuralist and regulationist accounts (Brenner 2000, 2004b; Stockhammer 2008; Krippner 2011; Lapavitsas 2011, 2013; Palley 2013). Yet, for the purpose of a feasible operationalization, I make use of an empirical simplification and conceptualize financialization as the increasing importance of the financial sector for the economy. Concerning regionalism, an equally manifold arsenal of concepts prevails, each with its distinct view of what a region actually is (Keating 1998, 2017). In this paper, I confine the region as an intermediate object of analysis to a political-administrative territorial unit that is situated between the state and the local level within a national political economy.

The main argument of this paper states that in order to understand the driving forces behind the financialization of regions one has not just to look at general financial market indicators but instead focus more closely on various forms of indebtedness. Of course, stock markets, financial assets and related services play a more and more important role for both economy and society. Central features of this development are for instance the shift of corporate profits toward the financial

sphere, as well as the general run into financial investments during times of negative real interest rates. Nonetheless, what seems to be lying at the core of the financialization process and is thus (now) its main driving force is the explosion of corporate, household and government debt within the last decades.

The remainder of the paper is structured in the following way: the next section discusses the literature on financialization and clarifies why it is important to specifically look at the regional economic level. In addition, it defines the outcome under interest as the dependent variable based on the macroeconomic assessment of financialization as a structural phenomenon. The proceeding section three then elaborates on the centrality of debt for financial profits and thus also financialization. Consequently, the different causal hypotheses are derived from the literature and the controls are explained. Afterward, section four presents the operationalization of the theoretical predictions, briefly explicates the method and data at hand and finally presents and discusses the empirical results. Eventually, section five concludes with some recapitulating remarks on the implications for future research.

Financialization and regions

In recent years, scholars have been referring to the concept of *financialization* when analyzing the crucially influential role of finance for contemporary capitalism. The common denominator that unifies this new paradigm is a holistic view of finance. This means that financialization is about broadening the notion of finance beyond its mere role of allocating savings and channeling investment. Instead, a central argument is that the entire financial sector, including its actors and logics, keeps permeating other parts of the economy and society (van der Zwan 2014, pp. 99–100). Very often, individual studies take Gerald A. Epstein's wider definition of financialization as "the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies" (Epstein 2005, p. 3) as a first step. From there on, they usually develop more specific concepts in order to apply them to their respective cases. Despite the large diversity of the financialization paradigm, one can identify four distinct branches that make up the field. Research focuses either on individual firms, households, state actors or the economy as a whole (Christopherson et al. 2013; van der Zwan 2014).

In this paper, I adopt a macrostructural stance and therefore mainly refer to the literature dealing with the financialization of the economy as a whole (Boyer 2000; van Treeck 2009; Krippner 2011; Lapavitsas 2013; Lapavitsas and Powell 2013). From this follow three important consequences that guide my analysis. First, and in a broader context, I regard financialization as the key dynamic of a finance-led accumulation regime (Boyer 2000). This implies that after the end of Fordism, contemporary political economies are characterized by the fact that "profits accrue primarily through financial channels rather than through trade and commodity production" (Krippner 2005, p. 174). Research stemming from heterodox macroeconomics underpins this fact by highlighting the cross-country importance of

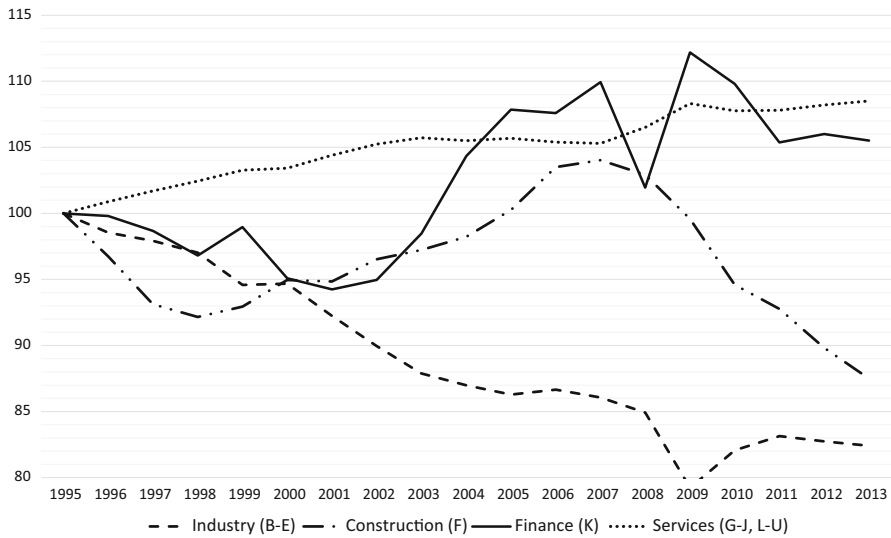


Fig. 1 GDP shares of different economic sectors in the EU-18, 1995–2013 *Source:* Eurostat (2015d), own illustration

financial profits for different economies and the distributional consequences, which arise from a regime of high risk and increased liquidity but overall stagnating growth (Orhangazi 2008; Stockhammer 2008; van Treeck 2009; Palley 2013). Second, I constitute financialization in relation to other economic sectors. This means that financialization is conducive to some, such as real estate and insurance activities or construction, while at the same time potentially harmful to others as in the case of manufacturing or agriculture (Crotty 2005; Aalbers 2008, 2009). Third, I view financialization as a forceful and procedural phenomenon that unfolds over time and is constantly reinforced. As it is the case with many other *grand concepts* in the social sciences (like globalization or neoliberalism), making an empirical argument about financialization bears the danger of mixing up dependent and independent variables, a problem that is known as *analytic error of the first degree* (Engelen 2008). For the purpose of this analysis, I treat financialization as my dependent variable (or my outcome) defined as the share of finance and insurance activities in the gross domestic product.

In order to get a feeling for the financialization at work, Fig. 1 displays the relative importance of different economic sectors in the 18 EU countries that are analyzed in this paper.¹ Before zooming in on *regions*, it is useful to get a first overview of the aggregate share of finance and insurance activities in *national* gross

¹ Industry sectors are according the official Eurostat classification of NACE Rev. 2 (European Communities 2008) with abbreviations in parentheses. The analysis includes 18 member countries of the European Union, referred to as the EU-18 (for details regarding case selection and data composition, see “The financialization of regions: empirical results” section and “Table 3, Appendix”). The period of analysis ends in 2013 for the sake of consistency throughout the paper as comprehensive and comparable data have been available up to this point.

domestic product. What stands out concerning its development over time vis-à-vis the other relevant GDP contributors of industry, construction and services, is the unparalleled ascendancy starting in the early 2000s. Before the start of the new millennium, “services” were the only economic sector with an actual increase in its GDP share compared to the mid-1990s. However, given its ample range covering personal and retail services, science, communication, commerce, real estate and many more (G–J, L–U), anything but a rising share would have been irritating for developed capitalist economies. In contrast, the industrial economic core of mining, pharmaceuticals, chemistry, metalworking, textiles and others (B–E) has witnessed a constant decline by losing more than 15% of its initial importance. On the other hand, finance and insurance activities (K) took off after 2002 and quickly surpassed the service sector to become the most dynamic economic sector until the outbreak of the global financial crisis in 2008. In addition, three supplementary observations further illustrate this dynamism. First, albeit interrupted by a brief slump, finance exploded again before ultimately cooling off recently while still being at an almost equal pace with services. Second, the corresponding boom of construction occurs at a similar pace to finance, since financialization connects the inflation of property and real estate prices with financial products and profits (Smart and Lee 2003; Aalbers 2008, 2009; Rolnik 2013). Third, Fig. 1 might thus actually underestimate the real importance of finance for the economy since financialization also boosts certain real estate activities (L) and finance-related services (parts of M) that are included in the broad services category of the graph.

In addition to financialization, the second crucial trend in the development of contemporary capitalism has been a *new regionalism*. Prior to its academic recognition, regional differences were widely perceived as vanishing relics, soon to be leveled out by neoliberal catch-ups and homogenizing globalization. However, as it was the case with financialization research and its critique of the mainstream concept of financial intermediation, the tide has turned. Issues like uneven regional development, the centrality of city regions, new transnational (cross-border) regions and an increasingly fierce inter-regional competition for capital and growth have revitalized the interest in regional analyses (Agnew 2000; MacLeod 2001). Surprisingly though, political economy as a discipline has yet to fully appreciate this promising research area. Regions, it seems, by and large still constitute a *terra incognita* in this regard. Nonetheless, important studies have made inroads into this field. They have dealt with role of cities in the global economy (Le Galès and Harding 1998), new forms of regional or structural policies favoring internationally competitive areas at the expense of others (Crouch and Le Galès 2012) and the importance of sectoral systems of production as regional “varieties of capitalism” (Crouch et al. 2009; Schröder and Voelzkow 2016).

Yet, when it comes to finance, political economic contributions with a regional focus remain sparse. A notable exception has been Richard Deeg’s (1999) seminal work on the role of banks for German capitalism in which he differentiated between the regional systems of Baden-Württemberg and North Rhine-Westphalia. On the other hand, economic geography has been more vivid in this respect, dealing with questions of how to systematically incorporate finance (Pike and Pollard 2010; Sokol 2013, 2017), avoid “fetishizing the national scale” (Christophers 2012) or

trace the geographical spread of finance as essential component of its development (Leyshon and Thrift 1997). This has produced a number of interesting case studies scrutinizing the geographical distribution of risk, locational specificities of distinct financial actors, such as pension funds and investment banks, or the spatial connection of different areas via profit-seeking practices of mortgage funds (Corpataux et al. 2009; Wainwright 2012; Zademach and Musil 2014).

Despite all progress, there are still many blind spots given the centrality of both regions and finance for contemporary capitalism. This is where the paper at hand comes in and seeks to address some of them. By linking the macrostructural political economic literature on financialization to the regional geographical dimension, I strive to shed light on some important aspects of the financialization process as a whole. First, I aim at widening the still limited country focus. Although there are some remarkable extensions (Lapavitsas and Powell 2013; some studies from heterodox macroeconomics or a 2015 special issue of *Socio-Economic Review*), most of the scholarly contributions concentrate on the USA or the UK. Second, I seek to overcome the methodological nationalism by analyzing regions within political economies. Third, by providing a systematic account for the driving factors behind financialization, I supplement our empirical understanding of this important phenomenon. In accordance with my argument elaborated above, I define the financialization of regions as the share of finance and insurance activities in regional GDP. I am aware that this narrow and relatively simple way is prone to critical discussion as it cannot capture the entire complexity. However, I argue that for the sake of analytical clarity and large-n comparability this simplification is indispensable. One reason is that data are still scarce when it comes to the regional level, especially in connection with finance. Moreover, potential future analysis might draw on my findings and provide more in-depth and case-based knowledge on how regional financialization actually unfolds.

Before I turn to the theoretical elaboration on potential causal factors of regional financialization, it makes sense to first become familiarized with the existing variation of the outcome. Figure 2 maps the empirical landscape of the EU18. It illustrates the share of finance and insurance activities in regional gross domestic product for the year 2013 in relation the average of 3.32% for the sample. The color of each region depends on its financialization level. While both white and light gray colorings denote lower levels of financialization, dark gray and black depict highly financialized regions. The map reveals several interesting characteristics. First, variation within national political economies differs from country to country. While some economies like the Netherlands (high) or Finland (low) are relatively homogeneous, others like Poland consist of many heterogeneous regions. Second, there is no clear connection between the number of highly financialized regions within a country and its economic wealth, measured as GDP per capita in 2013 (Eurostat 2017). On top of the spectrum, Sweden and Finland possess high GDP per capita values (45,400 € and 37,400 €) but feature only one highly financialized region each (*Stockholms län* and *Helsinki-Uusimaa*). In the bottom half, Spain and Italy score low on GDP per capita (22,000 € and 26,500 €) but are home to several regions with (very) high financialization levels (such as *Comunidad Valenciana*, *La Rioja*, *Friuli-Venezia Giulia* or *Liguria*). Third, many of the most highly

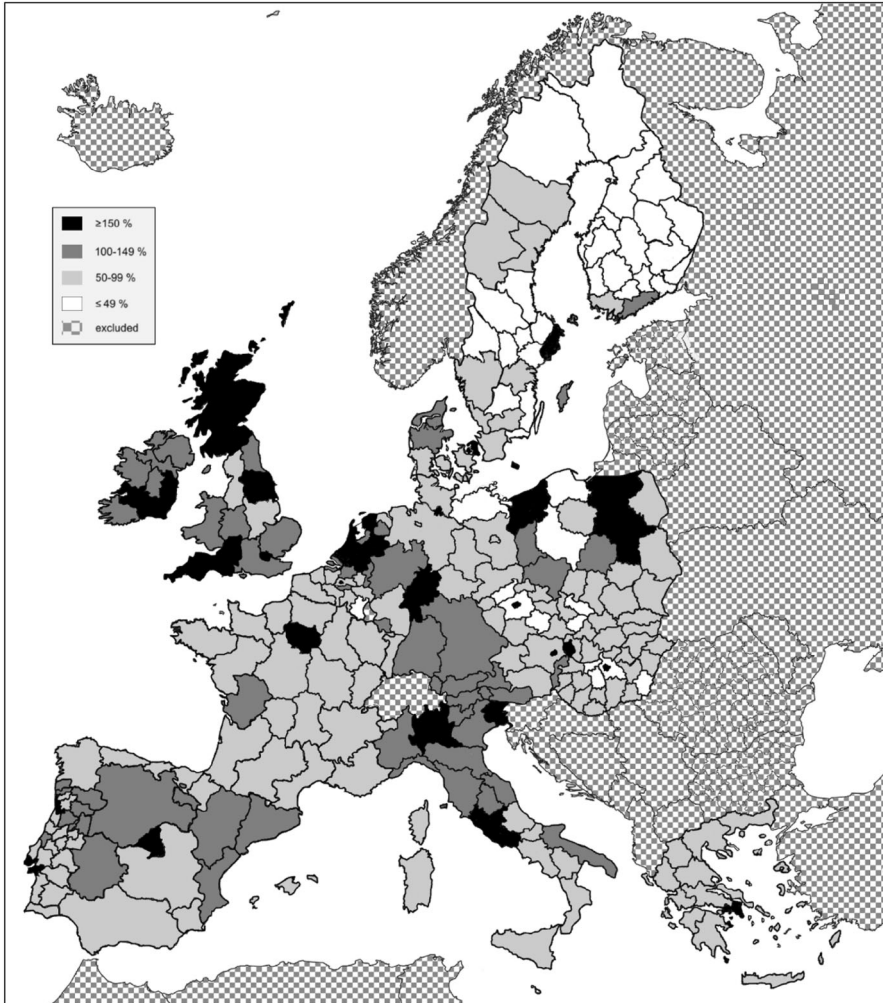


Fig. 2 Financialization of European regions in 2013 (NUTS) *Source:* Eurostat (2015d), own illustration

financialized regions are either those of capital cities (*Wien*, *Bruxelles-Capitale* or *Attiki*), established financial centers (*Hessen*, *London* or *Lombardia*) or other urban economic hubs (*Hamburg* or *Porto*). Fourth, however, there are a number of fascinating cases that break up this geographical trinity of finance. These cases deserve special attention and a closer look. They can be largely grouped into three distinct categories, each unveiling interesting insights into the multifaceted geography of regional financialization.

The first category covers regions with access to large oil or natural gas reserves. Prime examples of this are *Scotland* in the UK and the Dutch province of *Groningen*. On a smaller scale, one might argue that these two highlight the importance of rentier income for financialization since the extraction and refining of

hydrocarbons not only requires huge capital investments, but also creates immense surplus value that has to be channeled and diversified into other profitable sectors. Financial actors like investment banks, insurance companies or (sovereign) wealth funds play an important part in this process (Haberly 2011; Wang 2015).

The second category comprises former industrial regions that were hit hard by the crisis of Fordism and its symptoms of urban decay, job losses in manufacturing, depopulation and—as a result—fiscal dead ends. Some of these regions were able to turn toward new economic models of tertiarization, albeit with polarizing side effects as employment in low-killed services is usually the flipside of financial, IT and creative settlements (Moulaert et al. 2005; Carter 2016). Instances of this are regions like *Yorkshire and the Humber* in the UK including Sheffield and Leeds, the province of *Antwerpen* in Belgium, the German *Saarland* or *Zachodniopomorskie* in northwestern Poland with the city of Szczecin. The third and last category contains regions that are economically lagging behind and have low levels of GDP per capita in 2013 (Eurostat 2015c). While *Puglia* in Italy (17,200 €), *Extremadura* in Spain (15,200 €), *Terras de Trás-os-Montes* and *Douro* in Portugal (12,500 € and 11,800 €) and *Warminsko-Mazurskie* in Poland (7300 €) belong to the poorest group in the sample with GDP per capita values between two-thirds and less than a third of the median EU region (25,500 €), they all reach (very) high financialization levels. This seems puzzling at first sight, but makes sense if one considers the centrality of debt for financialization processes—the main causal argument of this paper. Furthermore, some scholars have already begun to conceptualize and analyze the center-periphery divide and uneven geographical development through the lens of financialization (Becker et al. 2010; Rodrigues et al. 2016; Sokol 2017). Dynamics between more developed (dominant) and less developed (dependent) economies do not just unfold on the national scale but are also clearly at work on the regional level, as Fig. 2 hints at.

What drives regional differences in financialization?

Before turning to the empirical analysis, this section deduces the main factors that are supposed to exert a causal effect on the financialization of European regions and the variation of the dependent variable as illustrated in the previous paragraph. Following the main argument of this paper, various forms of debt are hypothesized to be driving forces behind regional financialization. In order to generate profits financial actors can engage in different activities, all related to the credit–debt nexus. I subsume these activities under the simplified labels of *interest*, *investment* and *income* and will briefly elaborate on each by focusing on the centrality of debt for financial profits (Lapavitsas 2013, pp. 138–68; Christophers 2015; Sokol 2017).² The first activity has the purpose of generating *interest* gains and involves lending money to others. This is for example the case when a financial institution, like a bank, makes a commercial loan to a business or a mortgage loan to a household. In

² Christophers (2015) actually differentiates between fees, gains, premia and spread. However, I argue that for the purpose of this paper I can rightfully subsume all four of these under my trichotomy of interest, investment and (fee) income.

its simplest form, this activity expresses a *direct* credit–debt relationship with the bank as the *unmediated beneficiary*. The second activity aims at realizing *investment* gains. Here the financial institution makes a financial investment such as buying shares, bonds or real estate. However, in many cases this is done as part of an investment fund alongside other financial institutions. The fund then invests into a portfolio of financial assets and distributes realized profits among its contributors. As a result, the investing financial institution is the *mediated beneficiary* of various *indirect* credit–debt relationships that the fund has vis-à-vis third parties. The third and last activity has the aim of generating fee *income*. This can be the case when a financial institution either takes investment decisions on behalf of other private investors or designs and sells a derivative product based on underlying assets like car loans or credit card payments. In both instances, the financial institution is the *mediating beneficiary* and is paid a fee for its service. In his sophisticated discussion of the origins and form of financial profits prevalent in the era of financialization, Costas Lapavistas (2013) not only traces their underlying social character, but also stresses their crucial commonalities. Summing up, whether one considers simple loans, investment in equity or complex derivative products resulting from securitization: In the end some are always obliged to pay a share of expected future profits or revenues—such surplus value, labor compensation or taxes—to others who claim entitlement rights. Because this logic is essentially inscribed into the contemporary accumulation regime, financialization represents a unique phenomenon based on the centrality of debt for financial profits. This becomes especially clear when investigating the evolution of private and public debt in the EU18. Figure 3 depicts this development for the three levels of governments, (non-financial) corporations and households from the base year 1995–2013.

In general, it becomes immediately evident how the overall level of indebtedness has skyrocketed across the board. The only temporary exception has been the government sector, which, prior to the global financial crisis, reduced its debt level by 31 points (1996–2007), but then almost doubled by reaching 143 at the end of the period. Whereas in the beginning it was mainly the corporate sector that recorded substantial increases in debt, within the last ten years especially household debt has risen drastically from 105 (2003) to 166 (2013). Finally, there is another interesting peculiarity: While in the first eight years (1995–2003) debt of financial and non-financial corporations (NFC's) evolved simultaneously, later on the growth rate for NFC's slowed down and its supporting role was substituted by households. This seems in line with general long-term findings for the EU, which state that it is now mainly consumer credit and mortgages—as opposed to low borrowing levels by NFC's—that accounts for the majority of lending by monetary financial institutions (ECB 2017: C5, C6). Following this overview, I now dissect all three sectors individually and deduce the corresponding hypotheses.

The role of sovereign, corporate and household debt for financialization

Starting with the first, I look at the effect of sovereign debt on variation in regional financialization. Notwithstanding the ambivalent development sketched above, sovereign debt is crucial for financialization processes. Historically, the change from



Fig. 3 Public and private debt as GDP ratios in the EU-18, 1995–2013 (1995 = 100) *Source:* Eurostat (2016), own illustration

the *tax to the debt state* in the 1980s was accompanied by financial liberalization and the deregulation of capital markets (Streeck 2014). Although interrupted by stints of consolidation and the spread of austerity policies in major capitalist economies, sovereign debt and the development of financial profits have been inextricably intertwined. The influence of financial markets on state institutions can be grasped as a financialization of the state (Pacewicz 2013; Kirkpatrick 2016; Lagna 2016; Fastenrath et al. 2017). This includes the use of financial instruments and private sector risk models when managing sovereign debt, the window dressing of public balance sheets or even designing complex financial products to fund projects that were formerly subject to tax financing. Also global financial advisory organizations like the IMF stress the importance of government bonds for deepening and widening financial markets (Chami et al. 2009). Others highlight its function as collateral for money and credit creation (Gabor and Ban 2016). Therefore, sovereign debt is an important source of financial profits and hence contributes to financialization. First, bondholders may directly cash in on interest payments. Moreover, holding sovereign bonds as collaterals enables financial institutions to engage in riskier, potentially more profitable deals, while selling securitized bonds can also generate additional fee income. Accordingly, (H1) reads: *The higher the ratio of sovereign debt to GDP, the higher the share of finance and insurance activities.*

The second level deals with corporate debt and its effect on regional financialization. While it is clear how the financial industry influences financialization, also non-financial corporations contribute to this process. Following the crisis of Fordism, modes of corporate governance have fundamentally changed. What has emerged is a new “finance conception of control” (Fligstein 1990, p. 226) that permeates the corporate field with the ultimate aim of maximizing the shareholder value of the firm (Lazonick 2010; Styhre 2015). On the asset side, NFCs

nowadays generate an increasing share of their profits through financial activities (Krippner 2005; Lapavitsas and Powell 2013; Alvarez 2015; Soener 2015). On the liability side, corporate funding has shifted from bank loans to financial markets, for example through the issuance of shares. Both trends epitomize and fundamental transformation of the non-financial corporate sector toward a new strategy of *downsize and distribute* (Lazonick and O'Sullivan 2000). This implies the adaption of the short-termism inherent to many profit-generating, and sometimes speculative, financial market practices. In contrast to the previously prevalent procedure of *retain and reinvest*, NFCs very often seek to increase their corporate value via stock buybacks, financial outsourcing and attracting international investors. As a consequence, the involvement of NFC's in financial markets for instance by holding financial assets, generating dividend and interest income or spending revenue on financial payments has been increasing (Orhangazi 2008). Here, similar to sovereign debt, corporate debt affects financialization. When NFCs pay interest or dividends to bondholders and shareholders, they generate income for financial investors that are usually large banks or investment funds. In addition, paying interest on classic long-term bank loans has the same effect. Therefore, (H2) states: *The higher the ratio of corporate debt to GDP, the higher the share of finance and insurance activities.*

The third and final level covers the role of household debt for financialization. As we have seen, this has especially been on the rise since the early 2000s. Financial markets influence households in many ways since they have multiple options to participate in financial activities. Akin to the transformation of non-financial corporations, families and individuals have been more and more enmeshed by an everyday culture of finance that encourages them to evaluate their own financial situation against the portfolio background of assets and liabilities (Martin 2002; Langley 2008b; Fligstein and Goldstein 2015). Regarding assets, households are integrated into pension fund capitalism, which they hope will allow them to mitigate risks like old-age retirement via successful financial investments (Clark 2000; Dixon 2008). Regarding liabilities, credit-based consumption has become more and more important to stabilize domestic demand as a form of privatized Keynesianism (Crouch 2009). Both can have transformative repercussions on political economic institutions (Mertens 2015), but it is the latter where the effect of household debt most obviously visible. On the one hand, the growing involvement of private households in retail estate through mortgages is an important vehicle of financialization (Aalbers 2008, 2009). On the other hand, the general expansion and booming appreciation of credit cards fuel private consumption as well as financial profits (Langley 2008a, b). Hence, (H3) assumes: *The higher the ratio of household debt to income, the higher the share of finance and insurance activities.*

What else? Controlling for other factors

In addition to different forms of debt, I include a battery of ten controls that also might cause variation in the financialization of regions. I grouped them into general financial market indicators, economic sectors and politico-demographic context. The first group accounts for five of the standard proxies that are commonly used in

studies of financialization, financial globalization and financial market integration. I expect all of them to correlate positively with my outcome. They are (1) the *banking leverage* of the economy understood as the total percentage of bank assets in equity, (2) the volume of *foreign direct investments* measured as inflows in percent of GDP and (3) the degree of *stock market capitalization* relative to the gross domestic product of an economy. The final two financial market controls are both dummies and play a specific role regarding my case selection of European regions. While (4) measures if the region is home to a global *financial center* as a hub of the finance and insurance industry (Kindleberger 1974; McGahey et al. 1990; Cassis 2006), control (5) asks whether the region is in a country that has a global lead currency, another decisive factor for financialization (D'Arista 2005). For the case of the Eurozone for instance, Rossi (2013, p. 397) notes that “the merging of national currencies into a single-currency area has introduced a further factor of financialization.” The second group of controls covers two additional economic sectors that are connected to finance and insurance. As some of the seminal structural accounts on the rise of finance have elaborated (Brenner 2000, 2004b; Krippner 2011), I assume a negative correlation between control (6) *manufacturing* and the level of regional financialization. In contrast, control (7) *real estate* activities acknowledges the amplifying role of the housing business in facilitating financialization (Smart and Lee 2003; Aalbers 2008, 2009; Botzem and Dobusch 2012). The politico-demographic context composes the third and final group of controls. This seems important since regions vary substantially concerning both their levels of autonomy and population density. On the one hand, control (8) measures regional *political autonomy* as institutional depth, judicial and political competences. On the other hand, control (9) covers regional *financial autonomy* in borrowing, spending and raising taxes. I assume both autonomies to be ambiguous regarding the direction of their causal effects. While a more autonomous region for example could voluntarily choose financialization as a perceived path toward sustainable growth, regions facing financial and political constraints could also feel forced to turn toward financial markets as their last resort. The final control deals with the presumably positive correlation between financialization and (10) *population density*. This relates to the important function of cities and city regions for economic development in contemporary capitalism (Brenner 1998, 2004a; Sassen 1990, 2001; Le Galès and Harding 1998; Crouch and Le Galès 2012).

The financialization of regions: empirical results

For my empirical analysis, I used a standard OLS regression model without interaction terms.³ In order to account for the hierarchical structure of my data I calculated robust standard errors along country clusters. I refrained from applying multi-level modeling since the number of cases on level II (countries) is too small in relation to the number of independent variables on the same level (Maas and Hox

³ All mathematical operations were calculated with STATA 14.1.

2005). The analysis includes 274 regions on the NUTS 1–3 levels of 18 European countries (Eurostat 2015e) with a selection based on three criteria: (1) membership in the EU, (2) the existence of a genuinely regional level with political competences⁴ and (3) comprehensive data availability. These countries are: Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Poland, Portugal, Slovakia, Spain, Sweden and the UK (for details, see “Table 3, Appendix”). For the metric variables (all except *financial center* and *lead currency*), I used standard ways of operationalization and calculated three-year means for the 2011–2013 period (for details, see “Table 4, Appendix”). Political and financial autonomy are based on the Regional Authority Index (Hooghe et al. 2016). Regarding my causal argument, (H1) is operationalized by two variables (*sovereign debt* and *sub-national debt*). While the same applies to (H2) (*debt of non-financial firms* and *debt of financial firms*), the operationalization of (H3) only includes one variable (*household debt*).⁵

Table 1 reports the standard descriptive statistics and gives a good overview of the sample. Some regions that stand out are for example *Bruxelles-Capitale* as the most densely populated one with more than 7200 inhabitants per km² vis-à-vis the most northern region in the sample, *Lappi* in Finland with only 2 inhabitants per km². Political Autonomy is relatively high in federal states like Germany or Austria with a score of 10 in both, compared to countries such as the UK or Ireland with scores of 4 and 3, respectively.

Manufacturing is still decisively important in many eastern European regions like *Komárom-Esztergom* in Hungary with a share of more than 40% in regional GDP or *Zlínský kraj* in the Czech Republic where it contributes around 36%. While household debt is highest in Denmark with more than three times the annual personal income, Slovakia scores low with only 50%. Finally, the most financialized region in the sample is *London* with its famous *City* as global financial center and a GDP share of finance and insurance activities of 16.64%. On the bottom end of the distribution is the Polish region of *Wielkopolskie* with only 0.47% in regional GDP.

To estimate the effects of the different forms of debt on regional financialization, I calculated five models (M1–M5) that all underwent standard post-regression diagnostics. Data showed some outlier cases (*London* and *Île-de-France*) causing modest non-normality in the distribution of residuals. Since they might distort the estimators due to my relatively small sample size, I ran separate models without them. However, this did not substantively change the regression results, so I opted to keep them. Furthermore, running a robust regression with country-clustered standard errors helped me to address the problem of heteroscedasticity. Multiple checks for multicollinearity showed no signs of concern. Although I sought to model the influence of debt on regional financialization as careful and parsimonious as possible, the complete model (M4) still contains 15 variables, which, due to the relative small sample size of $N = 274$, limits the possibility of significant causal

⁴ This excludes the two levels of Local Administrative Units (LAU 1-2) that are used in EU statistics and were formerly known as NUTS 4-5 (Eurostat 2015e).

⁵ I initially included residential loans as an additional variable for (H3), but decided to drop it because of its too strong correlation with household debt.

Table 1 Descriptive statistics of all variables *Source:* own illustration

Variable	Obs.	Mean	SD	Min.	Max.
Outcome					
Regional financialization	274	3.32	2.31	.47	16.64
Debt					
Sovereign debt	274	94.56	30.04	54.04	153.14
Sub-national debt	274	11.00	7.82	1.59	32.52
Debt of non-financial firms	274	506.97	170.19	235.23	817.32
Debt of financial firms	274	5.58	3.66	1.36	15.32
Household debt	274	124.40	58.64	53.92	314.52
Financial market					
Banking leverage	274	1686.71	800.06	686.38	3488.80
Foreign direct investment	274	2.64	2.86	-0.63	13.39
Stock market	274	43.18	24.97	4.77	102.25
Financial center	274	0.07	0.26	0	1
Lead currency	274	0.72	0.45	0	1
Economic sectors					
Real estate activities	274	9.22	2.90	1.15	21.34
Manufacturing	274	15.72	8.08	1.95	53.14
Politics and demographics					
Political autonomy	274	6.83	2.64	2	11
Financial autonomy	274	2.21	2.01	0	6
Population density	274	277.85	719.40	2	7234.73

effects. In order to obtain robust results, I decided to calculate a separate model for each form of debt (M1–M3) while keeping the other variables as controls. All variables with a significant effect in either model were then also included in the simplified model (M5). Table 2 displays the results. Concerning both public and corporate debt, the findings are ambiguous. While the effects of sovereign debt on the national level and debt of non-financial firms follow the assumption of a positive relationship, interestingly, sub-national debt and debt of financial firms possess a negative algebraic sign. Nevertheless, neither effect is statistically significant. The opposite holds true for household debt. In all models (M3–M5), there is a highly significant positive effect that is also larger than that of the other debt variables. Regarding the controls, first, it is important to note that only stock market capitalization (M1) and banking leverage (M3) have comparatively small and statistically weak effects, which also become less impactful or even insignificant in the simplified model. In contrast, having a financial center exerts a strong effect on regional financialization as is expected, while the large coefficient is due to its binary character. Finally, population density is highly significant and across all models. This seems small, but results from its operationalization. All other sectoral and political factors are clearly nonsignificant. Regarding the coefficients of determination, it stands out that all models, which include household debt, have a higher R^2 value. Even the simplified model (M5) with $R^2 = .612$ has substantial

Table 2 Regression results

Variable	M1	M2	M3	M4	M5
Debt					
Sovereign debt	.009 (.009)			.009 (.009)	
Sub-national debt	-.015 (.025)			-.025 (.025)	
Debt of non-financial firms		.001 (.002)		-.001 (.002)	
Debt of financial firms		-.027 (.095)		-.001 (.071)	
Household debt			.012*** (.003)	.013*** (.002)	.012** (.004)
Financial market					
Banking leverage	.000 (.000)	.000 (.000)	.001* (.003)	.000 (.000)	.000* (.000)
Foreign direct investment	.029 (.083)	.047 (.092)	.083 (.063)	.060 (.059)	
Stock market	.013* (.005)	.006 (.007)	-.005 (.006)	.002 (.007)	-.005 (.008)
Financial center	3.855*** (.631)	3.886*** (.654)	3.745*** (.576)	3.720*** (.595)	3.658*** (.533)
Lead currency	.626 (.686)	.539 (.662)	.260 (.541)	.380 (.510)	
Economic sectors					
Real estate activities	-.109 (.112)	-.076 (.096)	-.017 (.048)	-.030 (.060)	
Manufacturing	-.000 (.034)	-.005 (.032)	.003 (.027)	.008 (.027)	
Politics and demographics					
Political autonomy	.028 (.090)	.012 (.142)	.078 (.095)	.090 (.124)	
Financial autonomy	.001 (.151)	-.019 (.174)	-.038 (.140)	.011 (.156)	
Population density	.001** (.000)	.001** (.000)	.001** (.000)	.001** (.000)	.001*** (.000)
Constant	1.343 (1.274)	1.627 (1.763)	-.202 (.754)	-.457 (1.067)	.662 (.608)
N	274	274	274	274	274
R ²	.576	.574	.627	.634	.612

Level of significance: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

explanatory potential. Finally, it is worth having a closer look at the strengths of the three significant effects (financial center, population density and household debt). For a better exemplification, it makes sense to empirically illustrate the marginal effects of each variable. For the case of financial centers this is straight forward since it is either present in a region or not. Still, this makes a difference of roughly 3.7 percentage points regarding the share of finance and insurance activities in regional GDP. When dealing with population density, the *ceteris paribus* effect at first sight seems to be rather minor. However, in the long run it might substantially contribute to an increase in financialization as the following simple and cautious example illustrates: The Spanish region of *Comunidad Valenciana* already has an above-average level of financialization (Fig. 2) and is—according to official EU projections—expected to experience a population growth of more than 30% or almost 1.5 million people from 2008 to 2030 (Eurostat 2010). Under the given conditions, this increase in population density by 63.57 inhabitants per km² would account for a rise in regional financialization by 0.063 percentage points, equaling another € 62.5 million. Lastly, and potentially even more severe could be the effect of growing household debt. As Fig. 2 shows, between 1995 and 2013 household indebtedness has risen by almost 70%. If we now assumed a slower but steady growth by 30 percentage points until 2030, this would entail an increase in regional financialization by around 0.36 percentage points. Other things being equal, for the *median region* in the sample this would result in an additional contribution of € 58 million by finance and insurance.

Conclusion

In this paper, I have analyzed the financialization of regions in the European Union and thus contributed to a broader understanding of one of the crucial political economic dynamics in contemporary capitalism. My main objective was to extend the political economic literature on financialization by combining a structural framework with a large-n comparison on the regional level. The main results show that, in addition to common financial market indicators, especially household debt is a major driver of regional financialization. This finding opens the door to a more complex argument about both financialization in Europe and regional development. In this regard, there seem to be three central implications.

First, as we can draw from the map of regional financialization in the EU, there are puzzling cases, which are focal points for finance. Many of them are located in traditional financial centers or economically powerful areas of the core member countries. Still, some are scattered throughout peripheral economies or can be found in regions that have been lagging behind. Also, there are a number of emerging financial centers and interesting territorial units in Southern and Eastern EU members, sometimes as “islands of financialization” that are surrounded by less-financialized regions. Therefore, one might argue that financialization has led to a new form of uneven development within Europe through of form of asymmetric (financial) integration (Agnew 2001; Becker and Jäger 2012; Becker et al. 2013). Furthermore, we can also turn the table and look for reverse causality. This means

that preexisting and reinforced asymmetries across regions could then actually contribute to specific forms of financialization. Secondly, already before the outbreak of the recent global financial crisis, numerous commentators had been warning about the perils of rising household debt. Whether one points to the indirect expropriation by financial market mechanisms (Lapavistas 2013), the partial and temporary substitution effect for stagnating wages as in privatized Keynesianism (Crouch 2009) or the role of mortgages in different “varieties of residential capitalism” (Schwartz and Seabrooke 2008; Wood 2016), private debt indeed fuels financialization. These aspects then also relate to questions about different political economic growth models (Baccaro and Pontusson 2016) and their sustainability. Household debt can generally spur domestic consumption, but also mitigate lower wages in export-oriented economies. Hence, it might contribute to intra-European macroeconomic imbalances and have a destabilizing effect (Horn et al. 2010). Thirdly, we can look at the bigger picture of European integration and its consequences for regional financialization. For the EU, financial market integration with its goals of harmonization and global competitiveness has been a key project since the 1990s (Bieling 2013). In this context, policy makers are linked to large financial actors with transnational interests (Mügge 2006), which might lead to a concentration of market power and attacks on alternative forms of banking (Seikel 2014). As a consequence, European integration shapes regional financialization and can have widespread implications for strategic investment decisions, like capital flows, or everyday financial infrastructure, as it is the case with retail banking.

Despite the contribution of the paper, there are also clear limitations. However, they might animate the discussion on finance and regions and encourage future research. Here, there are at least four promising desiderata. The first would be to broaden the empirical scope by including other relevant economies and making use of most recent data. Acknowledging the importance of the regional dimension and financial indicators, statistical offices keep improving availability and accessibility. Secondly, backing up quantitative findings with structured and focused case studies would enhance our understanding of regional financialization processes. This would enable to analyze different causal mechanisms and paths toward financialization, especially regarding the interplay of institutions, ideas and power and the regional level. Speaking about causality, we could thirdly take a step backward in the causal chain and for example ask why and under which circumstances households become more indebted. Drawing on the main finding of this paper, such an approach could single out regional specificities of finance–debt dynamics. In this context, one could also focus on regional financial actors, like savings banks, and their role in promoting or inhibiting financialization (Mertens 2016). Last but not least, a fourth target for future studies might be the interaction of financial actors across different regions. In this regard, the “financial chains” that link economic spaces (Sokol 2017), for instance via credit, investment and networks, could be a point of departure. Since financial, political and economic distortions continue to be pressing issues, the financialization of regions remains relevant for academics and politics alike.

Appendix

See Tables 3 and 4.

Table 3 Case selection, territorial units and NUTS levels *Source: Eurostat (2015d)*

Country	NUTS	Territorial unit	Cases (of total)
Austria	2	Länder	09 (09)
Belgium	2	Provincies/Provinces	11 (11)
Czech Republic	3	Kraje	14 (14)
Denmark	2	Regioner	05 (05)
Finland	3	Maakunnat/Landskap	19 (19)
France	2	Régions	22 (27)
Germany	1	Länder	16 (16)
Greece	2	Περιφέρειες (Periferies)	13 (13)
Hungary	3	Megyeék	20 (20)
Ireland	3	Regional Authority Regions	08 (08)
Italy	2	Regioni	21 (21)
Netherlands	2	Provincies	12 (12)
Poland	2	Województwa	16 (16)
Portugal	3	Entidades Intermunicipais, Região Autónoma dos Açores y Região Autónoma da Madeira	30 (25)
Slovakia	3	Kraje	08 (08)
Spain	2	Comunidades Autónomas, Ciudades Autónomas	17 (19)
Sweden	3	Län	21 (21)
UK	1	Scotland, Wales, Northern Ireland, Government Office Regions of England	12 (12)
Total			274

For some countries, the number of selected cases differs from the actual number of the respective NUTS level. For France, the five overseas territories (*Guadeloupe, Martinique, Guyane, La Réunion* and *Mayotte*) are left out. The number for Portugal is actually higher, because case selection is based on the former classification of NUTS 2010. Since the political-administrative reform and the territorial rearrangement related to the current NUTS 2013 division have entered into force in 2015, it would not have been compatible with the other data used in this analysis. Finally, in the case of Spain, the two autonomous cities of *Ceuta* and *Melilla* are excluded

Table 4 Operationalization of variables *Sources:* AK VGRDL (2015), GUS (2015), ECB (2016); Eurostat (2015a, b, c, d, 2016); Hooghe et al. (2016), IMF (2016), OECD (2013), Quandl (2016), Z/Yen Group (2014)

Group	No.	Name	Operationalization
(I) Debt	01	Sovereign debt	Consolidated in % of GDP
	02	Sub-national debt	Percentage of GDP
	03	Debt of non-financial firms	Liabilities in % of GDP
	04	Debt of financial firms	Liabilities in % of GDP
	05	Household debt	Debt in % of income
(II) Financial market	06	Banking leverage	Assets in % of equity
	07	Foreign direct investment	Net inflows in % of GDP
	08	Stock market	Percentage of GDP
	09	Financial center	Yes/no
	10	Lead currency	Yes/no
(III) Economic sectors	11	Real estate activities	Gross value added in % of GDP
	12	Manufacturing	Gross value added in % of GDP
(IV) Politics/demographics	13	Political autonomy	Regional Authority Index (0–11)
	14	Financial autonomy	Regional Authority Index (0–7)
	15	Population density	Inhabitants per km ²

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