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THE FINANCIAL ROAD TO ECONOMIC STAGNATION

THE CASE OF THE USA

VOLUME 1

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Resumo

O período a partir da década de 1980 é caracterizado por instabilidade financeira e fraco crescimento económico. Esta tese conceptualiza a tendência para a estagnação na economia dos EUA, enquanto resultado de um processo cumulativo, articulando desigualdade e financeirização. A endogeneidade da interação entre financeirização, desigualdade e estagnação económica é testada através de uma autoregressão vetorial (VAR). A Financeirização é abordada de dois ângulos: i) a instabilidade financeira é intensificada pela interação com a política do banco central; e ii) a financeirização interage com empresas e famílias de modo a deprimir o investimento e a procura agregada. A desigualdade económica é examinada através de duas óticas: i) Como consequência do enfraquecimento do contrapoder que os trabalhadores têm nas empresas; e ii) como produto de um sistema fiscal regressivo. As conclusões atingidas indicam que a tendência para a estagnação económica é resultado de uma relação endógena entre financeirização, desigualdade, e estagnação económica que se autorreforça nas condições atuais. Consequentemente, intervenções limitadas, que não respondam a estas condições subjacentes não serão suficientes para recuperar a lógica de prosperidade partilhada do pós-guerra.

Palavras-chave: Financeirização; Desigualdades ;Estaganação Economica

Codigos JEL: D63; G01; P16.

Abstract

The period from 1980 onwards is characterized by financial instability and weak economic growth. This thesis conceptualizes the stagnating tendency of the American economy as a result of a cumulative and self-perpetuating relationship between inequality and financialization. The endogeneity of the relationship between stagnation inequality and economic stagnation is tested empirically with a vector autoregression (VAR). Financialization is addressed in two angles: (i) How financial instability is intensified by the interaction with central bank policy; and (ii) how financialization interacts with firms and households to depress investment and aggregate demand. Economic inequality is examined under two approaches: (i) as a consequence of waning countervailing power exercised by workers in firms; and (ii) as a product of a regressive tax system. The conclusion reached indicates that the tendency for economic stagnation is the product of an endogenous interaction between financialization, inequality, and economic stagnation that self-reinforcing under current conditions. As a result, limited interventions that do not address these underlying conditions will not be enough to restore the post-war logic of shared prosperity.

Keywords: Financialization; Inequality; Economic Stagnation

JEL Codes: D63; G01; P16.

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Introduction

This thesis will explore how the interaction between financialization and inequality in the context of economic stagnation is pushing the economy of the United States of America into a state of systemic crisis.

Wealth and income inequality have been rising for the past 40 years, reaching levels not seen since the beginning of the XX century. In parallel to the soaring levels of inequality, particularly in the USA, real wages have practically stagnated during the last half-century (Magdoff & Foster, 2014). These two indicators show us a world where most of the fruits of economic growth, less robust than in other epochs, are captured by a small minority.

The issue of equality is at the center of one of the most important debates in economics: the supposed trade-off between equity and efficiency. Okun (2015: 89-92) portrays the problem as one of a leaky bucket used to transfer money from the rich to the poor, but that loses part of it in the process. Where one stands in the debate depends on different political preferences for equity or efficiency. I argue that, at least in the current institutional conditions, the trade-off no longer applies. The current high levels of inequality tend to lead instead to stagnant demand and macroeconomic instability. The stagnating real wages from the middle of the seventies onwards in the USA make it clear that in the end, most people are blocked from the benefits of economic growth.

Besides inequality, the other great hallmark of the last 40 years has been economic stagnation. In sharp contrast with the high growth rates of the "Trente Glorieuses", the period from the 1980s onwards was characterized by sluggish economic performance in the rich world paired with deteriorating conditions for the working class (Piketty, 2020). This continued stagnation has rekindled the interest in the concept of secular stagnation first introduced by Alvin Hansen in the thirties (Hansen, 1934, 1939). In particular, the work of Lawrence Summers has brought it into the mainstream of the discipline (Backhouse & Boianovsky, 2016). Nonetheless, Marxist and Post-Keynesian economists have been researching the issue for decades.

The beginning of the period of economic stagnation also coincided with the beginning of the explosive growth of finance. Financialization can be a somewhat nebulous concept in its scope and breadth. Nonetheless, Foster and Magdoff (2009: 77) describe very clearly the financialization of capitalism as "the shift in gravity of economic activity from production (…) to finance". In the same line, Palley (2007: 2) describes financialization

as “a process whereby financial markets, financial institutions, and financial elites gain greater influence over economic policy and economic outcomes”. The nexus between growing inequality and financialization has been highlighted both in Post-Keynesian and Marxist approaches to the issue of economic stagnation.

The specific aspect of financialization that I intend to focus on is the relationship between inequality and higher levels of speculative investment. Speculative investment “may be defined as the purchase (or sale) of goods with a view to re-sale (re-purchase) at a later date, where the motive behind such action is the expectation of a change in the relevant prices relatively to the ruling price and not a gain accruing through their use, or any kind of transformation effected in them or their transfer between different markets” (Kaldor, 1939: 1). Keynes, Kaldor’s main reference, differentiates two different types of investment: i) “enterprise”, i.e. “the activity of forecasting the prospective yield of assets over their whole life”, with the expectation of long term gains coming from those yields (Keynes, 1936: 136); ii) “speculation”, i.e. “the activity of forecasting the psychology of the market”, with the expectation of gains coming from short term transactions of the assets themselves (Keynes, 1936: 136). The consequences of widespread speculative investment are evident, two notable examples being the growth of financial market capitalization as the real economy stagnates, and the explosion of housing prices in urban centers all across the rich world with devastating social consequences (Rodrigues et al. 2016).

The relationship between inequality and financialization cannot be taken out of the context of economic stagnation that has hounded the rich world ever since the 1980s. Therefore, after a review of the individual concepts, some prominence must be given to concurrent explanations trying to make sense of the current period of economic stagnation. The aim is to briefly summarize what different schools of thought have to say on economic stagnation, with a particular focus on inequality and financialization.

Income and wage inequality have jumped to the forefront of the economic discussion following the widely read works of both Thomas Piketty (2014) and Branko Milanović (2007). Piketty states, with ample empirical evidence, that, through the unleashed functioning of capitalism, income and wealth inequality have grown to a level rivaling the years before the Great Depression. The work of Milanović looked at inequality from a global perspective: we are then presented with an “elephant curve of global income growth” that shows that in contrast with the middle quantiles, the 80% to 90%

experienced almost no wage growth from 1988 to 2008. This group coincides roughly with the working and lower-middle classes of rich countries (Lakner & Milanovic, 2013). Alvaredo et al. (2018) extend the same analysis to the period of 1980-2016, and find the same elephant-shaped curve albeit with higher growth rates, as is expectable from a longer time span. The previous distribution reinforces that, as far as the rich world is concerned, income inequality has increased during the last 40 years, with the working and middle classes suffering the brunt of the consequences.

In Marxist and Post-Keynesian research, the overshadowing of the sphere of production by the sphere of finance (Lapavitsas, 2011) seems to be the most common, although far from monolithic, conceptualization of financialization. Other than production, the expansion of finance into the household, through debt for the acquisition of assets, is also a favored approach by researchers (Erturk et al., 2007).

Presenting a negative view of financialization, Costas Lapavitsas and Ivan Mendieta-Muñoz (2016) describe the financial transactions between financial institutions and households as asymmetric, both in information and power leading to the expropriation of the latter, the weakest part of this social relation.

In the context of the financialization of capitalism, certain institutions like pension funds and investment funds gain an increasingly prominent role. This trend was initially restrained to the United States but quickly spread to most of the rich world. Financial deregulation, which happened during the 1970s and 1980s in the United States, gave more power to fund managers, relaxed the standards of prudence, and allowed for a much higher speed of circulation. These institutional shifts allowed pension funds together with mutual funds to behave in increasingly speculative ways, further deepening the divide between the real and the financial side of the economy (Montagne, 2007).

Different schools on economic stagnation

The debate around the current period of economic stagnation can be divided into three broad groups, the Post-Keynesian, the Marxist, and the mainstream approaches. I will start a brief review of the literature by looking in more detail into how each of these schools engages with the issue of economic stagnation, with particular emphasis on how this process interacts with financialization and economic inequality.

The issue of long-term economic stagnation had mostly dissipated in mainstream economics. Its last upsurge in interest before its current revival coincided with the oil shocks and the period of stagflation that followed them (Backhouse & Boianovsky, 2016). The interest in long-term economic stagnation has been restarted by Lawrence Summers (2013) in the aftermath of the Financial Crisis, with the revival of the concept of secular stagnation first introduced by Alvin Hansen (Hansen, 1934). Originally secular stagnation was associated with the difficulty of maintaining extensive growth in mature economies (Hansen, 1934). The revival of the concept in mainstream circles is connected with weak economic performance since the 1980s and accentuated by the weak growth after 2008. In the sixties, the American economy grew at an average compound yearly rate of 4.2%. During the next three decades, it stayed around 3%, dipping to around 1.5% and 2% for the periods of 2000-2009 and 2010-2019 respectively.

Unlike in the thirties, the conventional approach to secular stagnation is mostly focused on a disequilibrium affecting the supply and demand for loanable funds. The disequilibrium manifests itself in the existence of a negative equilibrium interest rate. This is caused by weak demand coupled with a strong supply of loanable funds. Therefore, the economy is unable to absorb all the savings in the context of a positive real interest rate. The conventional debate on secular stagnation can be divided into two main camps, the demand and supply sides of secular stagnation, depending on what different authors consider to be the underlying cause for the disequilibrium between the supply and the demand of loanable funds.

On the demand side, secular stagnation is framed as a lack of incentives to invest, in other words, as a long-term savings glut leading to a natural interest rate (that is one that would allow full employment) below zero (Summers, 2015). What are the major causes for this is contested. Declining population growth, a decline of the relative price of investment goods, and the fact that big firms seem to have more money than they can, or want to, invest are considered to be some of the major causes driving the reduction of the demand for loanable funds (Rachel & Summers, 2019). On the other hand, the supply of loanable funds has increased due to several factors, notably a high level of income inequality, an aging population, and the tendency for developing countries to hold large foreign currency reserves as a precautionary policy against speculation on their exchange-rate in a world dominated by liberalized financial markets (Tooze, 2018).

Supply side secular stagnation (Gordon, 2015) concentrates on stagnation brought about by the slowing of productivity growth that makes investment unattractive due to the low rates of return it would entail. This slowdown can be due most notably to technological factors or to a mismatch between education and the needs of the economy. Other factors such as wage-stagnation and the high debt burden are also considered because they reduce the incentive of firms to invest, particularly in capital-intensive sectors, and therefore reduce productivity growth (Gordon, 2012).

Although financializaton is not the sole explanation for secular stagnation, that does not mean that it has been absent from mainstream analysis. James Tobin warned that the growing importance of and accessibility to financial markets could have negative consequences to society, such as the incentive of short-term speculation undermining the efficiency of the economy (Tobin, 1984). Besides the incentive to speculate, Tobin also points out that financial institutions tend to attract the cream of the economic profession to a sector where their contribution to society is less than in more productive sectors. This idea is taken up by Philippon and Reshaf (2012): they find that the higher wages for workers of financial institutions, a form of rent extraction, explains why it is so attractive to graduates from economics. It was these ideas on the negative consequences of financialization that formed the basis of the so-called *Tobin tax* on financial transactions.

The Post-Keynesian perspective focuses on investment and demand regimes, and how financialization interacts with those two macroeconomic variables. Indeed, there is a vast array of empirical work related with the differentiated effects that financialization has on different economic variables. Considering investment, the prevailing analysis is microeconomic in nature: Stockhammer (2000) finds that financialization has a negative effect on investment. The primary mechanism is the shifting of power inside firms to the shareholders. This results in higher importance given to dividends and stock prices, to the detriment of long-term growth. Tori and Onaran (2017) or Dallery (2009)present a microeconomic explanation of the negative effects of financialization on investment, focusing on the way it changes firms' behaviors, with more revenues being used in financial activities instead of fixed investment. The relation between the Post-Keynesian theory of the firm and financialization is inescapably linked with the shift in corporate structure that has seen the power of the shareholder rise in step with the declining autonomy of managers and power of workers (Lazonick & O'Sullivan, 2000). The way in which this shift in the corporate power structure is intricately related to financialization

is that it was underpinned by the strengthening of the market for corporate ownership and control (Stockhammer, 2000). This was fueled by a policy of financial deregulation that facilitated the emission of junk bonds, allowed for quick and speculative hostile takeovers of firms from the eighties onward, helping to further cement the principle of stockholder primacy (Lazonick & O'Sullivan, 2000). In other words, the microeconomic changes in how firms are structured led to the macroeconomic consequence of less investment by firms.

Considering demand regimes, the analysis tends to be macroeconomic in nature. A demand regime concerns what component of aggregate demand is driving growth (Bhaduri & Marglin, 1990). Post-Keynesian concerns center around the demise of the traditional demand driven and profit (investment) driven growth regimes (Lavoie & Stockhammer, 2013). Facing this demise, Boyer (2000) formulates, somewhat optimistically, the basis of an emergent finance-led growth regime as having the following characteristics: easy access of households to credit, a growing importance of financial gains as opposed to wages, the maximization of shareholder value, and the transition of competition from the product market to financial markets. On finance-led growth regimes, Dutt (2006) shows that while in the short-term the increase in household debt can have a positive effect on growth, in the long term, as the weight of the debt becomes too heavy, it has a negative effect on growth. Inequality feeds into the system through three mechanisms: (i) by reducing aggregate demand, as the rich have a lower marginal propensity to consume (Stockhammer, 2015); (ii) by increasing the debt burden of households, affecting disproportionally the less well-off, forcing economies into unstable debt-based growth regimes (Giraud & Grasselli, 2019); and (iii) by increasing the propensity to speculate, as the very rich having exhausted their consumption opportunities, tend to invest a higher proportion of their wealth and in riskier portfolios than the poorer households.

The Marxist theory on stagnation focuses on the limits to economic growth in an increasingly unequal society characterized by higher levels of monopoly power due to tendencies towards concentration and centralization of capital inherent in mature forms of capitalism (Foster et al., 2011). Financialization is seen as an outlet for growth when the real economy can no longer expand under the weight of its own contradictions (Despain, 2015). The first Marxist authors to systemically analyze the tendency of financialization were Harry Magdoff and Paul Sweezy (Magdoff & Sweezy, 1972). In the

chapter “Problems of U.S. capitalism”, they point to the increasing levels of public and private debt in the United States as a driving force, albeit with destabilizing implications for sustaining the post-war boom past the late fifties. This high level of financial activity interacts in a perverse way with a form of capitalism in which the property of the means of production is highly concentrated, resulting in what was dubbed Monopoly-Finance Capital. The characteristics of this new form of capitalism are the high reliance of firms on the financial sector to keep expanding, the formation of speculative bubbles as the productive economy cannot keep up with the growth of finance, and the action of the State to keep the inflated financial markets from declining.

As investment tends to decline in conditions of monopoly, consumption becomes an ever more important driver of growth (Foster et al., 2011). However, with high levels of inequality, capitalists have a hard time expanding mass markets for low-end consumer goods. This situation of demand compression further reduces the incentives to invest in the expansion of productive capacity (Foster & Magdoff, 2009). Symmetrically, a considerable part of income and wealth inequality can be directly attributed to monopolist and monopsonist practices by firms that transfer surplus both from consumers and workers to the owners of capital; or indirectly, through lobbying that supports the interests of the capitalist class in terms of the definition and redefinition of the rules of the game that always underpin capitalism. The immense power, both economic and political, of monopolies allows for their continual preservation, leading to historically high levels of industrial concentration.

One convergent point in both Post-Keynesian and Marxist approaches is the transfer of funds from investment in the real economy to speculative investment in the financial sector, even if they do not necessarily agree that the reason for such transfer is a cause or a consequence of the stagnation in the real economy. More speculative investment is generally considered in the literature to have negative effects on both long-term growth as attested above, and on the stability and efficiency of financial markets

Post-Keynesian and Marxist scholars have focused on economic phenomena typically ignored by mainstream economists. The most significant explanation for the recent return of the concept of secular stagnation in mainstream circles are the far-reaching consequences of the Great Financial Crisis. As its consequences defied the predictions of mainstream economics, it led to the revival and adaptation of the old concept of secular stagnation. This revival led mainstream economists to consider concepts that used to be

the domain of Post-Keynesian and Marxist researchers, as is exemplified by the recent work by Summers and Stansbury (2020) on declining labor power.

Nonetheless, there are certain mechanisms that are underexplored in the mainstream literature, despite their essential role concerning the nexus between financialization, inequality, and economic stagnation. Mechanisms such as the formation of effective demand and the problem that industrial concentration poses to stable growth, as well as the way that debt helps prop up a faltering demand regime are mostly absent from mainstream approaches. A consequence of this is that the endogenous nature of the variables tends to be underplayed. Broadly speaking, a savings glut or a technologically driven slowdown of productivity does not direct one's attention to a self-perpetuating mechanism as much as debt-fueled growth or financial bubbles propping up a stagnating and fragile capitalist system.

Recognizing the relationship between inequality financialization and economic stagnation as interdependent and self-reinforcing is important both in the way it calls for political action as in the way the relationship can be modeled and empirically tested. Considering this, it can be enlightening to test the endogenous relation between the variables empirically.

Empirical Study

To adequately address the complex three-way relationship between economic stagnation, financialization, and inequality, a Vector Autoregresion (VAR) model can be used. The advantage of using a VAR model is that it allows for the determination of Granger causality between the variables under consideration (Granger, 1969). In this particular case, both the literature and prevailing economic theory indicate that there is a strong reason to assume that economic stagnation, inequality, and financialization are endogenously related. Furthermore, the decomposition of the variances allows for the assessment of the individual contribution of each variable to the establishment of a new equilibrium. Assessing the individual contribution of the variables is important as it allows the exclusion of interactions between variables that, although statistically significant, are irrelevant in their impact. An Impulse Response Function can also be used to determine the effects through time that a shock in one variable has on the other component variables of the dynamic model.

The focus of the empirical study is the United States of America in the period between 1971 and 2019. The motives to study this economy are twofold. The first motive is the exceptional availability of economic data. This availability expresses itself both in terms of scope as well as in the timespan for which data is available. When compared to other rich countries, the United States has a very long data timespan available, and the length of the time series is particularly important for a VAR estimation. The second motive is that the United States, as the most advanced capitalist economy in the world, serves as a somewhat extreme case in a spectrum, both in terms of inequalities as in the extent its economy is molded by financialization, that nonetheless affects most if not all of the rich world. The timespan under study coincides with the substantial transformations in the economy that have been discussed above, namely the explosive growth of the importance of finance in the economy, the widening of the divide between the rich and the poor, and the detachment of the fortunes of the stock market from those of the real economy, in general, and the working class, in particular.

A significant limitation associated with working with a VAR model is the restrain it poses on the number of variables (given the fast loss of degrees of freedom) that can be used considering the timespan under analysis. This explains the use of only a few broad variables meant to capture underlying trends.

In order to model inequality, a variable measuring the Palma ratio will be used. The Palma ratio consists of the income share of the 10% of earners divided by the income share of the bottom 40% of earners (Cobham & Sumner, 2013). The data is sourced from the world inequality database (https://wid.world/). The main problem with the data is that it concerns pre-tax income. Therefore it does not take into account redistribution. Still, as the goal of this research is not to focus on specific and detailed measurements of inequality but instead to map the underlying tendency towards a more equal or unequal society, the pre-tax data is enough to provide the information needed. Putting that aside, the Palma ratio is particularly insightful of the level of inequality in society as a whole, as the trend during the last 50 years has been one of the top 10% increasing their income share as the bottom 40% has seen their share decline persistently. The middle 50% (between the 40^{th} and 90^{th} percentile) has seen its wage share decrease slightly but at a much slower rate than the bottom 50% (Palma, 2006, 2011). Seeing that a great part of the relationship between inequality, financialization, and stagnation happens through the channels of consumption reduction and excess saving by the rich, an index that captures

both sides of the issue of increasing inequality seems adequate. In order for it to be stationary, the variable employed (INEQ) is the annual growth rate of the Palma ratio.

To measure financialization, an index composed by measuring the differential between GDP growth and the growth of the stock market index S&P 500, retrieved from yahoo finance (https://finance.yahoo.com/quote/%5EGSPC/history/), which work as a reasonable proxy for the growing importance of finance in the American economy. The logic behind this is that the variable permits the assessment of the rate of financial expansion in contrast with GDP. If for an extended period, the stock market index expands at a higher rate than GDP, one can assume that finance is playing a more important role in the economy and *vice-versa*. Total stock market capitalization to GDP would also be a good proxy variable for the growth of finance in the economy, yet it was not used due to constraints related to the available data timespan. Nonetheless, it can be seen in the following graph (Figure nº 1) that both stock market capitalization and the S&P 500 index mirror the same trend. As the rate of growth of the S&P 500 index and stock market capitalization are very similar, it is possible to extend the analysis beyond the temporal availability of the stock market capitalization data. The variable FIN was constructed by subtracting the annual growth rate of the S&P 500 index to the annual growth rate of GDP *per capita.*

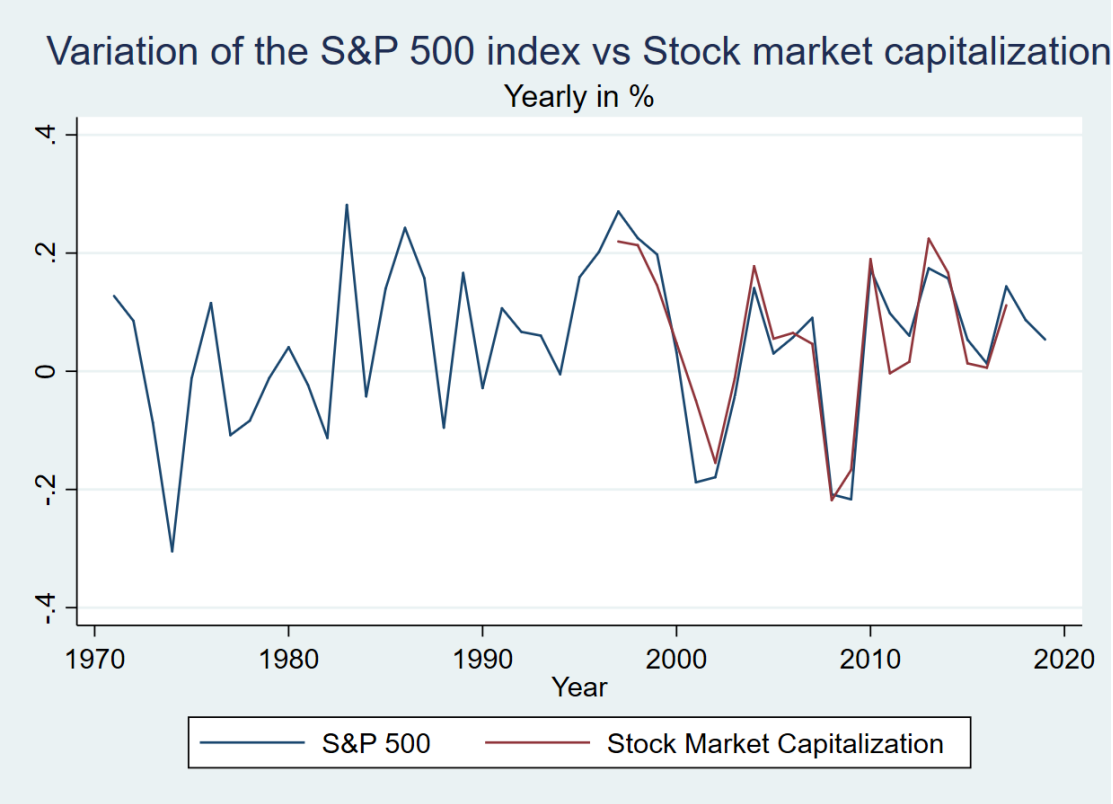

Figure nº1. Variation of the S&P 500 index vs. Stock market capitalization.

Measuring economic stagnation poses an interesting question as it should not be defined merely by GDP growth. The stagnation of wages is arguably as important, if not more (Magdoff & Foster, 2014). In particular, during a period characterized by growing levels of inequality, in which most of the growth is captured by a small minority of the population, GDP evolution stops being a reliable estimator for the level of wellbeing in a given economy. Neither does GDP growth impact social wellbeing in the same way concerning different levels of inequality. The failure of GDP growth to improve living standards is evident when one plots the real median household income growth against the real GDP growth, both in base 100 for 1971, in the United States during the last 50 years (see figure n 2). GDP growth has also decelerated if compared with the average of previous decades, in particular during the "trente glorieuses".

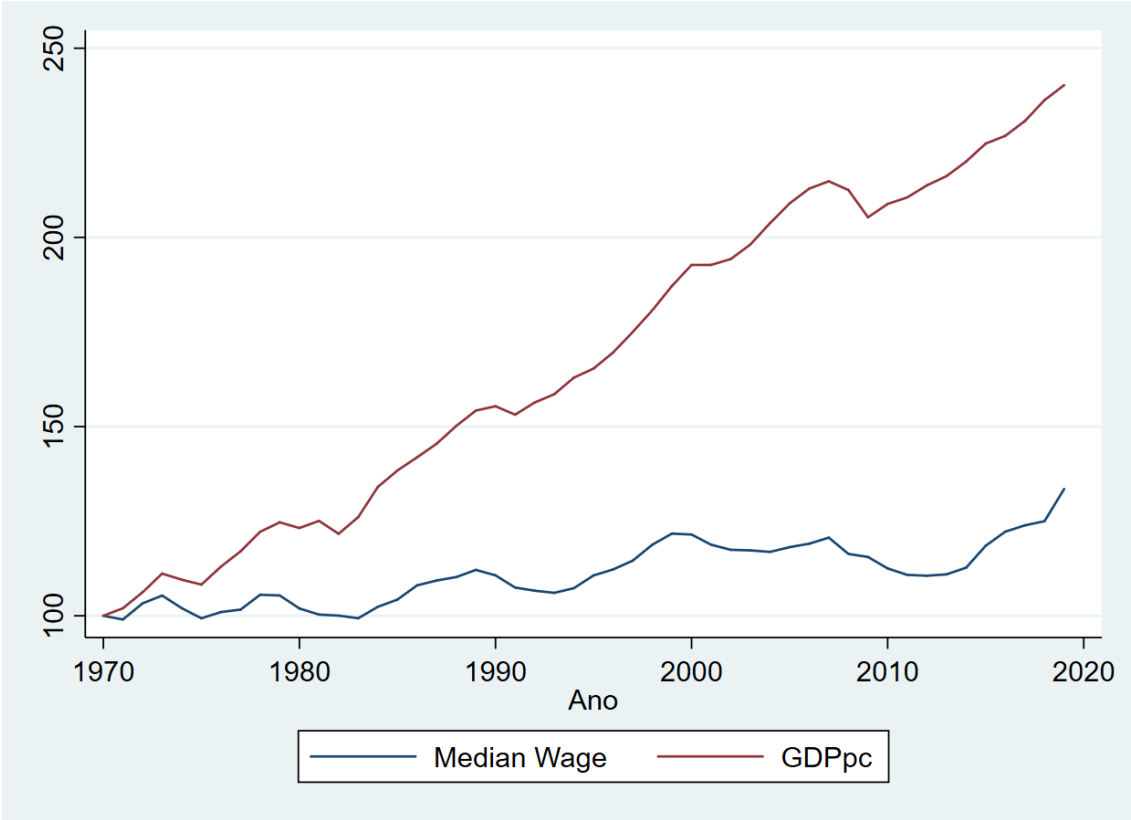

Figure nº 2 GDP *per capita* Growth Rate vs. Median Household income growth (calculations made by the author)

To capture the tendency of economic stagnation in a manifestation that is closely related to the mechanisms explored above, the variable STAG was generated. It is obtained by subtracting the yearly growth rate of real GDP to the real growth rate of median household

income. This variable effectively measures how the working classes have been excluded from the fruits of economic growth. Data on the median wage was retrieved from the Income and Poverty in the United States: 2019 report (U.S. Census Bureau, 2020), and data on the real GDP was retrieved from the FRED databank (https://fred.stlouisfed.org/).

The rate of unemployment, sourced from the FRED databank, was used as a control variable. As some of the short-term interactions between the other three variables change depending on the phase of the economic cycle, the inclusion of unemployment helps to identify long-term relationships between variables. Since employment is highly elastic to output in the American economy due to a meager protection net (Howell & Azizoglu, 2011), the inclusion of unemployment also controls for shocks caused by sudden output shifts. The variable U corresponds to the annual rate of unemployment.

The statistical model that was estimated follows the form (e.g., EViews 11 User's Guide II, 2019):

$$y_t = A_1 y_{t-1} + A_2 y_{t-2} + C x_t + e_t$$

With

- $y_t = (FIN_t, STAG_t, INEQ_t, U_t)'$
- $x_t = (c_t)'$
- A_1 and A_2 are the matrices of lag coefficients to be estimated
- C is the matrix of exogenous variable coefficients
- $e_t = (e_{1t}, e_{2t}, e_{3t}, e_{4t})'$, where $E(e_t) = 0$, $E(e_t e_t') = \sum_e$, and $E(e_t e_s') = 0$ for $t \neq s$

Two lags were used to estimate the model. When using only lag, as suggested by the lag length criteria selection the model showed evidence of autocorrelation. Therefore, that was corrected by adding a second lag.

The White test for heteroscedasticity showed that the errors are homoscedastic. The Portmanteau test for autocorrelation shows that there is no residual autocorrelation. The inverse roots of the AR characteristic polynomial are in module less than one therefore the estimated VAR is stable. All the variables were individually tested for stationary with ADF tests and have all proven to be stationary, as is required for a VAR. All the tests can

be seen in the appendix (A1 through A5). A table with the descriptive statistics for the variables used can be seen in Table A6.

The results from the block exogeneity tests indicate that all the variables are endogenous. The conclusions of the granger causality tests can be seen in the following figure (Figure nº 3)

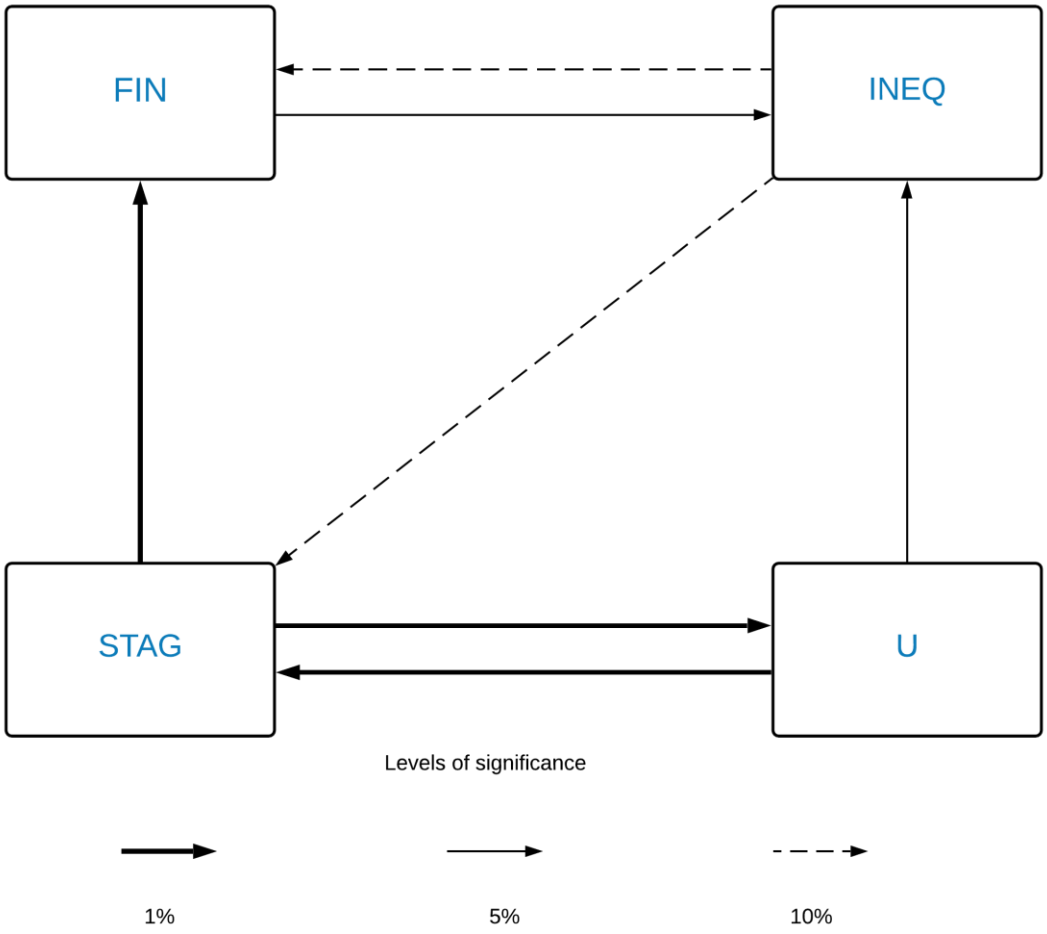

Fig nº 3: Granger Causality diagram

As expected, there is evidence of two-way causality between FIN and INEQ. This is in line with the reduction of aggregate demand, the increased debt servicing burden on families, and the increased propensity to speculate as inequalities widen. The one-way relationship between STAG to INEQ, meaning that the gap between GDP and wage growth can precede variations in income distribution.

The Cholesky ordering used was FIN → STAG → INEQ → U. The literature does not clearly indicate an order of exogeneity, therefore FIN was chosen as the potentially most

exogenous due to the political nature of financial deregulation. Nonetheless, the results obtained varied only minimally with different Cholesky orderings, attesting to the robustness of the estimation.

The important point of the empirical study is that it reinforces the idea that the stagnation-inequality-financialization nexus should be considered as a whole, as part of a systemic dynamic.

Figure nº 4: Impulse response function

The main conclusion from the impulse response function (Fig. nº4), together with the variance decomposition (Table nº1), is that the interaction between FIN and INEQ is both

positive and substantial. This means that an increase in the gap between the growth of the S&P 500 index and GDP growth *per capita* has a positive impact on the Palma ratio.

Variance Decomposition of FIN:

Period	S.E.	FIN	STAG	INEQ	U
1	0.114909	100.0000	0.000000	0.000000	0.000000
2	0.139908	74.94854	16.66803	8.291509	0.091922
3	0.140534	74.29906	17.33684	8.231010	0.133094
4	0.143644	71.12683	16.72924	11.67316	0.470772
5	0.144740	71.09525	16.62477	11.50831	0.771679

Variance Decomposition of STAG:

Period	S.E.	FIN	STAG	INEQ	U
1	0.015424	3.350526	96.64947	0.000000	0.000000
2	0.016980	3.566577	80.29590	0.358909	15.77862
3	0.019034	14.01619	64.70743	6.488190	14.78819
4	0.019402	13.81815	62.99635	7.553365	15.63214
5	0.019467	14.21335	62.68846	7.508621	15.58957

Variance Decomposition of INEQ:

Period	S.E.	FIN	STAG	INEQ	U
1	0.122867	2.518344	4.127610	93.35405	0.000000
2	0.137376	11.51132	5.202255	75.33863	7.947798
3	0.142847	14.65164	5.297990	69.68610	10.36427
4	0.146513	17.36731	5.038240	66.33342	11.26103
5	0.147625	17.82728	5.059037	65.50591	11.60778

Variance Decomposition of U:

Period	S.E.	FIN	STAG	INEQ	U
1	0.794608	2.131366	9.087156	2.548818	86.23266
2	1.336947	20.16378	6.376178	0.921463	72.53858
3	1.661535	29.67060	4.226275	1.111874	64.99125
4	1.798911	33.11719	3.633105	1.206795	62.04291
5	1.833118	34.12534	3.580500	1.163546	61.13062

Cholesky Ordering: FIN STAG INEQ U

Table nº1 Variance decomposition

The information from the variance decomposition table (see table nº 1) indicates that there is an empirical basis for considering the relationship between inequality and stagnation, not only statistically significant but also relevant. At the same time, attention should not be dedicated exclusively to that interaction as there is a considerable share of the variance that is explained by factors external to the model. It is with this framework that the following sections will be structured. All the variables are affected by each other and, at the same time, are subject to outside stimuli that are then transmitted to the rest of the system. Therefore, both inequality and financialization will be addressed, in turn, in how their internal dynamics interact with external factors and between themselves. Economic

stagnation will not be addressed individually, but instead, it will be discussed as a significant cause and consequence of the other two variables.

Inequality

When considering the rise of inequality in the last 40 years, it is essential to look at the mechanisms in action both before and after taxation is considered. Before taxation, the focus should be directed at how wages and profits are determined. After taxation, the focus should shift to how a less progressive tax system is incapable of systematically reducing existing inequalities.

It is unreasonable to believe that wages are determined by the marginal productivity of the workers, as power and the institutions underpinning markets are essential determinants. Furthermore, most markets are characterized by only a few firms that exert considerable market power in their sectors of operation (Foster et al., 2011). In the absence of constraints to the power of firms internal to market competition, other forces, external to that mechanism, can take their place. These external forces are what Galbraith (1993) called countervailing powers as they counter the firm's market power. According to Galbraith, it is precisely the fact that certain sectors are highly concentrated and therefore harbor potential rents to be redistributed to whoever holds it that stimulates the formation of a countervailing power (Galbraith, 1993). Labor unions are a prime example of a countervailing power held by workers, the weaker agent, against firms, the stronger agent. An important conclusion to take from the concept of countervailing power is that the existence of strong labor unions is not just dependent on the barriers to worker organization, but also, crucially, on the potential benefits that it would entail. One way to see this is that the higher the potential benefits, the more energy workers are willing to spend to overcome the barriers to their collective organization. The way in which low inflation, the internationalization of production chains, and the increase of shareholder power influence the conditions under which countervailing power is formed can help explain the waning of the unions.

The low inflation framework that characterizes the American economy in recent times has significant consequences as far as inequality is concerned. One important mechanism has to do with the rate of unionization. Strong trade unions have the effect of increasing wage pressure. The inflationary pressure caused by unions should be understood as a

byproduct of the safeguard of real wages. However, the influence goes both ways, in the same way as strong unions contribute to inflation, considerable levels of inflation also contribute to the maintenance of strong unions (Tooze, 2018). Since inflation implies a redistribution of wealth (Doepke & Schneider, 2006), it is reasonable to expect that higher levels of inflation tend to amplify social struggle. During times of high inflation, the constant threat of wage devaluation increases the value of union membership in the eyes of workers. In other words, low inflation reduces the potential benefits of worker organization, therefore reducing the incentive to the formation of countervailing power.

The fall in the rate of unionization was not only due to a shift to a low inflation paradigm, equally as important was the destruction of a considerable part of the manufacturing bases of western economies (Tooze, 2018). Through the 1980s and 1990s, most developing countries abandoned their inward-looking development policies and opened their economies to international markets and international investment (Frieden, 2007). The opening of a large portion of the world's economy allowed for the offshoring of western industry, especially manufacturing, to countries with lower wages, poorer working conditions, and weaker labor unions. Sectors producing internationally tradable products that did not, or could not, take advantage of the new state of affairs found themselves subject to much tougher competition. A consequence of the reduction of the West's industrial base was, through high levels of unemployment of qualified workers, the weakening of trade unions that thrive in heavily industrial environments (Kollmeyer, 2018). Using Galbraith's approach, the weakening of the West's industrial base worked as a reduction of the potential benefits of organization, as firms transcended the national borders that limit worker movements. At the same time, the costs of organization have gone up as firms are in a much stronger position to repress labor unions.

Both the reduction of inflation and the weakening of the industrial base seem like reasonable explanations for the weakening of labor power in the United States, and later followed by the rest of the industrialized world. It is reasonable to assume that both mechanisms damage the organized labor movement in different but complementary ways. While deindustrialization can severely undermine worker power in the sector most affected by the offshoring, the transition to a low inflation paradigm can weaken worker power even in sectors that were not affected by the opening of new markets for international investment.

A further factor that hinders worker organization is the shift in the corporate culture discussed above. The shift from a “Retain and reinvest” to a “Downsize and distribute” form of corporate management also implied a significant reduction of lower-skilled workers, substituted either through automation or offshoring (Peters, 2011). As companies shift their objectives from long-term growth to short-term shareholder returns, it tends to loosen the labor market, creating more barriers in the way of unionization.

Therefore, the reduction of inflation, together with increased competition from imports, and anti-union practices taken by companies (such as moving factories offshore and to states with lower rates of unionization), contributed to the fall of the rate of unionization to historically low levels at around 11% in 2016 (U.S. Census Bureau, 2016). The fading of the power of trade unions prevents them from exerting countervailing power against firms, being one of the leading causes of declining worker power that explains the declining labor share of income, and consequently, the stagnation of the growth of real wages (Stansbury & Summers, 2020).

It is important to notice that inflation by itself has a mixed contribution to inequality. In one way, poorer households tend to hold proportionally more of their wealth in the form of cash or other forms not robust to inflation (Erosa & Ventura, 2002), and that richer households are more likely to use financial instruments to hedge against inflation (Mulligan & Sala-i-Martin, 2000). On the other hand, inflation devaluates assets expressed in nominal terms, such as treasury bonds that are mostly held by richer households, and thus has the reduction of wealth inequality as a consequence (Piketty, 2014). Nonetheless, it is still reasonable to assume that workers have a higher probability of seeing their real wages reduced the less negotiating power they have with their employers.

After pre-distribution, institutional arrangements, such as social security schemes and the tax system that finances them, play a further role in shaping inequality. Social security can help reduce inequality by providing free or subsidized goods and services to those worse-off, at the same time, it can facilitate access to services like education that are crucial for upward social mobility (Piketty, 2015). Evidently, how significant the reduction of inequality is dependent on how extensive those schemes are and on how progressive the tax system financing them is. If effectively enforced, a very high tax rate applied to the top earners would curtail inequalities by effectively limiting incomes considered too high to be socially acceptable (Piketty, 2014).

In the United States, during the last decades, taxation is becoming more regressive, forming an inverted U. There is some progressivity going from the working to the middle class, but as earnings approach the top 1%, the tax burden drops considerably (Piketty, 2014). This regressive bent of taxes for the rich is explained by "tax competition" between countries and the fact that the rich have more resources to avoid paying taxes (Batchelder & Kamin, 2019). It might be relevant that in the United States both politicians and economists are located in the top 1% that benefit from regressive taxation. Meanwhile, the coverage of social provisions is very limited, notably in healthcare and higher education (Rashford, 2007; Ma, 2020)

Income inequality is connected with financialization. As richer households accumulate ever higher quantities of money, they need to find a way to invest it. It is important to keep in mind that the same shareholders that benefit from the new style of corporate management are part of the richer households. This is amplified as wealth inequality far surpasses income inequality (World Inequality Database). With the low perspectives of profitability on real investment, due to the sluggish economic growth caused by the undermining of aggregate demand, the excess savings will tendentiously be channeled to the speculative financial investments trying to beat the yields of real investments. Deregulation of pension funds and mutual funds that allowed them to undertake riskier investments further strengthened the connection between inequality and financialization (Montagne, 2007).

Furthermore, long periods of cheap labor decrease the incentives to invest in labor-saving technology. After all, the returns on labor-saving investment are strictly connected with the price of labor that is being replaced. Labor-saving technical progress plays a crucial role in economic growth without increasing unemployment (Autor, 2015). Through this channel, the deterioration of wages and working conditions not only suppresses growth through lower aggregate demand but also through a negative effect on technical progress.

Finance

Alongside widening inequality, the expansion of the importance of the financial sector has been one of the main characteristics of the American economy in recent decades. Financialization is intertwined with the way central banks behave towards the financial sector. This became patent in the aftermath of the 1987 financial crisis. The stock market

crash of 1987 was the first big financial crisis to hit the American economy since the recessions caused by the Volker shock. After the Dow Jones industrial average dropped 22.6 percent, in a statement by Allan Greenspan, the Federal Reserve committed itself "to serve as a source of liquidity to support the economic and financial system" (Carlson, 2006: 10). With the backing of the Federal Reserve's money-printing ability, a complete financial collapse was avoided, and the crisis did not have considerable repercussions in the real economy nor in the rate of inflation. 1987 was illustrative of the conduit the Federal Reserve would take in future financial crises, notably in the dot.com burst of 2001 and the great financial crisis of 2008 (Magdoff & Foster, 2014). When faced with financial crises, the Federal Reserve policy has been one of trying to prevent a 1929-style debt-deflation crisis. Nevertheless, the policy of supporting financial markets without any structural policy to make them less prone to collapse poses problems to long-term stability.

Concerning the damaging influence of speculation on stable growth, the problem is, as Keynes pointed out, one of liquidity and uncertainty (Keynes, 1936). Highly liquid markets tend to favor speculation over enterprise (as defined above). This happens because, in illiquid markets, investors have little chance to change their investments halfway through, therefore making it very unlikely to obtain gains from asset transactions. The same does not happen in highly liquid markets, where the valuation of assets is frequently updated. In these markets, the participants can obtain gains by merely predicting how the other market participants would behave. There is a fundamental assumption on which the former argument stands, and that is that barring some buildings and public utilities subject to monopoly privileges, it is very hard for investors to correctly forecast the future yields of real investments (Keynes, 1936: 129). Therefore, the structure of highly liquid financial markets creates a disincentive to long-term investment. Considering that speculative investment is dependent on the liquidity of the markets where the transactions are made, then financialization is a factor to consider. Indeed, one facet of financialization is the increasing liquidity of financial markets, both in making existing markets more liquid and in turning previously illiquid markets into liquid markets. An example of this would be the development of the highly liquid futures markets inspired by illiquid forwards.

The combination of uncertainty over long-term returns and liquid financial markets accentuates financial instability, in accordance with Hyman Minsky's financial instability

hypothesis (Minsky, 1977). This hypothesis rest on a belief that during periods of economic prosperity, both lenders and borrowers tend to grow more reckless as the prosperity that characterizes a period of economic boom is understood as being perpetual. Central to this hypothesis is the problem posed by long-term uncertainty related to future returns. Over-optimistic forecasts then lead to increasingly speculative borrowing, eventually, the unsustainable nature of the process becomes apparent, and prices adjust violently. As financial positions become more speculative, the spiral is aggravated by forces of competition. Since firms are competing between themselves, even the most risk-averse firms are compelled to partake in riskier financial endeavors or lose out to their competitors that do. It is important to note that while this applies both to financial and non-financial firms, the greater systemic risk lies in competition between financial institutions. Consequently, the dynamics of competition help to further extend the mass of credit beyond a point, that under normal circumstances, most firms would recognize as unsustainable, increasing the severity of the ensuing crash. Under these conditions, accepted risk is determined by competitive pressures instead of individual preferences. Financial deregulation has a central role as it raises the upper boundary on how risky financial positions can be taken.

The moment when asset prices collapse has been called a "Minsky Moment" (Whalen, 2008) and generally corresponds to the bursting of the underlying speculative bubble. Consequences are then felt in the real economy through the credit crunch that follows the asset price collapse. Considered in these terms, every time the Federal Reserve intervenes with emergency liquidity after a financial crisis, it is overturning a potential Minsky Moment, and therefore preventing the adjustment of asset prices. This leads to two problems: (i) Since the asset price adjustment that follows a financial crisis is what causes the credit crunch, stopping the adjustment tends to inflate asset prices; (ii) There is no process of balance sheet simplification. That allows for increasingly more fragile positions to be taken, becoming a contribution to financial instability. In other words, we are faced with a facet of the "anti-laissez-faire" theorem (Ferri & Minsky, 1992) in which limited institutional restraints can be put in place to prevent a debt-deflation crisis (with devastating consequences on output and employment), but the same restraints put in place to are not sufficiently robust to prevent the system from becoming ever more unstable. Eventually, as progressively more severe financial crises succeed one another, the probability of the intervention not succeeding in preventing the spread of the crisis to the entirety of the economy becomes more likely (Ferri & Minsky, 1992; Minsky, 1989). It

is important to note that the central bank intervention does not lead to an instance of traditional moral hazard. Increased instability is not due to speculators knowing they will be bailed out, at least in a substantial way (Cecchetti & Disyatat, 2010). Instead, it stems from the systemic inability to purge firms' fragile financial positions after a financial crisis (Papadimitriou, 1998).

Furthermore, it supports a system of economic growth that is essentially sustained by financial bubbles. Economic growth driven by speculative activity cannot result in the long-term stable growth that is compatible with improving living standards and working conditions. By its very nature, it is prone to frequent collapses, and most of the benefits are accrued by a small minority that is directly involved with the sectors in which the speculation is taking place.

On the problems associated with financial markets dictating the pattern of capital accumulation, John Maynard Keynes wrote: "When the capital development of a country becomes the byproduct of the activities of a casino, the job is likely to be ill-done" (Keynes, 1936: 137). As financial markets grow more speculative, they get more prone to exaggerated fluctuations, and investment decisions are less efficient. This happens because, in general, average investors are less knowledgeable than managers on the issue of valuating productive investments. And as finance gains prominence, the balance of power in economic decision-making shifts to the owners of capital and their representatives in the managerial technostructure. With all the noise created by speculation in financial markets, the result is that the allocation of capital will not be steered toward long-term growth. Instead, it will be held hostage by the forces of short-termism on one side and the irrationality of frequent moments of "manias, panics, and crashes", on the other, as history shows (Kindleberger & Aliber, 2005). The interaction with this speculative behavior tends to exacerbate the already weak expected returns on real investments caused by the replacement of a consumption-led growth regime with a less dynamic debt-led growth regime (Giraud & Grasselli, 2019).

Having in consideration the multiple ways in which it interacts with firms and households, there are two aspects of financialization that can be underlined: The instability brought about by a new regime of accumulation and the financial expropriation facilitated by the growing involvement of households in financial activities.

The shift to a new regime of accumulation is closely interweaved with rising inequality and the regime of shareholder primacy. This is visible in how non-financial firms are

increasingly involved with the financial sector. Profits of non-financial corporations have become increasingly dependent on their financial activities (Krippner, 2005). This can be explained by a number of factors, such as tougher international competition, a reduction of consumption caused by growing inequalities, and increasing demands for returns to be distributed to shareholders (van der Zwan, 2014). At the same time, a greater volume of the profits of non-financial firms are transferred to financial firms (Crotty, 2003). Since the ideology of shareholder primacy is not exclusive to non-financial firms, financial firms also face pressure from their shareholders to focus on short-term profits. This results in financial institutions abandoning the practice of seeking long-term relations with firms in favor of increasing their profits, even if unsustainably for the financed firms. Therefore, the interaction between financial and non-financial firms has the effect of accelerating the transfer of profits to the financial sector, while debilitating the potential for long-term stable growth. Thus, the main characteristic of this new financialized system of accumulation is a greater transfer of profits to shareholders at the cost of lower investment.

It is expectable that large publicly traded firms are more permeable to the ideology of shareholder primacy than smaller firms. Nevertheless, as smaller firms also require financial services, they are still subject to the transfer of a greater share of revenue to the financial sector. Through the interaction between financial and non-financial firms, shareholder primacy further weakens investment and increases inequalities.

Financial expropriation consists on the transfer of income from families to financial institutions. What sets financial expropriation apart from regular interest payments is that the principal is not used to finance investment but instead to meet basic needs such as housing or healthcare (Lapavitsas, 2012). It is driven by much of the same forces that sustain the financialized regime of accumulation. In a period with low returns on investment, that in part can be attributed to weak demand driven by the rise of inequality, and in which the bigger companies have excess liquidity (Foster et al., 2011; Summers, 2015), the banking sector finds a profitable outlet in household credit. This was made possible as financial services started being available to most of the population and not just the wealthiest households (Erturk et al., 2007). Working and middle-class families increasingly resort to credit to obtain services previously provided by employers or the welfare state (van der Zwan, 2014), such as financing education or pension plans.

Housing loans also became more important from the 1980s onward as the price of American houses increased while real salaries stagnated.

The financialization of households is both a cause and a symptom of degrading social and economic conditions of households, part of the debt was accrued by poorer households that soon found themselves transferring a considerable part of their income to lenders, in the form of debt servicing. Financial expropriation effectively functions as a tax on poorer households that have to pay a premium to access basic goods and services. As lower-income households tend to have a higher volume of financial liabilities than assets and as poorer families and minorities were the primary recipients of subprime loans leading up to the great financial crisis, they were hit the hardest in the Great Financial Crisis (Taub, 2014). The way in which financial crises affect poorer families more severely provides part of the explanation to the tendency towards stagnation in the American economy. In figure nº 5, a diagram of the interdependent mechanisms explored above can be seen.

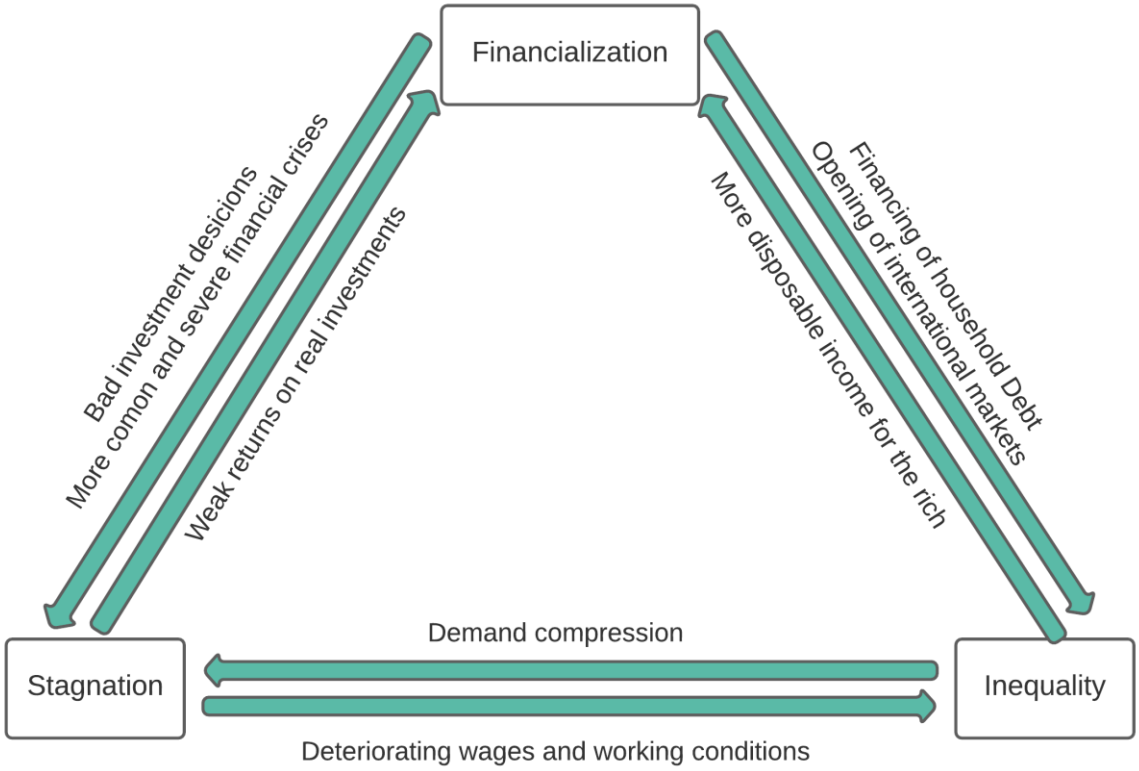

Figure nº5. Diagram of the endogenous interactions between financialization, inequality, and economic stagnation

The road to a systemic crisis

The Great Financial Crisis of 2008 can be seen as the culmination of a process that accelerates in each further self-inflicted financial crisis. Accommodative policies by the Federal Reserve, though unavoidable, tend to further increase the disproportional weight of the financial sector. Blaming the Federal Reserve's policy would thus be unproductive. After all, the alternative is to allow for a full-scale debt-deflation with potential macroeconomic consequences similar to those of 1929. However, the Great Financial Crisis also displayed the limits of bailing out the financial sector without stringent reforms. Unlike the financial crises in 1987 or 2001, in which the fallout was mostly restricted to the sectors that caused them, the crisis of 2008 had wide-ranging consequences on employment and output for the whole economy (Foster & Magdoff, 2009). Not even central bank interventions of unprecedented scale were enough to prevent the contagion to the real economy, as the dramatic drop in output and employment demonstrate. Although output rebounded fairly quickly, wages and working conditions did not.

Minsky identified this problem when he wrote about the role of the central bank as providing a "floor" to asset prices (Minsky & Whalen, 1996). While in the short-run, it stabilizes the economy, in the long-run, it generates a force pushing for higher instability. The problem lies in the fact that central banks provide a "floor", but there is no mechanism, central bank or otherwise, that provides an effective "ceiling" to asset prices. This allows prices to increase indefinitely, with the help of speculative investments that find the growing trend of asset prices attractive. As a direct consequence, certain assets find themselves removed from their intended use and, in the process losing their economic utility. This can be seen with the boom in housing prices that helped bring about a crisis of home affordability in the United States (UN-Habitat, 2011). Or in how financial markets shed their previous role as a medium for financing productive investments and turn into "casinos" for speculators (Keynes, 2017). These direct consequences already contribute by themselves to economic stagnation through the inequality and inefficient capital development channels addressed above.

Financial deregulation further aggravates the problem of financial instability, leaving the economy without an effective upper bound on asset prices generated by the central bank financial regulation. If financial instability is considered as an intrinsic characteristic of

the capitalist economies, driven by uncertainty over future returns, then competition and deregulation increase the severity of the fluctuations.

At least as significant as the direct effects is the instability provoked by a financial system that needs to be recurrently propped up by central bank interventions. Every time that the central bank has to intervene in order to prevent a debt-deflation event, the isolation of the real economy from the financial crisis is far from perfect (Magdoff & Foster, 2014). Damage is done both to the particular sector where the bubble burst, as was the case in 2001 and 2008, but also to the economy as a whole through the ensuing credit crunch (Mizen, 2008). And while financial gains are quickly recovered, the effects on the real economy are not. The real economy is more prone to hysteresis in output and in employment, therefore perpetuating the conditions that foster further instability. The more severe the financial crisis is, the harder it is to isolate from the real economy, as more sectors are bound to be directly related to the crisis, and also because a central bank can only, credibly, offer so much emergency liquidity.

The recurring crises provoked by financial instability and their imperfect isolation pose serious concerns when coupled with an unsustainable growth regime. In the context of high economic inequality, the alternative growth regime that emerged, grounded on finance and debt, undermines the basis for future growth by further reducing aggregate demand. As there is no institutional mechanism in place that can effectively bring inequalities down, the economy gets caught in a vicious cycle in which growth is obtained by sabotaging long-term demand that in turn undermines future growth even further. In parallel, as economic growth is progressively more dependent on financial bubbles, the macroeconomic consequences of financial instability are amplified. This not only discourages investment in the real economy but also separates growth from the improvement of the material wellbeing of most of the population.

Since there are currently no institutional upper bounds to asset valuation, it seems reasonable to expect that each further financial crisis will be worse than the one that came before. The severity of the great financial crisis seems to validate this scenario. This would result in financial crises ever more severe, reaching a point that no central bank intervention could, even partially, salvage. Another plausible alternative is that when a severe financial crisis hits, as was the case in 2008, localized institutional reforms together with the drop in asset prices that could not be overturned by the central banks creating a temporary ceiling on asset prices. The ceiling is likely to be only temporary because the

continuous expansion of speculative finance is required to compensate for the weak growth (Magdoff & Foster, 2014). In other words, any fragile institutional reforms would be vulnerable to being dismantled as similar regulations were from the eighties onwards. This would result in a cyclical series of severe financial crises followed by a few less severe ones. Neither scenario is compatible with stable growth and improving working conditions.

Policy discussion and Conclusion

In broad strokes, the systemic crisis stems from a concentration of wealth and economic control in a small group of people. Fordism, which proved to be an effective system for sustained growth, collapsed as the political and institutional restraints that propped it up were systematically removed. Inequality and financialization degraded the basis of the Fordist growth regime, and they kept reinforcing themselves mutually, leading to an unstable growth regime. Therefore economic policy should focus both on the inherent instability of the regime and on the self-perpetuating variables that sustain it.

The lack of institutional ceilings for asset prices is difficult to address by itself. A symmetrical approach to the one that creates the floors is not viable. The most sensible approach seems to be in addressing the cause for the systemic emergence of speculative bubbles. Reducing inequality and controlling monopolies would help divert some of the funds from speculative pursuits into the real economy. This could then be complemented with regulations to stop residual speculative activity, such as restricting excessive liquidity and capital mobility. A restructuring of the central bank policy to focus more on qualitative and quantitative credit controls is needed. If the role as lender of last resort is withheld from certain assets that are considered too risky or speculative, the effect would be one of reducing financial risk and of redirecting investment to desirable activities (Minsky 1996). A tendency for financial instability by itself might be an inevitable consequence of capitalism, but its consequences for the real economy need not be severe.

To help solve the problem of the weakening labor power, the creation of effective countervailing powers should be encouraged. A form of stakeholder capitalism, which includes workers in the economic decision-making process, would be preferable over one that only includes shareholders. Stakeholder capitalism would both create countervailing power and at the same time counteract the adverse effects of shareholder capitalism over

inequality. Political intervention is another way of keeping the power of firms in check through norms and regulations. However, unlike countervailing power, political action is more easily influenced by the same market power it attempts to curtail (Brennan, 2016; Galbraith, 1993). Having workers themselves as the source of countervailing power makes it more likely that it will be exercised. A further advantage is that the strength of countervailing power held by workers tends to be proportional to the market power of the firms that employ them.

With regressive taxation, the solution could lie in international cooperation to avoid fiscal competition, although capital controls at the national level could reduce the power of fiscal arbitration. There is ample reason to doubt that the highest wages in an economy properly measure productivity (Piketty, 2014). To address wealth inequality, both taxes on inheritances and progressive wealth taxes have been proposed (Saez & Zucman, 2019). The taxation of realized capital gains is full of loopholes that should be closed (Batchelder & Kamin, 2019). As capital gains and dividends make up a disproportionally large part of the income of the rich, optimizing their taxation would make the tax system more progressive.

A final consideration is that these changes are not politically neutral. As such, in order for them not to be swiftly dismantled, the reforms need to be accompanied by a deepening of democratic participation in economic decisions. Indeed, some of the difficulty in tackling these problems results from the fact that decision-makers, both political and economic, are generally favored by the *status quo* (Milanovic, 2016). The essence of this problem was identified by Karl Polanyi in The Great Transformation (Polanyi, 2001), stating that certain costs should be determined through a political process and not market mechanisms.

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Appendix

Table A1. Unit Root Tests

FIN

		t-Statistic	Prob.
Augmented Dickey-Fuller test statistic		-5.166705	0.0001
Test critical values:	1% level	-3.574446	
	5% level	-2.923780	
	10% level	-2.599925	

STAG

		t-Statistic	Prob.
Augmented Dickey-Fuller test statistic		-5.777412	0.0000
Test critical values:	1% level	-3.574446	
	5% level	-2.923780	
	10% level	-2.599925	

INEQ

		t-Statistic	Prob.
Augmented Dickey-Fuller test statistic		-5.713620	0.0000
Test critical values:	1% level	-3.581152	
	5% level	-2.926622	
	10% level	-2.601424	

U

		t-Statistic	Prob.
Augmented Dickey-Fuller test statistic		-3.871143	0.0044
Test critical values:	1% level	-3.571310	
	5% level	-2.922449	
	10% level	-2.599224	

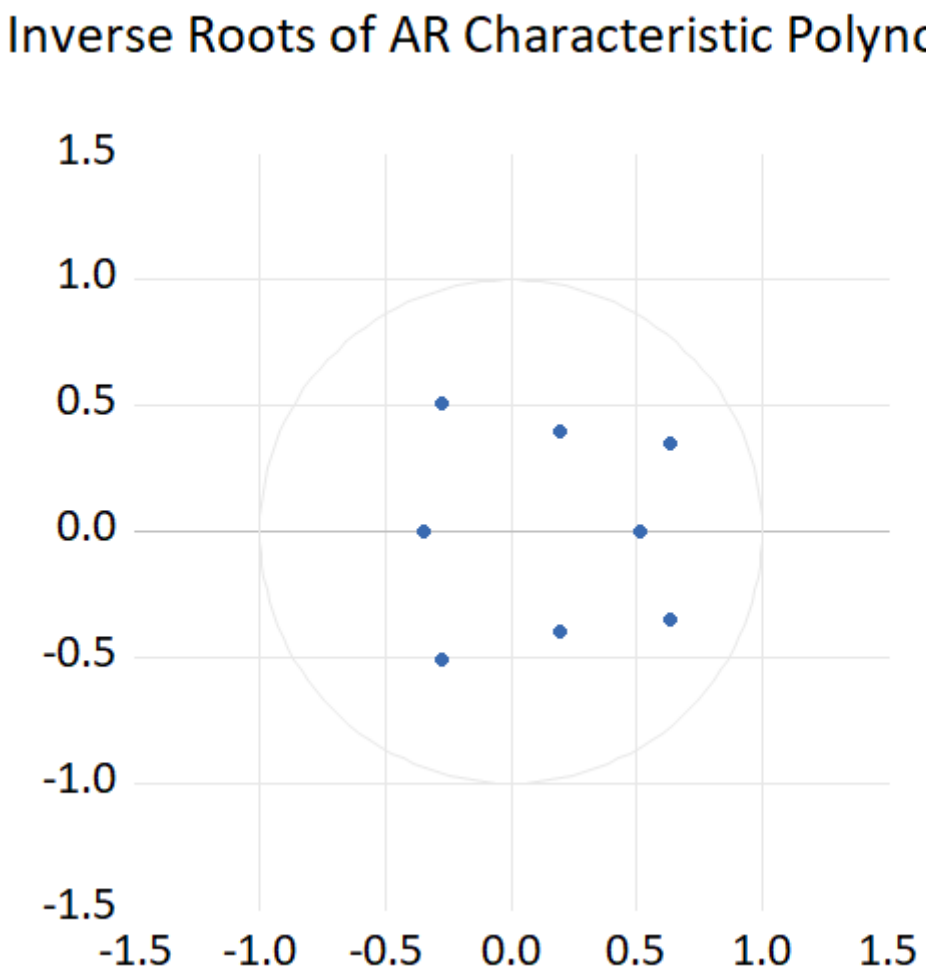

Figure A1. Inverse Roots of the AR Characteristic Polynomial

Table A2. Portmanteau Test for Autocorrelations

Lags	Q-Stat	Prob.	Adj Q-Stat	Prob.	df
1	2.458688	---	2.512138	---	---
2	8.878713	---	9.217497	---	---
3	20.68322	0.1910	21.82686	0.1489	16

Table A3. White Test for Heteroscedasticity without cross terms

Joint test:

Chi-sq	df	Prob.
164.4634	160	0.3880

Table A4. White Test for Heteroscedasticity with cross terms

Joint test:

Chi-sq	df	Prob.
454.0153	440	0.3121

Table A5. Granger Causality and Block Endogeneity Tests

Dependent variable: FIN

Excluded	Chi-sq	df	Prob.
STAG	11.16323	2	0.0038
INEQ	4.785632	2	0.0914
U	1.158394	2	0.5603
All	15.44061	6	0.0171

Dependent variable: STAG

Excluded	Chi-sq	df	Prob.
FIN	0.786762	2	0.6748
INEQ	5.226573	2	0.0733
U	9.283630	2	0.0096
All	21.12213	6	0.0017

Dependent variable: INEQ

Excluded	Chi-sq	df	Prob.
FIN	6.186466	2	0.0454
STAG	1.277005	2	0.5281
U	7.576895	2	0.0226
All	16.42133	6	0.0117

Dependent variable: U

Excluded	Chi-sq	df	Prob.
FIN	11.00541	2	0.0041
STAG	0.824545	2	0.6621
INEQ	1.277817	2	0.5279
All	14.71061	6	0.0226

Table A6. Descriptive statistics

	Max.	Min.	Mean	Std. Dev.	Nº Obs.
FIN	0.239274	-0.29006	0.0207	0.126924	49
INEQ	0.316617	-0.25257	0.061603	0.131373	49
STAG	0.051562	-0.03981	-0.00946	0.017753	49
U	9.708333	3.666667	6.228061	1.581292	49