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Income Inequality and Crisis Theories[1]

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Gelir Eşitsizliği ve Kriz Teorileri	**Income Inequality and Crisis Theories**
Öz Bu makale, özellikle 2007-2008 büyük durgunluk dönemi bağlamında, gelir eşitsizliği ve Ana akım iktisat, Post-Keynesyen iktisat ve Marksist iktisattaki kriz teorileri arasındaki ilişkiyi gözden geçirmeyi amaçlamaktadır. Büyük durgunluğun ortaya çıkışı ve sadece finansal sektör değil, aynı zamanda reel ekonomi üzerindeki yıkıcı etkileri, krizlerin kökeni tartışmalarını yeniden moda haline getirmiştir. Eşitsizlik, büyük durgunluğa katkıda bulunan önemli bir faktör olarak kabul edilmiş ve krizin nedenleri konusunda farklı düşünce okulları arasında anlaşmazlık olsa da, büyük durgunluktan önce keskin bir şekilde artan gelir eşitsizliği nedeniyle kriz teorilerinde ön plana çıkmıştır.	**Abstract** This paper aims to review the relationship between crisis theories in Mainstream economics, Post-Keynesian economics, Marxian economics and income inequality, especially within the context of the great recession in 2007-2008. The emergence of the great recession and its devastating effects, not only on financial sectors likewise on the real economy brought discussions of the origin of crises back in fashion. Inequality was accepted as an important factor contributing to the great recession and it is brought to the fore in crisis theories due to sharply increased income inequality before the great recession even though there is disagreement amongst different schools of thought on causes of the crisis
Anahtar Kelimeler: Gelir Eşitsizliği, Kriz Teorileri, Büyük Durgunluk	**Keywords:** Income Inequality, Crisis Theories, Great Recession
JEL Kodları: D30, D31, G01	**JEL Codes:** D30, D31, G01

Araştırma ve Yayın Etiği Beyanı	Bu çalışma bilimsel araştırma ve yayın etiği kurallarına uygun olarak hazırlanmıştır.
Yazarların Makaleye Olan Katkıları	Yazarlar makaleye eşit düzeyde katkı sağlamıştır (1. Yazar %50- 2. Yazar %50).
Çıkar Beyanı	Yazarlar açısından ya da üçüncü taraflar açısından çalışmadan kaynaklı çıkar çatışması bulunmamaktadır

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1. Introduction

Income inequality has been defined as basically unequal distribution of income across various participants in the economy and two kinds of income distribution have been used to investigate inequality: personal income distribution and functional income distribution. Personal income distribution deals with income variation between individual’s income, while functional income distribution deals with classes in the economy such as wages and profits. 2007-8 financial crisis contributed to reappearance of income inequality discussions in the economic literature submerged for a long time due to the low level and relatively decreasing level of income inequality from the second world war to the 1980s.

The role of income inequality was not only at the top of the agenda after the great recession, it was after the great depression as well. Galbraith (1954) and Eccles (1951) indicated that income disparities had played a pivotal role in the great depression and the great recession has attracted many scholars to indicate the inequality as an explanation to the generation of recent crisis too.

Even though income disparities have been reminded after the crises and neglected by mainstream economists, discussions of income distribution lay back to Adam Smith, David Ricardo, Karl Marx. The main reason behind this situation can be explained by the fact that inequality studies are related to normative studies (Sandmo, 2015) and it is overwhelmingly accepted amongst mainstream economists that positivist subjects should be handled in economic studies. In contrast to the views of mainstream economics, Post-Keynesians and Marxist economic scholars have persistently contributed to the field of distribution of income and keep inequality at the heart in their theoretical discussion.

Post-Keynesian and Marxian schools of thought have continued to theorize crises and accepted the capitalist system as inherently unstable. On the other hand, mainstream economics accepted crises as exogenous shocks and the economy has a stable structure. The role of income inequality in crisis theories both in Post-Keynesian and Marxian schools of thought have an important place compare to mainstream schools and these two economic traditions will be review to illustrate heterodox schools' view. Additionally, mainstream economics will be evaluated to illustrate its reflections on the crisis.

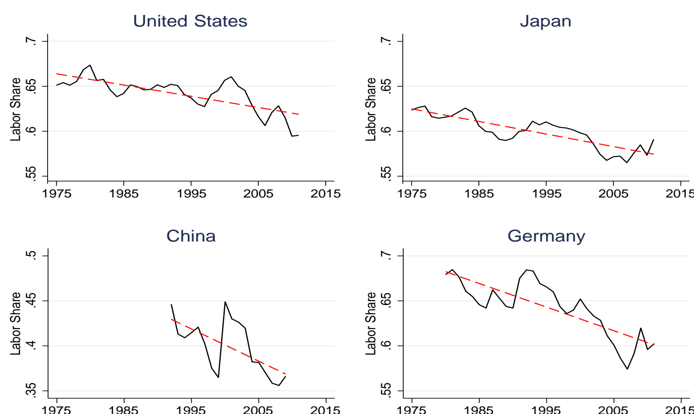
In the first part, the historical evolution of income inequality will be discussed. Functional income distribution and personal income distribution both will be review and their trend will be empirically illustrated. In the second part, mainstream economics and its reflection on the great recession as part of income inequality will be reviewed. In the third part, Marxian crisis theories and the place of inequality in Marxian crisis theories will be discussed. In the fourth part, Post-Keynesian crisis theories and income inequality will be reviewed. In the last part, a summary of crisis theories and a conclusion will be provided.

2. Historical Evolution of Income Inequality

Income inequality has been dramatically increased all over the world with few exceptions, both in functional income distribution dealing with classes in the economy such as wage and profits and personal income distribution dealing with income variation between individual's income.

The empirical evolution of income inequality illustrated that income disparities have increased over time both in advanced and developing countries. Decreasing labor share has been experienced in many advanced economies as it is illustrated in Figure 1 that both labor shares in the largest four economies have the same downward trend though fluctuations have been observed, meanwhile, China had experienced the sharpest decrease and Germany had dramatically decline over time.

Figure 1: Declining Labor Share



Source: Karabarbounis and Neiman (2013: p.36)

Karabarbounis and Neiman (2013) investigated the labor share in 59 countries and reached the result of declining labor share in 42 countries from 1975 to 2012 leastways 15 years of data.

The decline of labor share has been illustrated by many publications of economic organizations such as OECD (2012), IMF (2007), European Commission (2007), BIS, (2006), ILO (2012). It is a fact that labor share has been declining all over the world and the general trend of labor share is decreasing even though some increases had temporarily existed.

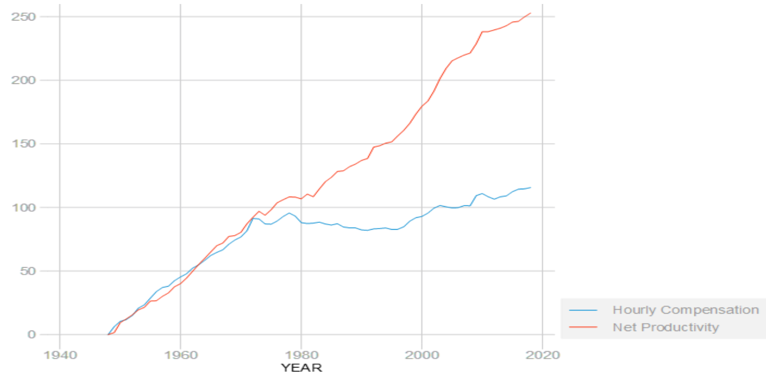
Several explanations have been suggested in order to explain this fall. One of them is that technological improvements and labor-saving technologic advancements have contributed to the declining share of labor and increasing share of capital (Driver and Muñoz-Bugarin, 2010; Raurich et al., 2012; Hutchinson and Persyn, 2012). There are some other factors that stressed the role of capital more than labor such as globalization (ILO,2008), financialization (ILO,2012), the entrance of labor abundance countries into the international economic system (ILO,2008), for instance, Asian countries and sophisticated jobs thanks to technological advancements have increased demand for qualified labor power.

The entrance of labor abundance countries such as China and India into the global economy more progressively had prevented the increase of labor share thanks to lower

wages in these countries and low-skill required production processes have been accommodated themselves into these countries. Less necessity to the low skills had decreased bargaining power of this kind of workers and stressed the importance of high-skilled workers' necessity. In this context, the abundance of low-skill workers led advanced countries to integrate this labor-power into their production system via both moving their production into these countries and migration of labor-power into advanced countries.

The increase of productivity over time has contributed to the capital share more than labor share and especially after the early 1970s, labor's share in the USA has been witnessed as a decreasing level.

Figure 2: Productivity and Labor Share in U.S.

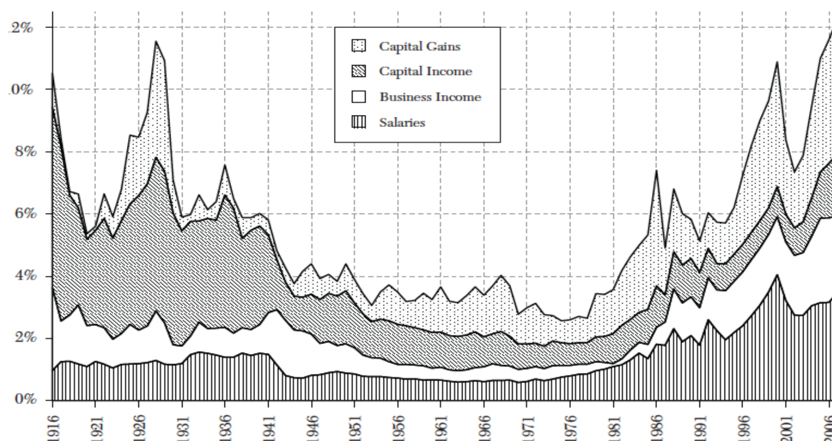


Source: Based on "The Productivity-Pay Gap" https://www.epi.org/productivity-pay-gap/

As it can be clearly seen in Figure 2 that productivity growth from 1950 up to the 1970s has been accompanied by labor compensation. Nonetheless, productivity continued to increase over time, however, compensation of labor was not accompanied with. As it was indicated above, several factors contributed to the decline of labor share. Productivity growth exceeded labor share in G20 countries, no matter what kind of measures were applied (ILO, 2014), and ILO (2015) indicated that advanced nine G20 countries had experienced declining real wage compare to the productivity after 2000.

Changes in labor market institutions have important effects on labor share as well. Yılmaz (2020) elaborated two important points in the context of labor market institutions; decreasing level of unionization and decreasing power of other labor market institutions such as employment protection, unemployment benefits, minimum wages, and their loss of ability to protect labor power compare to the capital.

Figure 3: The Top 0.1 Percent Income Share and Composition, 1916-2007



Source: Atkinson, A.B. Piketty, T. and Saez, E. (2011: p.8)

Despite labor share empirically varies, all of them clearly indicate the declining share of labor. It would be beneficial to investigate top income earners' composition of their income such as top 1 percent earners. Even though the top 1 percent income earners are a small fraction of the population their income is much more than their number compared to their population share. It can be clearly seen in Figure 3 that the top 1 income share had increased both before the great depression and the great recession in the United States. This point is important to demonstrate the relationship between income inequality and crises and resembles between pre-crisis periods. Nonetheless, an important distinction between the two periods is the 'working rich' phenomenon.

The share of salaries in the top 1 has substantially increased before the great depression in contrast to the pre-great depression period which had a higher share of capital owners. This increase has been accompanied by the decrease of capital owners or rentier income over time and Piketty and Saez (2003) indicated that working rich phenomena have replaced the rentier in the 20th century. Another important research to indicate resembles between pre-crisis periods are 0,01% shares increased from 1.7% to 5% before the great depression period and from 0.9% to 6% before the great recession period (Wisman and Baker, 2011).

In different parts of the world, inequality and income growth have been experienced differently though inequality has a similar tendency. In Table 1, China, India, Europe, Russia, North America (US-Canada) and the world on average have been decomposed according to income groups and income growth between 1980 and 2016 has been presented as a percentage change. Without any exception in both of the five regions, upper-income groups have higher income growth, nonetheless, some regions have substantially higher such as China and India. Income of the bottom 50% increased their income 417%, while, top 0,001% increased their income 3750% in China. These figures are 107% to 3083% in India. Both China and India have experienced higher income growths over the period, however, higher top income earners benefited more than lower-income earners.

Table 1: Global income growth and inequality, 1980–2016

Income group (distribution of per-adult pretax national income	**China** (%)	**Europe** (%)	**India** (%)	**Russia** (%)	**Us-Canada** (%)	**World** (%)
Full Population	**831**	**40**	**223**	**34**	**63**	**60**
Bottom 50%	417	26	107	-26	5	94
Middle 40%	785	34	112	5	44	43
Top10	1316	58	469	190	123	70
Incl. Top1%	1920	72	837	686	206	101
Incl. Top0.1% Incl. Top0.01%	2421	76	1295	2562	320	133
Incl. Top0.001%	3752	120	3083	25269	629	235

Source: Alvaredo, F., Chancel, L., Piketty, T., Saez, E., & Zucman, G. (2017: p.105)

One of the extremist cases is the Russian income growth of income groups. The bottom 50 percent earners witnessed 26% decrease in their income, middle-income earners grew their income only 5% and top 0,001% earners increased their income by 25269%. This situation had arisen because of the collapse of communism and integration into the market economy. Unregulated economic system change has benefited top income earners, especially ultra-top income earners and devastated lower-income earners' income growth (Alverado et al., 2017). While the North American region (US-Canada) experience moderate-income growth between the bottom 50 percent (5) and top 0,001(629) compare to other regions, income growth in Europe had not differentiated between the bottom 50% and top 0,001 as much as compared to other regions.

Interestingly, income growth in the world had not demonstrated a similar pattern as it was in different regions. Bottom 50 percent income growth have increased their income more than middle income and top 1% income earners, slightingly less than top 1%.

Overall, inequality has substantially increased over time both in terms of functional and personal income distribution and the decomposition of income groups has revealed enormous income disparities.

3. Black Swan, Mainstream Economics and Inequality

The great recession was the most dramatic crisis after the great depression and the majority of mainstream economists had failed to predict it. The motto of 'no one saw it is coming' has been generally evaluated to illustrate the failure of mainstream economic theories, however, this is not a fact in the context of heterodox economists and heterodox theories.

The black swan was proposed by Taleb (2007) to indicate unmeasurable, unpredictable risks and have important effects after it reveals.

Before the great recession, most of the mainstream economists and main institutions had stated that there was no economic problem to generate a crisis.

Depressions were not accepted as important phenomena because "the central problem of depression prevention has been solved and has been solved for many decades" (Lucas, 2009: 1). Additionally, Blanchard (2008: 2) stated that "the state of macro is good", during the early phase of the crisis. Kaletsky (2008) noted that economists "who failed to foresee the gravity of this crisis - a group that includes Mr. King, Mr. Brown, Alistair Darling, Alan Greenspan and almost every leading economist and financier in the world." In the context of institutions, IMF as one of the major economic institutions claimed before the crisis that "there is little systematic evidence to support widely cited claims that financial globalization by itself leads to deeper and more costly developing country growth crises." (IMF 2006: 6).

Table 2: Anticipations of the Housing Crisis and Recession

Analyst	***Capacity***
Dean Baker, US	Co-Director, Center For Economic and Policy Research
Wynne Godley, US	Distinguished Scholar, Levy Economics Institute of Bard College
Fred Harrison, UK	Economic Commentator
Michael Hudson, US	Professor, University Of Missouri
Eric Janszen, US	Investor And *Itulip* Commentator
Stephen Keen, Australia	Associate Professor, University Of Western Sydney
Jakob Brøchner Madsen &Jens Kjaer Sørensen, Denmark	Professor & Graduate Student, Copenhagen University
Kurt Richebächer, US	Private Consultant And Investment Newsletter Writer
Nouriel Roubini, US	Professor, New York University
Peter Schiff , US	Stock Broker, Investment Adviser and Commentator
Robert Shiller , US	Professor, Yale University

Source: Adapted from Bezemer (2009: p.9)

Unawareness of major mainstream economists and economic institutions had brought the question of predictability of crisis and try to answer the question, famously asked by Queen Elizabeth during LSE visit in 2008 "why did nobody notice it?" (Earl and Peng, 2013: 172)

The answer was explained with the black swan or fat tail phenomena in the economy. After the collapse, Stevens (2008: 7) proposed that "[W]hat we have seen is truly a 'tail' outcome – the kind of outcome that the routine forecasting process never predicts."

The mainstream economists in general accepted the great recession as a black swan or fat tail event, nonetheless, it was predicted by many economists as it can be seen in Table 2.

However, the great recession was accepted as 'white swan' by Roubini and Mihm (2010) and Reinhart and Rogoff (2009) in order to emphasize its predictability and not a rare event. Even Taleb himself claimed it as a 'white swan' concerning economist foreseen it (Morrison, 2008).

Mainstream economics accepts the economic system as a self-regulating system and in contrast to Marxian and Post-Keynesian economics view of inherent tendency with the fact that all agents in economies are rational and tries to maximize their utility, the efficient market hypothesis is valid in the economy and full-employment is one of the characteristics of the economies. In mainstream economics, crises were seen as exogenous instead of endogenous because of the fact that supply and demand mechanism in the market sustains the equilibrium and leads to the best allocation of the resources in the economy.

Some explanations towards crises were conducted by mainstream economists such as Krugman (1979, 1999), Obstfeld (1994), Corsetti et al. (1999) Kaminsky and Reinhart (1999), Dornbusch (2001), Caballero et al. (2006) called as the first generation, the second generation, the third generation, the fourth generation of crisis theories contradicted to view of self-regulating market belief of orthodox economics. However, no of them implicitly deals with inequality. Various perspectives emerged especially after the collapse. Even though inequality was not accepted as an important factor for the explanation of the crisis and recognized as an outcome of productivity differences (Goda, 2013), Rajan (2010) hypothesis has been precisely discussed in the literature and the connection between the crisis and inequality had been analyzed.

Rajan (2010) emphasized the role of government failure to establish incentives to increase debt levels in the economy and easy access for low-income groups in order to increase consumption. The rise of inequality and debt accumulation of households severely affected the economic structure of the US and household debts become unsustainable. These arguments challenge the orthodox view of the absence of relation between inequality and economic decline. Similar arguments asserted by Reich (2010), Milanovic (2010), Piketty (2011), Krugman (2010), and Stiglitz (2009a, 2009b, 2010, 2012), Kumhof and Ranciere (2010), and Kumhof et al. (2012).

Kumhof and Ranciere (2010) had tested Rajan hypothesis with DSGE model and concluded that household increased their debt level to maintain their economic conditions. However, these low-income earners' households become fragile to external shocks in the economy. Milanovic (2010) explained the great recession with similar arguments of Rajan (2010) as that stagnation in middle-income earners had been tried to eliminate with the increasing availability of credits in the system by the virtue of eager of politicians. Stiglitz (2012) also asserted that tackling insufficient demand with easy monetary policies after 2001 caused "Americans to live beyond their means" (2012: 54). Mian and Sufi (2015) also arrived at a similar conclusion with highly comprehensive research on households and debt by that "debt is cheap because the government massively subsidizes its use" (Mian and Sufi, 2015: 182).

Income inequality between countries is also attracted attention with similar to income inequality within countries in both heterodox approaches and mainstream approaches. Higher global imbalances in the economy had explained with various views such as the saving glut hypothesis (Bernanke, 2005), dollar reserve currency hypothesis (Bibow 2008; Lago et al. 2009), the asset shortage hypothesis (Caballero 2006), the dark matter hypothesis (Hausmann

and Sturzenegger, 2005). None of these approaches linked income inequality with global imbalances, however, Vandemoortele (2009) indicated the existence of the mutual reinforcement between inequality within and between countries. Kumhof et al. (2012) tested inequality within and between countries concerning the crisis and claimed that higher debt levels of households in rich countries borrowing from both domestic and foreign countries, and balance of payments imbalances between countries caused the great recession.

Theoretical and empirical investigations in mainstream economics had failed to predict the great recession and income inequality has not been broadly discussed to find out its effects on the economy. It can be asserted that mainstream economics has two weak spots; economic crisis and income inequality.

4.Marxian Crisis Theories and Inequality

Karl Marx had attributed an important role for the crisis, however, has not presented a comprehensive theoretical crisis theory nor in Grundrisse: neither in Capital I-III. This situation may have arisen because of the unfinished works of Marx and comprising his works later. In contrast to other economic schools of thought, some Marxian economists have not acknowledged economic crises as the worst scenario in economics. In contrast, crises were accepted as a transition from capitalism to socialism. If the capitalist system works properly, then this transition would not be able. As it was explained by Luxemburg (1971: 58) that if "capitalist development does not move in the direction of its own ruin, then socialism ceases to be objectively necessary". Clearly, socialism requires the collapse of capitalism and crises can lead to better outcomes in terms of Marxian views.

Marxist crisis theories acknowledge crises and depressions are inevitable, not a coincidence in capitalism because of its instinct feature. In the context of inequality, Karl Marx and his followers have placed class conflict between labors and capitalists at the center of economic analysis where labor power is the only source of any extra value in the economy and earn wages while capitalist earn profits thanks to surplus value created by labor power.

According to Clarke, the unclear process of crisis in Karl Marx's writings has caused the generation of several crisis theories, without prioritizing any one of them. "Marx appears to associate crises with the tendency for the rate of profit to fall, with tendencies to overproduction, underconsumption, disproportionality and over-accumulation with respect to labour" (Clarke 1994: 7).

First them all is the underconsumption theory of crisis indicating the inexistence of the effective demand caused by decreasing income level labors due to higher inequality, for the products produced by the capitalists. The second theory of the Marxist crisis theory is the profit squeeze theory, on the contrary to the underconsumption theory, the decrease of the inequality between workers and capitalist is the main cause of the crisis. Higher wages thanks to the bargaining power of workers generate pressures on the profits and decrease the capital stock rate. The third one of the theories is 'tendency of the rate of profit to fall' addressing the capitalist profit-seeking behavior instead of the inequality, in other words, a crisis does not emerge from the conflict between labor and capitalist, in spite, inequality can be only an accelerator to the crises (Shaikh, 1978).

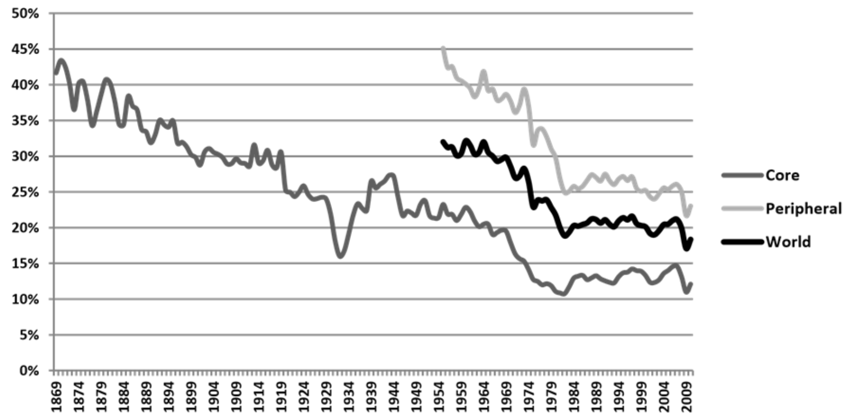
4.1. The Tendency of the Rate of Profit to Fall

The tendency of profit rates to fall has been dealt with Marxian economics; however, this tendency was also handled by classical economists such as Adam Smith and David Ricardo apart from arriving conclusion that capitalism is prone to this tendency. Adam Smith blamed the competition in the economy for the explanation of the decreasing rate of profits, on the other hand, David Ricardo handled the declining profit rate in the context of agriculture and stressed the role of fertility. Marx addressed this declining tendency as "the most important law from the historical standpoint" (Marx, 1857: 748)

Marx has proposed two production categories as constant capital indicating raw materials, machines, and other goods in order to produce commodities and variable capital indicating labor power. During the expansion of production, constant capital weights more than variable capital in the production process.

Capitalism is characterized by shrewishly obtaining surplus value to obtain higher profits and this situation has generated a contradiction in the economy between increases in productivity and capital accumulation. Competition in the economy pressures capitalists to increase productivity and take the advantage of being productive. Hence, the higher level of output would lead to more mechanization and less worker in the production process. The involvement of more technology in favor of the constant capital changes the organic composition of capital which is the rate of constant capital to variable capital. An increase in the constant capital and decrease in variable capital thanks to labor-saving technologies prevent exploitation of labor surplus due to lessened exploitation of labor power. Eventually, the rate of profit declines over time, and depression reveals. Hence, this process addresses the fact that capitalism is inherently prone to crisis.

Figure 4: World rate of profit and the average rate in core and peripheral countries (1869-2010).

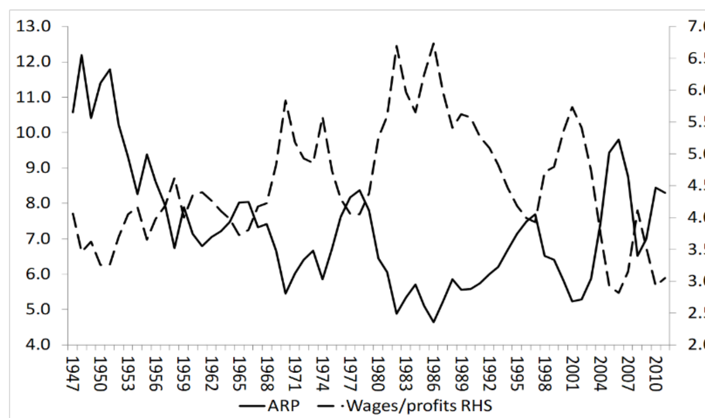


Source: Maito, E.E. (2014)

Nonetheless, Marx (1894) noted that there are "counter tendencies" which can mitigate declining tendency or reverse the declining profit rate. These are higher exploitation of labor; reduction in the cost of constant capital thanks to the rise of labor productivity; reduction in wages; overpopulation; reducing the cost of consumption and capital goods thanks to foreign trade. Even though these 'counter tendencies' can temporarily affect the profit rate, it would eventually decline and crisis emerges.

In terms of empirical investigation, profit rates both in the core, the peripheral countries, and the world, in general, had experienced downward sloping from 1896 to 2010. Evolution of profit rates in the core and the peripheral differs between each, with similar tendency and its more dramatic in the core countries than the peripheral countries.

Figure 5: US average rate of profit for the productive sector and wage/profit ratio (%)



Source: Carchedi G & Roberts M. (2018: p.92)

Inequality is not recognized as one of the factors generating crises, rather it is one of the outcomes of crises. Carchedi and Roberts (2018) claimed that the real reason for crises is not inequality, instead, profitability is the crucial concept that should be focused on. Figure 5 proposed by Carchedi and Roberts (2018) to falsify the underconsumption claim of lack of demand, instead, corporate profit rates are the real cause of the crisis, by indicating that the average profit rate increased and wages declined compare to profit after 1980-2 depressions, following with no serious depression. Carchedi and Roberts (2018) acknowledge 1990-1 and 2001 depressions as mild compare to 1974-5 and 1980-2. The tendency of the falling rate of profit view does not attribute inequality as a reason for the economic crisis, "neither growing worker resistance nor rising real wages are the intrinsic causes of mechanization, though they may well speed up this tendency" (Shaikh, 1978: 233).

There are several criticisms towards the tendency of profits to fall appeared and one of them is the critic of Thomas Piketty in his book, Capital in the 21st Century (2014) as by that this tendency is not valid and "a historical prediction that has turned out to be quite wrong" (Piketty, 2014: 348). Similar critic addressed by Lapavitsas (2011: 618) as that "[T]he crisis of 2007–9 has little in common with a crisis of profitability, such as that of 1973–5".

4.2. Profit Squeeze Theory

Profit squeeze theory considers economic equality as a reason for crisis and higher real wages are blamed for an economic crisis. The prevalence of high employment generates pressure on profits and causes capital stock decline, where the decrease of profit rate would lead to the decrease of investments. The reason behind this situation can be explained as that high employment rate in the economy due to the scarcity of labor increases the bargaining power of labor and obviously increases in wages. Profits start to squeeze after the point where increases in wages excess productivity increases, hence, exploitation of capitalist surplus of labor would decrease and profit rates decline. The consequence of this situation is less investment and less increase in productivity and thus economic crisis.

According to profit squeeze theory proponents, there is a reversal relationship between real wages and profits and a higher level of reserve army in the economy is a necessity for profitability. Profit squeeze proponents addressed Marx's indication of "crises are precisely always preceded by a period in which wages rise generally and the working class actually gets a larger share of the annual production intended for consumption." (Marx, 1894: 475–476).

The existence of a reserve army of labor in the economy enables capitalists to invest their production capacity with a lower level of labor costs and to ensure higher profits, on the other hand, a decrease of reserve army strengthens labor bargaining power. Eventually, higher labor costs in the production process cannot be compensated via increases in prices and labor share increases, withal, capitalists share declines (Weisskopf,1979). Glyn and Sutcliffe (1972) claimed that forcing wages up by labor generates crisis. The prevention of profit-squeeze crisis can be achieved by ensuring the existence of a reserve army (Weeks, 1979). Some researches have been conducted to determine the role of profit squeeze and researches of Weisskopf (1979), Henley (1987), Bakir and Campbell (2006, 2009, 2017), Izquierdo (2013) indicated that cyclical profit squeeze is detrimental to explain the cyclical dynamic of the US economy.

Even though the profit squeeze theory is not a popular topic nowadays to analyze the occurrence of the great recession, it was popular to explain crises in the 1970s because of the failure of demand management policies. Bowles et al. (1984) indicated the failure of higher labor share policies in order to restrain the 1970s slump. Gradually disappearing view of profit squeeze approach reviewed with the contribution of Wallerstein (2003) offered profit squeeze theory in long-term and global context with three phenomena. The first one can be explained as the increase of deruralizaiton. Rise of the deruralization pushes the labor costs up and decreasing the availability of low wage of labor power. The second one is the 'ecological exhaustion' increasing cost of raw material. The third one is 'democratization'. Democratization caused the rise of taxes to fulfill public expenditures because of social service expenditure. These three factors create an unprofitable structure for capitalists and squeeze profits in the long term.

4.3. Underconsumption / Overproduction Theory

Underconsumption / Overproduction theory according to the Marxian view implies that decreased purchasing power of labor is responsible for the economic crisis and inequality is at the center of underconsumption discussions. Underconsumption theory has two roots as traditional ones such as Malthus, Sismondi, Marx and Keynesians (Yılmaz, 2020). Thomas Malthus and Jean Charles Sismondi had tried to explain crisis as an outcome of the rise of savings, which reduces consumption and increases supply. This imbalance in the economy generates a crisis.

Marx indicated the underconsumption and crises as:

"The ultimate reason for all real crises always remains the poverty and restricted consumption of them asses as opposed to the drive of capitalist production to develop the productive forces as though only the absolute consuming power of society constituted their limit." (Marx, 1894: 615)

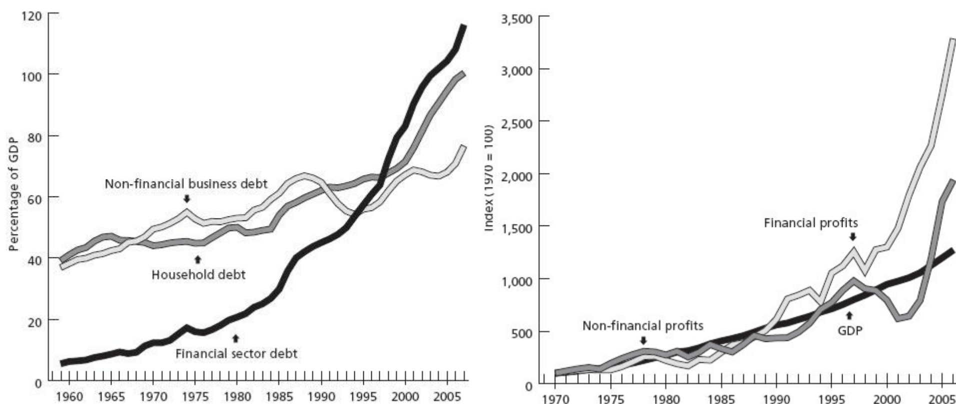
Another important implication pointed by Marx is the capitalist behavior of restricting their workers and wishing "other workers to be the greatest consumers possible of his own

commodity". (Marx, 1857: 420) However, this situation generates a lack of demand at the end for all capitalists.

Baran and Sweezy (1966) claimed that capitalism is in a monopolistic stage and generates stagnation in the economy because “capitalism has an inherent tendency to expand the capacity to produce consumption goods more rapidly than the demand for consumption goods.” (Sweezy, 1970 [1942]). Inequality is widespread in the stage of monopolistic competition thanks to the obtained surplus in the economy by profit earners.

The financialization of the global economies has attracted underconsumption view to explain the economic activities within the context of finance. Financialization primarily enabled capitalists to overcome stagnation problems (Foster, 2007).

Figure 6: Private debt as a percentage of GDP and growth of profits (financial and non-financial) relative to GDP



Source: Foster, J. B., & Magdoff, F. (2009: p.122-123)

However, labor’s share has a tendency of declining over time, increased stagnation in the economy (Magdoff and Yates, 2009). This stagnation problem has caused the increase of financialization thanks to the increase in consumption via household debt. (Foster, 2006, 2007, 2008, Magdoff and Yates 2009). Foster and Magdoff (2009) illustrated the evolution of the financial, non-financial, and household debt weighted with national income. Household debt had sharply increased especially after the 1980s and private debt dramatically increased from the 1960s and more substantial increases were experienced in private debt after the 1990s. It is more gradual in non-financial firms; however, it rose meaningfully.

Stagnation characterized in monopoly-finance capitalism had generated a lack of consumption and investment, induced surplus to financial speculation. Debt increased financial speculation and financial speculation increased debt in the economy (Foster and Magdoff, 2009). Furthermore, financial speculations create bubbles and the system can be saved from these bubbles by creating bigger bubbles, and bigger crises. (Foster and Magdoff, 2009). Crises are inevitable in the capitalist system because of the fact that "the fault is in the system" (Foster, 2010).

5. Post-Keynesian Crisis Theories and Inequality

Post-Keynesian economics (PKE) is a school of thought that flourished mainly on the ground of the works of John Maynard Keynes with regard to the 'principle of effective demand'. Even though Keynes's works are essential for Post-Keynesian economics, other pioneer economists such as Michael Kalecki, Roy Harrod, Joan Robinson, Nicholas Kaldor, Hyman Minsky, Paul Davidson, Pierro Sraffa, etc. contributed to the PKE. There are several strands in PKE that diverged from each other by stressing different points such as Kaldorian, Kaleckian, Sraffian, Institutionalist, Fundamental Keynesians which enabled PKE to be more durable to the critics, furthermore, different ideas empowered PKE to explain much broader economic issues (Lavoie, 2014).

In the context of inequality, distribution of income and wealth have priority in PKE. (Arestis, 1996). Studies of the income distribution were primarily handled and effects of inequality in economics have been examined traditionally. In the literature of Post-Keynesian economics, wage-led and profit-led arguments take important places to understand countries' growth processes. Post-Keynesian models suggest that the economy can be wage-led or profit-led. The wage-led structure of the economy implies that increases in wages support total demand. The general tendency of domestic demand of the developed economies is wage-led " in the medium to long run" (Hein, 2011: 31). In this perspective, increase inequality in functional income distribution infests the economics because inequality puts pressure on wages and generates stagnant demand in the economy. Personal income distribution has the equivalent effect on the economy due to the fact that less propensity of the consumption of the higher income earners causes the decreasing aggregate demand (Stockhammer, 2015).

Growth models of PKE have been characterized with handling inverse relationship between investment –saving in contrast to neoclassical view of direction from saving to investments. Investments are the source of savings in this context. Income distribution has a central role because of the effect on demand structure.

Another important characteristic of PKE is the treatment of money. Central banks are not accepted as a determiner of the money supply in the economy and exogenously determination of money supply has been rejected. In contrast, Basil Moore (1983, 1988), Nicolas Kaldor (1982), and other PKE authors have argued that money supply is endogenously determined instead of exogenously set by the central bank.

Another important elaborated point is the creation of money by banks. It is assumed that the role of banks in the economy is to reach savings of households to borrowers, on the other hand, PKE economists recognize the fact that "money is largely created by commercial banks making loans" (McLeay et al., 2014).

There are three important PKE views that had emerged for the explanation of crises and have wide range effects of it on economic literature. The first one is the financial instability hypothesis (FIH) proposed by Hyman Minsky in order to explain the unstable structure of the financial system and its evolution from stability to instability. The second one is the stock-flow consistent approach (SFC) proposed by Wynee Godley regarding the view of every money flow comes from somewhere and goes somewhere without any black hole. The third one is the financialization approach investigates the effect of financialization on economic activities and growth strategies of countries due to lack of demand have been examined. All

of these views consider income inequality as the main cause of the crises. FIH and SFC approaches do not originally deal with income inequality issues. Nonetheless, these concepts have been reorganized with regard to income distribution. Therefore, these two views are given in order to illustrate recent signs of progress.

5.1. Financial Instability Hypothesis

Hyman Minsky developed the financial instability hypothesis (FIH) to illustrate the instinct features of capitalist production and propose a theory that can generate a depression as it was in 1929 and propose an answer to the question of 'can it happen again '? Stability was considered as an important phenomenon and economies are categorized by their stability structure. The transition from stable economic structures to unstable structures occurs via prolonged prosperity in the economy (Minsky, 1992).

Minsky stressed the role of government by that economies without intervention find themselves into financial instability situation and if precautions were not taken, then Minsky moment can appear, which leads to meltdown in the economy. This situation contradicts the efficient market hypothesis indicated by Fama (1970) that the availability of information in the market will lead to maintaining efficiency in the financial markets.

Minsky (1992) distinguished three types of financing; hedge financing, speculative financing, and Ponzi financing. The distinction of the financing is made in accordance with the ability of the firms to repay their debt. the first one is hedge financing indicating the ability of the firms to pay their debts and interest payments by their income, which is the most secure option of the financing amongst these three financing categories. The second one is speculative financing covering the payment of their debt and their interests but needs to take debt for repayment. This situation indicates a moderate level of risk for the firms. The last one is Ponzi financing, in other words super speculative financing, indicating the inability of the firms for the repayment of their debt and their interest rate. This situation is the worst scenario for the firms and contains the highest risk (Minsky, 1986, 1992). The evolution from hedge financing to speculative financing and, then, to Ponzi financing occurs endogenously because firms tend to incur more debt to finance their investment in order to obtain higher profits "over periods of prolonged prosperity" (Minsky, 1992: 8)

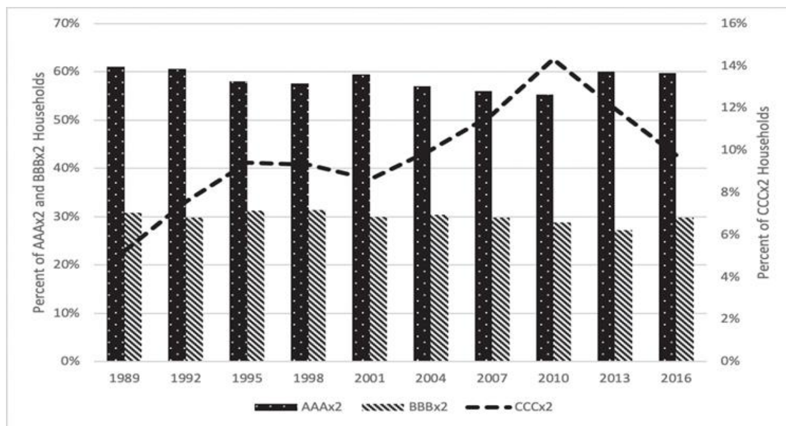
Broder level of economists accepted that 'Minsky moment' was the main reason behind the economic crisis, however, the absence of formal explanation of financial instability hypothesis generated two opposite approaches. The first one is the avoidance of usage of Minskian terminology because of the lack of formal explanation. The second one is the usage of Minskian terminology in many different views (see Nikolaidi and Stockhammer, 2017) and "permitted multiple interpretations of even his core concepts: so economists of widely differing methodologies could appreciate his insights and appropriate at least some of his concepts" (Dymsky, 2011: 334).

Financial instability hypothesis proponents do not offer a deep connection with inequality (Goda, 2013) and Minsky himself noted that ''the typical financing relation for consumer and housing debt can amplify but cannot initiate a downturn in income and employment.'' (Minsky, 1982: p.30) to give an answer to the question of consumer and housing debt after the great depression. However, there is increasing studies to find out the relation between financial instability and income inequality by focusing on household debt and applying Minskian financial instability terminology to household instead of firms as it is originally

referred. Palley (1994, 2011), Charpe et al., (2009, 2012), Isaac and Kim, (2013), Kapeller and Schutz (2014), Ryoo (2015), Scott III & Pressman (2019) integrated households into financial instability hypothesis and its role in these processes were searched.

Kapeller and Schütz (2014) constructed FIH with household debt by using the SFC methodology. İt illustrated that higher income inequality leads to more household debt and financial instability in the economy As a consequence of this situation, crises emerge. Additionally, Scott III and Pressman (2019) have applied FIH into household debt by using SCF data and categorized as AAA for less than 20% debt to income (DTI), BBB between 20% and 200%, CCC higher than 200% for the period of 1989 and 2016. It is illustrated that households can have experienced over-borrowing or income shock if DTI is more than two times of gross income.

Figure 7: Percent of Households Coded AAAx2, BBBx2, and CCCx2, 1989–2016



Source: Scott III, R.H. and Pressman S. (2019: p.529) Financially Unstable Households

Figure 7 illustrated the fell of hedge households over time and the increase of the Ponzi households. Therefore, financial instability has been increasing amongst U.S. citizens. Increases in interest rates change the structure of households and become riskier because interest rate increases push hedges units into speculative and speculative ones into Ponzi units as it is originally proposed.

With recent additions to FIH, it was tried to illustrate that higher household debt due to the prevalence of inequality directed economies into financial instability.

5.2. Financialization

Financialization is an important argument for Post-Keynesian economics and this argument has been using to explain economic progress and great recession. Financialization is mostly explained by citing Epstein (2005: 3) as that "Financialization means the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies". The increase of financial motives stressed the importance of financial firms and their place in the economy. Financial institutions have been increasing share in the economy and gains from profits have increased. From a historical perspective, financial institutions have increased their profit share from 1% in 1960 to 15% in 2007 (Reed and Himmelweit, 2012). Financialization has not only contributed to the financial institutions' profit share, has affected the financial structure of

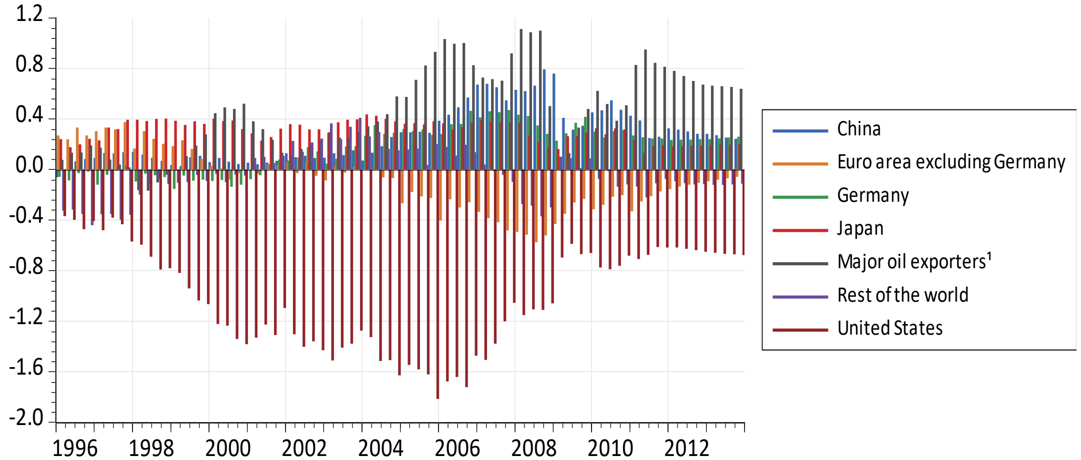
non-financial institutions as well. Real investment activities have been neglected and short-term profits gained more importance (Stockhammer , 2004; Orhangazi , 2008; Stockhammer , 2010). Then, firms aim to decrease labor costs on the real side and increase the top-executive share to increase short-term gains (Yılmaz, 2020). Higher capital gains and increasing share of top executives in contrast to labors increase personal income inequality in the economy and decreasing income share of lower-income earners have generated stagnation in the economy. This fact is valid for the functional income distribution as well in the context of the fact that a higher share in the national income is captured by profits and decreasing share of labor creates stagnation in the economy where the majority of economies are wage-led (Bowles and Boyer, 1995; Onaran and Obst, 2016; Stockhammer and Ederer, 2008; Stockhammer et al., 2009; Onaran and Galanis, 2012).

The effect of financialization has been conducted by many researchers. van Treeck (2008), Onaran et al. (2011), and Orhangazi (2008). Stockhammer (2004) has examined the effect of financialization on capital accumulation. The main result of these studies is that financial investments are preferred to real investments because of the portability of short-term financial instruments to long-term investments. In the context of the distribution of income, financialization has induced the decline of labor share and rise of profit share by "falling bargaining power of trade unions, rising profit claims imposed in particular by increasingly powerful rentiers, and a change in the sectoral composition of the economy in favor of the financial corporate sector" (Hein 2012: 2).

Financialization had contributed to the decrease of labor share, and lead to the emergence of three growth models (Hein , 2012): "finance-led model" characterized with the increase of shareholder value and positive economic growth thanks to consumption out of rentiers income and wealth effect, "profits without investment model" having similar motives, however, lack of compensation of consumption with consumption out of rentiers income and wealth effect to stimulate investment and "contractive model" having a negative effect on economic growth due to lack of enough consumption out of rentiers income and wealth effect to mitigate restricted consumption. All of these growth models have been related to the decrease of the labor share and growth strategies from first to last illustrate the strength of strategies to mitigate decreasing labor share.

This stagnation has been combatted with different strategies of economic growth such as debt-led to mitigate stagnation in the economy by increasing the debt level of mainly households and firms. Countries such as the US, UK, Ireland, Spain implemented this strategy and actively grew. Another strategy is based on export surplus and called as export-led growth and implemented in countries such as China, Germany, Japan. In this strategy, stagnation due to lack of demand in the domestic economy had been mitigated by increasing their export level.

Figure 8: Current Account Balance, in percent of World GDP



Source: OECD Economic Outlook, Volume 2011 Issue 2 - No. 90 - © OECD 2011

Inequality in export-led countries does not play a pivotal role because these countries mainly rely on demands generated by foreign countries even though inequality is the underlying reason for it. On the other hand, debt-led countries may have important limitations with the existence of inequality in the economy which restricts consumers spending. This problem is tackled with the rising level of debts to increase demand in the economy. These two counter strategies also contributed to the global imbalances. Imbalances amongst countries are enormously high, especially before the great recession as it can be clearly seen in Figure (8). Furthermore, inequality amongst individuals caused inequality between countries, and this situation created a dependency between countries in order to sustain their economic growth. The burst of the financial crisis in the U.S. had affected export-led countries with "the foreign trade channel (collapse of exports) and the financial contagion channel (devaluation of financial assets)" (Hein and Dodig 2014: p.4). Therefore, the crisis in the U.S. became a world crisis.

5.3. Stock-flow consistent modeling

Stock-flow consistent models (SFC) proposed separately by Wynee Goldey and James Tobin in the 1970s, especially, the publication of Godley and Lavoie (2007) had attracted many researchers to analyze the great recession. According to the SFC framework, the economy is divided into sectors and analyzed in accordance with 'every money flow comes from somewhere and goes somewhere.' (Godley and Cripp ,1983). The prevalence of DSGE models in mainstream economics and its failure to forecast great recession increased the popularity of SFC models. This approach has the advantage of providing the interactions between the financial and real sector with an integrative approach (Nikiforos and Zezza, 2017) thanks to its structure of no 'black holes' and integration of sectors in the economy with behavioral equations. Stock-flow consistency provides a framework to analyze the interactions between financial and real sectors with an integrative approach (Nikiforos and Zezza, 2017).

SFC models have been divided into three categories as discursively solved, simulated theoretical models, and empirical models (Caverzasi and Godin, 2015). The complex structure of theoretical stock-flow consistent models with behavioral equations reveals abstract modeling. This backward was eliminated by applying empirical methodologies such as Godley and Zezza (1989), Dos Santos and Zezza (2008), Kinsella and Aliti (2012), Miess and Schmelzer (2016), Burgess et al. (2016).

SFC frameworks have been used with different methodologies and applied in many fields of study. The network between these authors has increased and it has followed a different path in different parts of the world. Caverzasi and Godin (2015) had surveyed the stock-flow consistent literature and categorized the SFC network into twofold with contributions of authors; Wynne Godley, Marc Lavoie, Gennaro Zezza, and Claudio Dos Santos as the North American network and Jacques Mazier, Stephen Kinsella, and Edwin Le Heron as the European network.

The flourish of SFC has been enormously achieved by Godley's research from the 1990s onwards (Godley, 1996, 1999, 2001; Godley and Izurieta 2002, 2004; Godley et al., 2005; Godley and McCarthy, 1998; Godley and Wray, 2000) emphasized the unsustainable growth structure of U.S. economics and stressed the inevitability of another crunch. Godley(1999: p2) had proposed seven unsustainable processes in the U.S., which are "(1) the fall in private saving into ever deeper negative territory, (2) the rise in the flow of net lending to the private sector, (3) the rise in the growth rate of the real money stock, (4) the rise in asset prices at a rate that far exceeds the growth of profits (or of GDP), (5) the rise in the budget surplus, (6) the rise in the current account deficit, (7) the increase in the United States's net foreign indebtedness relative to GDP".

Although inequality was not implicitly considered in these processes, Kinsella *et al.* (2011), Zezza (2007, 2008), Papadimitriou et al. (2014), Nikolaidi (2015) analyzed the distributional effects and Papadimitriou et al. (2014) claimed that income inequality should be added as eighth in addition to seven unsustainable processes in the economy.

SFC framework has been extended into other approaches such as financialization and financial instability to analyze the effects of these approaches within an SFC framework. The connection between the financial and real side of the economics in SFC had attracted many researchers in order to contribute to this field. The relationship between financialization and income distribution was investigated by Skott and Ryoo (2007), van Treeck (2009), Dallery and van Treeck (2011).

Another important integration has been made between financial instability and SFC. Godley and Lavoie (2007) claimed that Minsky has a clear understanding of stock-flow consistency. The great recession had attracted many researchers to focus financial instability hypothesis and analyze it with SFC framework to detect processes that originated financial instability such as Dos Santos and Macedo e Silva (2009), Ryoo (2010), Bellofiore and Passarella (2010), Le Heron (2011, 2012, 2013), Dafermos (2015) Kapeller and Schutz (2014). Unsurprisingly, most of these studies do not attribute importance apart from Kapeller and Schutz (2014) connecting Veblen and Minsky to refer a model for the explanation of crisis with stock-flow consistent modeling. It illustrated that households increase their debt levels to emulate higher-income households spending patterns.

6. Conclusion

Income inequality had been substantially increased over time both in terms of functional and personal income distribution. Wage share, particularly in advanced countries, substantially decreased over time. Decomposition of personal income inequality had revealed tremendous disparities amongst income groups.

Mainstream economics stresses the role of clearance of the market thanks to the self-regulating market. Theoretical and empirical investigations had been neglected with few exceptions and it was seen as 'black swan'. After the great recession, income inequality had been incrementally examined in mainstream economics. After the publication of Rajan (2010), the interest in inequality progressively grows and neglect of income inequality was discarded.

Marxian economic strands had different perspectives on income inequality. Proponents of 'tendency of profit rates to fall' focused more on profits rather than wages and inequality were not accepted as a contributing factor, rather it is one of the outcomes of the crises. Underconsumption view is the only strand that accepted inequality as a reason for the crisis and the direction of the crises process has been explained from inequality to the crisis. On the other hand, the profit squeeze theory stressed the role of equality rather than inequality as a reason for crisis because of its effect on costs.

Post-Keynesian economic crisis theories have placed income inequality at the center of their analysis and it is argued that inequality causes crises. The financial instability approach, which originally does not deal with distributional issues, has been extended by taking household debt into account so that income inequality issues have been handled. Financialization had centered income inequality and analyzed the economic crisis with two different growth strategies that emerged because of the existence of income inequality.

Stock-flow consistent models have been added income inequality motives in order to determine the effect of inequality on the crisis. Stock-flow consistent models also had used with other Post-Keynesian crisis theories and income inequality. All of the strands have recognized income inequality as the main cause of crises regardless of strands whether originally deals with inequality.

Marxian and Post-Keynesian crisis theories both considered that the economic system is prone to crisis and inherently unstable. The main difference between Post-Keynesians and Marxists is the solution to the crisis as a fact that "the fault is in the system" (Foster, 2010) according to Marxist economists, on the other hand, Post-Keynesian economists have more focus on the way how to avoid from it. Mainstream economists do not have any perspective to avoid from crises related to income inequality with few exceptions because market forces have the ability to clear the market and the stable structure of the economic system should not be intervened with exogenous shocks. Overall, all reviewed economic schools of thought have considered income inequality as a destabilizing factor in the economy and its substantial effect on the crisis has been acknowledged.

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