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Globalisation, Inequality and the Economic Crisis

NUNO MARTINS

This article addresses the effects of inequality on the globalisation process. It is argued that the recent financial and economic crisis is a manifestation of a tendency of the aggregate demand to fall relatively to aggregate supply, generated by an asymmetric income distribution, which in turn both increases, and is reinforced by, the mobility of goods, capital and labour, in a process of cumulative causation. This process has not become manifest earlier due to counteracting tendencies generated by the financial system, that were disrupted during the crisis. It is also argued that mainstream economics does not have the adequate framework for explaining the crisis, and actually contributed to the crisis through its theories and policies. Hence an alternative economic framework is suggested for addressing the crisis, drawing upon the contributions of several heterodox economic traditions, especially post-Keynesianism.

Keywords: Inequality, income distribution, crisis, globalisation, aggregate demand, Keynes, Marx, heterodox economics

Introduction

The economic growth experienced in the world economy in the last two centuries has been an asymmetric growth, which led to increasing inequality in income distribution. The more asymmetric the income distribution is, the less income is given to social groups who have a lower income. Because the latter are the social groups that have a higher marginal propensity to consume, income inequality generates a tendency for the reduction of aggregate demand relative to aggregate supply, and depression.

The existence of a tendency for the reduction of aggregate demand relative to aggregate supply does not mean that such a tendency is always and everywhere manifest and thus empirically observable. Although there are underlying causal mechanisms that generate the tendency for the reduction of aggregate demand relative to aggregate supply, such a tendency is not always empirically manifest due to various counteracting mechanisms that sustain aggregate demand relative

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to aggregate supply, which are connected to the globalisation process. Only when these counteracting mechanisms that sustain aggregate demand are disrupted, such as in the economic crisis that was triggered by the 2007 liquidity crisis, does the tendency to the fall of aggregate demand relative to aggregate supply become manifest.

Within the various counteracting tendencies which act against the tendency of aggregate demand to fall relative to aggregate supply, the financial system has gained increasing prominence. The way in which the financial system has contributed to increasing aggregate demand has been the expansion of credit, both in developed countries and in emergent developing countries (compensating for the lower incomes of many wage earners), and the creation of financial innovations which led to a speculative increase in the value of assets, and thus providing financial resources for companies to invest, or for banks to finance investment.

Global imbalances played a key role here, with countries from East Asia, like China and Japan, sending the gains of their exports to the United States capital markets, thus financing the United States' consumption of foreign goods (including, of course, imports from East Asia), and providing funds which facilitated the emergence of much financial speculation. The recent financial crisis disrupted this stimulation of consumption and investment, an event which made the tendency towards the fall of aggregate demand relative to aggregate supply, generated by an asymmetric income distribution, become manifest.

Mainstream economics does not have the analytical framework which is necessary to explain adequately the crisis, nor to provide the necessary policy recommendations. In fact, the theory and policy of mainstream economics has contributed to the generation of the crisis. So an alternative framework is necessary to understand the crisis, as well as the overall globalisation process. An alternative economic framework drawing upon heterodox economic traditions, especially post-Keynesianism, will be proposed here, in order to address the topics of globalisation, inequality and the crisis.

The first section will give a broad sketch of Keynes' economic framework, which will be used to address the contemporary financial and economic problems. The topic of sequential determination will be discussed in the second section, while the third section will address the tendency of the investment multiplier to fall. In the fourth section the tendency of the marginal efficiency of capital to fall will be explained, together with its counteracting tendencies, while in the fifth section the role of international trade in global aggregate demand will be discussed. The sixth section will be concerned with the role of mobility in the increase of inequality, and the seventh section will discuss income redistribution as a means to prevent the tendency of aggregate demand to fall relative to aggregate supply. The eighth section will address the contradictions of capitalism, after which some concluding remarks will follow.

A Keynesian explanation of the credit crisis

John Maynard Keynes thought that the Great Depression initiated with the 1929 crisis was caused by a lack of aggregate demand. Aggregate demand depends upon consumption and investment, both public and private, and both national

and foreign. As is well known, for Keynes (1936) changes in consumption depend upon the marginal propensity to consume out of a given income, and the changes in income. Investment, in turn, is a function of the difference between the marginal efficiency of capital and the interest rate.

Keynes (1936: 135) defines the marginal efficiency of capital as 'the rate of discount which would make the present value of the series of annuities given by the returns expected from the capital-asset during its life just equal to its supply price', where the series of annuities is a function of expected future prices and expected demand, and is also called the prospective yield. The supply price of the capital asset, on the other hand, is 'the price which would just induce a manufacturer to newly to produce an additional unit of such assets, i.e., what is sometimes called the *replacement cost*'.

In this sense, the marginal efficiency of capital increases with the difference between the prospective yield, and the current (supply) price, of the capital asset. Keynes argues that in situations of uncertainty, which for Keynes are characterised by the absence of certain knowledge of the probability distribution of future events, (conventional) valuation of the prospective yield will depend upon expectations grounded on a projection of the current situation into the future which may turn out to be incorrect. Also, Keynes argues that aggregate demand cannot be stimulated beyond full employment without an increase in the aggregate supply price.

The interest rate, in turn, is determined by liquidity preference, and the supply of money which is available to satisfy this liquidity preference. Liquidity preference depends upon the transaction motive (the need of liquidity for current transactions), the precautionary motive (which springs from a desire for security) and the speculative motive (that is, the desire to have money for acting in the market when anticipating the evolution of the latter).

The lack of confidence between banks after 2007, a result of the fact that banks did not know where poorly performing or non-performing assets (designated by the media press as 'toxic' assets) were, made liquidity preference increase due to the precautionary and speculative motives, and banks started to restrict credit in order to compensate for the uncertainty surrounding a possible default. It is because liquidity preference increased so much that the liquidity provided in 2007 and 2008 by central banks did not lead banks to abandon credit restrictions as quickly as expected by mainstream economists.

The uncertainty also influenced expectations, and thus the prospective yield, and the marginal efficiency of capital. Since the level of investment depends on the difference between the marginal efficiency of capital and the interest rate, a reduction of the marginal efficiency of capital would not lead to a curtailment of investment as long as the interest rate is lowered by a similar amount, as central banks attempted to do during the crisis. However, whenever the marginal efficiency of capital reaches values close to zero, as seems to have been the case given the change in expectations, there is little scope left for lowering the interest rate further.

Furthermore, in addition to the control that central banks have over the interest rate, we must also take into account that the availability of funds (to be used whenever the marginal efficiency of capital exceeds the interest rate) depends on the banking system (and the financial system) as a whole, as the post-Keynesian

theory on endogenous money shows (see Kaldor 1978; also Arestis 1988; Fontana 2003). Another crucial factor for investment is the availability of capital throughout the financial system, which was restricted during the recent crisis due to the sudden increase in liquidity preference, generated by the uncertainty concerning defaults.

Keynes argues that under situations of uncertainty, agents will project the existing situation into the future, and will act grounded on existing conventions. And when faced with a break of existing conventions (which can happen at any moment in a world characterised by fundamental uncertainty), agents will tend to reduce investment excessively, reducing thus aggregate demand (of which investment is a constitutive part) and generating an economic crisis, as seen for example in 1873, 1929 and 2008, when the established conventions concerning the evolution of financial and economic markets broke down.

The Keynesian notion of uncertainty, according to which uncertainty is characterised by the absence of knowledge of the probability distribution of future events, contrasts with the presupposition of mainstream economists that it is, in general, possible to quantify risk – that is, that economic agents can always (or in most occasions) calculate the probability distribution of future events. The presupposition that agents always (or on most occasions) have a correct knowledge of the probability distribution of future events leads to the belief that economic and financial agents possess a reasonable estimate of risks, which are assumed to be mathematically quantifiable (because stochastic processes are assumed to be stationary or at least ergodic) (see Davidson 2008).

As Tony Lawson (2009) notes, this belief is grounded on the conception of science of mainstream economics, according to which mathematical modelling is essential for economics to become a science, a presupposition which leads to the uncritical use of mathematical models in economics and finance. So financial speculation and credit expansion continued until 2007 under the belief that risks were being carefully measured. The uncritical acceptance of the mainstream methodology led many to underestimate the effects of uncertainty during a liquidity crisis. In fact, mainstream economists like Robert Lucas (1981: 224) argue that in the absence of correct rational expectations, which presuppose correct knowledge about quantifiable and measurable risk (so that mathematical-deductivist methods can be successfully employed) 'economic reasoning will be of no value'. Presuppositions like rational expectations are required for the conception of science which uncerpins mainstream economics.

However, because of the existence of fundamental uncertainty – that is, because of the absence of certain knowledge of the probability distribution of future events – it cannot be assumed that agents have rational expectations (in other words, that they have always a correct perception of the probability distribution of future events). So institutional regulation is essential to supplement markets if the latter are to function without major disruptions, so as to maintain a stable flow of investment, and prevent depressions.

Keynes' suggestions were highly concerned with finding the adequate institutional regulation in face of uncertainty and greater capital mobility. For example, Keynes suggested a tax on transactions on the stock market as a possible solution for reducing capital volatility, by reducing the incentive to capital

mobility. This idea contradicts the contemporary widespread belief of mainstream economists in the efficient markets hypothesis, according to which constraints on capital flows should be reduced if not eliminated, so that capital is left free to find the more profitable investment, which it will supposedly find since it is assumed that agents have correct expectations about the future (rational expectations).

The failure of mainstream economists (and financial agents informed by mainstream theory) to understand the role of uncertainty contributed much to the deregulation that culminated in a financial crisis, which in turn disrupted the financial mechanisms that were providing aggregate demand through credit expansion and financial speculation, as will be argued here. Liquidity preference increases with the aggravation of uncertainty in a way that cannot be mathematically predicted, leading a shortage of liquidity such as the one that occurred in 2007 to have unpredictable consequences.

Sequential determination and the interconnection of economic variables

It must be noted that liquidity preference can be seen as an endogenous variable too, for it is a positive function of income (which provides, for example, a transaction-motive for holding liquidity) and a negative function of the interest rate (which provides a speculative motive for holding liquidity when interest rates are lower, and thus the prices of bonds and equity, discounted by such lower rate, are then higher). This is so because the expectation of higher future rates, and thus lower prices of bonds and equity, gives an incentive to spend money on bonds or equity only in the future.

There is no contradiction in post-Keynesian theory when considering liquidity preference as (together with money supply) a determinant of the interest rate, and also as a function of the interest rate. For the relevant conception of causation in post-Keynesian economics is a conception of sequential determination, where one variable (such as liquidity preference) can be taken as relatively stable compared to another at a given stage of an historical sequence of events taking place in real time, and at a later stage of this historical sequence the variable can change in response to changes in other variables. For example, at a later stage of the historical sequence the change in the interest rate can be seen as having a causal impact on liquidity preference.

Sequential determination allows post-Keynesian theory to take into account rigidities in the economy, by considering that some variables change at a slower pace than others in a given historical stage of a process, and to conceptualise an interconnected macroeconomic system where multiple variables interact at different speeds. The notion of sequential determination during historical processes taking place in real time contrasts with the conception of simultaneous determination used by mainstream economists like John Hicks (1937), and many others who follow Hicks in the interpretation of Keynesian theory using the Investment Savings/Liquidity preference Money Supply (IS-LM) framework, where all variables adjust instantly in logical (as opposed to real) time, in a system of multiple equations (see Robinson 1974).

The fundamental conclusion Keynes draws, which is crucial to understand the analysis to be undertaken now, is that aggregate demand will depend on the

propensity to consume (which determines the level of consumption out of a given income), and the difference between the marginal efficiency of capital and the interest rate (which determines investment). The marginal efficiency of capital, in turn, is a function of the difference between (expected) prospective yield and the supply price (also called replacement cost), and the interest rate is a function of liquidity preference and the level of money supply.

Variables like the propensity to consume, the expectation concerning the prospective (future) yield of capital assets, and liquidity preference depend upon psychological factors which Keynes does not discuss in detail. Those psychological factors, together with the level of wages (set politically and institutionally by governments, firms and labour unions) and the quantity of money (set politically and institutionally by central banks), are regarded by Keynes as the ultimate independent variables of his system (see also Harcourt and Kerr 2003; Davidson 2007). This framework enables the Keynesian conception to take into account various psychological, institutional and political dimensions of economic activity which are often left aside in mainstream economics, or addressed in an unsatisfactory way. The Keynesian economic framework will now be used together with insights of other heterodox traditions in order to explain the crisis.[1]

The tendency of the investment multiplier to fall

Keynes (1936) famously argued that there will be a proportion of income which is used for consumption according to the propensity to consume, and each act of consumption by a buyer will provide additional income to the seller, who in turn will consume a proportion of this income according to the marginal propensity to consume. As this process continues across several transactions taking place in the economy, there will be a multiplier effect, the magnitude of which is then a positive function of the marginal propensity to consume. So unless there is full employment (in which case further investment will essentially increase the aggregate supply price), any amount of investment will lead to a more than proportional increase in output because of this multiplier effect, the magnitude of which is called the investment multiplier.

In fact, taking 'c' to be the marginal propensity to consume out of a given level of income, the investment multiplier of a given economy, excluding government and foreign trade, can be written as $1/(1\text{-}c)$. This expression gives us the sum of infinite terms of a geometric progression with a common ratio between zero and one, which in this case is 'c'. Because the sum of the marginal propensity to save 's' and the marginal propensity to consume 'c' is equal to one, the investment multiplier can be written as $1/s$ as well.

The lower the income of a person, the higher the marginal propensity to consume, and the lower the marginal propensity to save. Therefore, the post-Keynesian (and Marxist) economist Michal Kalecki (1971), like Keynes (1936) when discussing the social philosophy of the *General Theory*, notes that social groups with a lower level of income will, on average, display a higher marginal propensity to consume (and a lower marginal propensity to save). Since the social groups that have a higher marginal propensity to consume are those who receive less income, greater income inequality across social groups leads to an even lower

percentage of income going to social groups with a higher marginal propensity to consume, reducing the investment multiplier.

Effectively, the marginal propensity to consume (or to save) of a given population is given by the weighted average of the several individual marginal propensities to consume (or to save), where the share of each individual in overall consumption (or in overall savings) gives us the relevant weight. Paraphrasing Karl Marx (1999) we may say that there is an 'organic' composition of income, divided between savings and consumption, which results from the distribution of income between individuals or social groups with various levels of income, and consequently different marginal propensities to consume and save.

The income once distributed will generate a given 'organic' composition of savings and consumption, and will lead to a given level of the marginal propensity to consume 'c' for the population, and a corresponding value of the investment multiplier $1/(1\text{-}c)$. Of course, the distribution of income, by generating a given 'organic' composition of savings and consumption, will also lead to a given level of the marginal propensity to save 's' for the population, which can be used to determine the same investment multiplier, that could also be written as $1/s$.

What the work of Keynes and Kalecki shows us is that 'c' will decrease as income inequality increases (while 's' will increase), reducing the investment multiplier, and thus reducing aggregate demand, because of the transference of income to groups with a lower marginal propensity to consume, and a higher marginal propensity to save – Kalecki (1971) even develops a modified version of the multiplier to put this fact in evidence. Using Keynes' and Kalecki's reasoning, we can see that the increasing income inequality in the contemporary world is an important factor that generates a tendency towards a falling aggregate demand, by reducing the investment multiplier.

The increase in income inequality, which has a negative impact on the investment multiplier, can be observed in data collected by different institutions, from the United Nations Development Programme (UNDP) to the International Monetary Fund (IMF). The United Nations' Human Development Reports document an increase in inequality between countries, as well as within the overwhelming majority of countries for which data is available (see UNDP 2005: 55). This overwhelming majority of countries within which inequality is increasing includes countries which are a crucial source of global aggregate demand like the United States, and emergent countries like China, India or Brazil. The World Economic Outlook (2007: ch. 4) provides another source of data on the increase of inequality.

The concentration of income in individuals with higher incomes, and thus a higher marginal propensity to save, will generate an increase in savings relative to consumption. Note that according to post-Keynesian theory, and contrarily to what is often assumed in orthodox economic theory, such an increase in savings will not necessarily lead to a lower interest rate or higher investment, since in post-Keynesian theory the interest rate is determined by the level of liquidity preference and the money supply. If the transfer of income to a social group with a higher level of the marginal propensity to save does not change either the liquidity preference or the money supply (and there is no reason why it should necessarily do so), and if the marginal efficiency of capital is left unchanged, the increase in

savings and consequent decrease in consumption will thus lead to a decrease in income, by reducing the effect of the investment multiplier.

If savings were the key driver of investment, as most orthodox economists assume, income inequality would actually promote investment, by transferring income to those with a higher marginal propensity to save (those with a higher income). A central conclusion Keynes (1936) takes from his theory is that because this is not so, and because in the absence of full employment the key to economic recovery is the stimulation of aggregate demand, then his *General Theory* leads to a completely different social philosophy, where income equality is crucial to increase the investment multiplier and stimulate aggregate demand.

The tendency of the marginal efficiency of capital to fall and its counteracting tendencies

Competition will also contribute to a tendency for prospective yield, and correspondingly the marginal efficiency of capital, to decrease. This will aggravate the tendency of aggregate demand to fall relative to aggregate supply, which is generated by the tendency of both the investment multiplier and the marginal efficiency of capital to fall. This tendency can be avoided by an expansion of the market, or by a decrease in the degree of competition, as Marx (1999) noted when discussing the tendency of the rate of profit to fall.

This tendency of the aggregate demand and the marginal efficiency of capital to fall has indeed been countervailed. One counteracting mechanism was precisely the reduction of competition, achieved by concentration and centralisation – that is, the emergence of large corporations, which through greater market power manage to control prices and the marginal efficiency of capital. American Institutionalists from Thorstein Veblen (1904) to John Kenneth Galbraith (1958) also thought that, given the interconnectedness of the economic process, enabled by technological change, large corporations would become increasingly successful due to their stronger market power.

As Galbraith (1967) argues, the emergence of large corporations led also to the rise of top management executives, and to large differences in income distribution between top management executives and other workers. So it is not just the differences between wages and profits that contribute much to income inequality. Furthermore, the pursuit of power and financial returns by top management executives involved in financial companies also contributed decisively to the practices that led to the economic crisis.

Technological progress and the consequent productivity increase was another countervailing mechanism predicted by Marx, although authors like Veblen (1904) believed that the continuous introduction of technological innovations would permanently render the existing technology obsolete, reducing the value of realised investments, generating fluctuations in intangible financial assets, and making depression the normal state of the economy. For Marx, technological advance would simultaneously act as a counteracting mechanism preventing profits from falling, while also aggravating the capitalist contradictions which generate the tendency for the rate of profit to fall, by increasing mechanisation and reducing the relative surplus value produced by labour. Moreover,

technological progress increases aggregate supply, aggravating the tendency for a lack of aggregate demand relative to aggregate supply.

Another counteracting mechanism, also foreseen by Marx, which is important given the increase in aggregate supply generated by technological progress and productivity increase, as heterodox economists from Marx to Galbraith noted, was the expansion of markets. This occurred through the integration of emergent developing economies in the world market economy (that is, in the globalisation process), and the expansion of the market system to the various spheres of life (famously also described by Karl Polanyi (1944)), the latter being connected to a change in consumption habits, under which consumption plays an important role not only in the satisfaction of basic needs, but also in the establishment of social status.

This expansion of the market system was supported by the extension of credit to a larger share of the population (who could not afford a high level of consumption otherwise due to income inequality), and financial speculation concerning the value of capital assets, which made firms and banks see the value of their assets increase, and thus enhanced their financial wealth. This enabled consumers to maintain a level of consumption which was no longer possible without the financial system, which through financial innovation also stimulated growth. The financial system generated thus counteracting tendencies against the tendency of the marginal efficiency of capital to fall. As Johnna Montgomerie (2009: 16) notes, addressing the case of the United States, which provides the most important source of global aggregate demand:

> [w]hat has changed over the past 30 years is how debt is used to maintain a historically constructed and politically significant standard of living which defines the American way of life, positioning middle-income households' rising unsecured debt levels within the broader context of substantial transformations in US society. The changing dynamics of US macro economy has meant that a large segment of well-paid and secure blue-collar work present in the post-war era was virtually decimated and replaced with low-paid service work. Moreover, the gradual shift to financial market growth as the engine of profitability and competitiveness led to further subverting of employment and wage-led growth, which considerably impacted middle-income families.

Wage-led growth was essential to increase aggregate demand especially because, since wage earners typically receive less income than profit earners, wage earners have a higher marginal propensity to consume out of a given income than profit earners. So the extension of credit to workers who receive less income was essential to increase aggregate demand.

Hence, in the absence of wage-led growth, financial speculation and credit were fundamental to stimulate the aggregate demand of the world economies. Thus, the financial crisis disrupted mechanisms which were key stimulators of aggregate demand. This is why the financial crisis (the origins of which can be traced to the 2007 liquidity crisis) quickly became in 2008 an economic crisis of enormous

proportions, contrary to what was expected by the mainstream economic community.

However, for the flow of investment to increase, we need not only an increase in the income of wage earners, but also an expectation of an increase in profits. In fact, a reduction of the expectation of profits (and thus of prospective yield, and of the marginal efficiency of capital) would have a negative effect on investment and aggregate demand. A crucial issue to address here thus concerns the income distribution between wages and profits, and the elasticity of investment with respect to profits.

Only when investment is sufficiently elastic with respect to profits will an increase in the ratio of profits to wages have a strong enough positive effect on investment, and consequently on aggregate demand, in order to countervail to a significant extent the reduction of the investment multiplier that such an increase in the ratio of profits to wages will cause (due to the increase in income inequality). But what are the key determinants of the elasticity of investment with respect to profits?

Nicholas Kaldor (1978) argued that changes in investment and savings (and thus their elasticities with respect to the expectations of profits) will depend on excess capacity. With little excess capacity left, there is little incentive to invest, since the costs of investment are higher. On the other hand, with much excess capacity there is less need for investment. So investment will be more sensitive to changes in income, profits and expectations when there is a moderate level of excess capacity, and only on this occasion will there be a higher tendency for increases in profits to have a positive impact on investment, and thus on aggregate demand.

Of course, the existence of a moderate excess capacity and a high elasticity of investment with respect to profits, together with economic growth, is possible only when there is a continuous expansion of the market. In fact, all the tendencies noted above counteracting the fall of the marginal efficiency of capital, such as concentration, technological improvements, and the maintenance of a high elasticity of investment to profits, depend on the continuous expansion of the market, which is itself another tendency counteracting the fall of the marginal efficiency of capital. So the international expansion of the market is central to this overall process. The international expansion of the market will be addressed in more detail in the next section.

International trade and global aggregate demand

Even with a high elasticity of investment with respect to profits, there is still a tendency of consumption to fall relative to production, caused by the tendency of the investment multiplier to fall, which is permanently exercised as long as wages remain low. A possible solution to the reduction in internal demand that occurs with lower wages would then be to direct industries towards external markets. In this case, the lower wages of workers, together with the increase in output, enable a reduction of unit labour costs and the aggregate supply price without changing prospective yield (which is ensured by an external market). The marginal efficiency of capital will thus increase, leading to an increase in investment, output and employment.

For a model of economic growth based on the expansion of the international market to be successful, the export sector has to be large enough, having naturally the tendency to increase as cheaper labour becomes available. This expansion of an export sector based on low wages introduces a lower average level of wages in the national economy as a whole, leading to a reduction in internal demand. This reduction in internal demand will lower imports, something that together with an increase in exports greatly improves the trade balance. The decrease in internal demand that occurs as a consequence of lower wages will of course be more important in larger than in smaller economies.

However, applying Keynes' and Kalecki's analysis to the world as a whole, we can see that this strategy reduces aggregate demand by increasing inequality between wage earners and profit earners, and thus reducing the investment multiplier. Furthermore, export-led strategies, if carried out as until now, will also aggravate global imbalances. As is well known, the current account surplus, which arises from a positive trade balance in East Asian countries like Japan and China (and countries from the European Union like Germany), has been used in US capital markets (and also in the UK). The existence of this surplus facilitated the development of financial innovations using this surplus in US capital markets, promoting the financial speculation which led to the current crisis.

This flow of capital financed the United States' trade deficit, and thus contributed to stimulate global aggregate demand. However, East Asian countries also have an incentive for financing the US trade deficit. Without the American demand there would not be such a high global demand of Chinese exports. And since China is also an export platform for transnational firms of East Asia, which accumulates trade deficits with regional trade partners, as Jan Kregel (2006) notes, the mass consumption habits of the American society are crucial in maintaining a high level of growth in East Asian countries, which adopted export-led strategies.

The financial circuit through which American demand is stimulated is part of a general mechanism through which credit is given to a sector of the population with a higher marginal propensity to consume, with the financial system thus stimulating global demand. At the individual and family level we find banks financing the consumption of individuals and families with lower levels of income (and thus a higher marginal propensity to consume), while at the country level we see capitals from countries where high saving ratios exist, like China and Japan, financing the trade deficit and mass consumption habits of the United States and the Western world.

The expansion of aggregate demand brought by economic and financial globalisation, and other counteracting tendencies like concentration and technological innovations, are thus continuously preventing the marginal efficiency of capital from falling, while also aggravating the contradictions of the capitalist system. With central banks setting the interest rate, the two key determinants of investment in Keynesian analysis have been thus under control, except in situations of crisis where counteracting mechanisms are disrupted. The consequences of such disruption are severe because of the contradictions of the contemporary economic system, which are continuously aggravated by the very counteracting mechanisms which sustain aggregate demand.

Globalisation, mobility and inequality

The expansion of the market has been the fundamental counteracting mechanism against the tendencies of the investment multiplier and the marginal efficiency of capital to fall, since all the other counteracting mechanisms, such as concentration, technological progress, high elasticity of investment to profits, or financial globalisation, presuppose the expansion of the market.

In fact, like investment, exports are a component of aggregate demand which has an important multiplier effect (see Harrod 1933). The post-Keynesian economist Anthony Thirlwall (2002) even argues that the growth of a country open to the world trade will approximate the growth of its exports multiplied by the exports multiplier. Effectively, Thirlwall argues that part of the reason why the asymmetries between the various countries and regions of the world have been increasing springs from the inability of many developing countries to stimulate aggregate demand through exports.

This inability is in large part caused by the very recommendations of mainstream economists, who often argue for the liberalisation of goods, capital and labour markets, under the belief in the efficient market hypothesis, often forgetting the importance of institutional regulation, and the need to protect infant industries (that is, industries at an initial stage of development), that post-Keynesian economists like Kaldor stressed. For historical evidence shows that developed countries benefited from protection in order to industrialise, before competing in the goods market (Chang 2002).

Moreover, financial globalisation, facilitated by the deregulation of capital markets, led to an increase in capital volatility. Many developing countries have experienced significant difficulties associated with the volatility of capital markets, which often lead to severe economic difficulties and unexpected changes in foreign investment flows (see Sicsu and Vidotto 2008). Furthermore, the existence of offshore fiscal 'paradises' further contributes to income inequality, due to the tax evasion of wealthier social groups, thus leading to a further reduction in the investment multiplier.

In addition to the increase in the interconnectedness of the world economy, another characteristic of globalisation was thus that the acceleration of growth was not uniform across countries. The industrial revolution initiated a process in which world inequality started to increase drastically, because some countries and regions remained outside the process of technological and institutional change for a long time.

Moreover, models of economic growth based on exports as a means to increase prospective yield, and low wages as a means to reduce costs (or in Keynesian terms, supply prices), lead to increasing asymmetries in income distribution, since the differences between the incomes of wage earners and profit earners increase. Furthermore, export-led strategies also imply moving resources from agriculture to industries where only the more competitive firms survive, generating unemployment within a process of competition.

The solution for preventing social conflict that income inequality and unemployment brings consists often in the further stimulation of growth. As Richard Carney (2009: 94) notes, when addressing the potential for social conflict in China:

> [A]t present, China's strategy seems to be to allow the economy to grow its way out of the problem, by creating enough jobs in competitive firms so that most workers do not oppose government efforts to wean companies off of state subsidised lending over time. This strategy could be problematic since it crucially depends on maintaining high and stable levels of economic growth over a long period of time. For example, just to meet the growing demand for jobs (from graduates of college, vocational school, secondary school, ex-soldiers, rural–urban migrants, laid-off workers and the urban unemployed), the Chinese economy must grow at least 7 per cent annually, according to the former vice president of the CCP Party School, Zheng Bijian.

However, such a stimulation of growth requires again the expansion of the market, increasing again competition in the global economy. The increase of competition in the markets of goods and services, in turn, puts additional pressure on firms to reduce wages and increase production, in order to reduce unit labour costs and become competitive, or to de-localise production towards developing countries where unit labour costs are lower.

Furthermore, because immigrant workers are typically willing to work for a lower wage, allowing firms to have a reduction in unit labour costs through lower wages (in addition to the reductions in unit labour costs that may be obtained through increasing productivity and output expansion), labour mobility contributes to the further reduction of wages, and to further income inequality between wage earners and profit earners. These various factors increase competition between workers in the labour market, creating what one could call, following Marx, a global reserve army of labourers. The increase in the mobility of goods, capital and labour is a key factor which generates an unprecedented increase in competition and income inequality.

The increase in competition aggravates the tendency of the marginal efficiency of capital to fall, while the increase in income inequality aggravates the tendency of the investment multiplier to fall. So the expansion of the market, while fundamental to countervail the effects of the tendency of the investment multiplier and the marginal efficiency of capital to fall (which cause the tendency of aggregate demand to fall relative to aggregate supply), is reducing the investment multiplier even further by increasing inequality, while increasing competition leads to a tendency for the reduction of the marginal efficiency of capital, generating a central contradiction of the globalisation process.

The role of redistribution

Is there any way to prevent the tendency of the investment multiplier effect to fall? It should be obvious from the above analysis that the tendency of the investment multiplier to fall can be offset by reducing income inequality. Because social groups who receive less income would theoretically display a higher marginal propensity to consume, income transfers to those groups would, in principle, stimulate aggregate demand, since the investment multiplier tells us that when a

larger share of income were given to social groups with a lower level of income, demand will increase by a higher value than if the same share of income were given to a social group with a lower marginal propensity to consume. In fact, it was the international redistribution of income towards developing countries, manifest in the economic growth of emergent countries like China, India or Brazil, amongst others, which reversed the tendency of international aggregate demand to fall in recent years. So income redistribution may become inevitable in order to prevent crises, or at least attenuate their effects.

Of course, the case of China must be addressed with caution, since the high level of savings of the Chinese population, together with the increase of the weight of China in the world economy, may also mean a transfer of income to a population with a lower marginal propensity to consume. This is a topic which surely deserves further elaboration, but we can already see that the income redistribution towards China may generate a further contradiction in global capitalism, by transferring income from regions with a higher marginal propensity to consume (such as the United States) towards a region with a lower marginal propensity to consume (such as China), reducing aggregate demand if the Chinese population does not significantly change its consumption and saving habits during this process.

Given the changes taking place in the Chinese economy and society, one may expect an increase in the Chinese propensity to consume. However, the expansion of mass consumption habits to China and East Asia may in turn pose further problems. For two other central contradictions of the capitalist process spring from the mass consumption habits of the contemporary world (which contribute crucially to the existence of demand for what is produced), and from the very process of production. In fact, mass consumption and mass production are leading to the exhaustion of natural resources (an ecological contradiction), and not necessarily contributing to human well-being, since the competition for social rank through conspicuous consumption can never satisfy all competitors, as noted by Veblen (1899), leading to the second contradiction.

The ecological contradiction may eventually be resolved through further technological improvement, but it is far from being so. The contradiction with human well-being is also a serious problem since, as 'Old' Institutionalists from Veblen (1904) to Galbraith (1958) argue, the very habits of conspicuous consumption for achieving social rank, and the expansion of the market system towards various spheres of life discussed by Polanyi (1944), enable the existence of the aggregate demand that ensures higher employment in an economy where high technological productivity would lead to overproduction and unemployment otherwise, while not necessarily promoting human well-being. As Amartya Sen (1992) argues, well-being depends essentially on the type of human functionings that income and consumption enable, and not on income or consumption by themselves.

The contradictions of the capitalist system from an heterodox perspective

As heterodox economists from Marx to Galbraith note, the technological innovations that followed the industrial revolution enabled an increase in production which can only be satisfied by a similar increase in consumption. But if income inequality is such that demand will not be sufficient to absorb all production,

further demand will have to be financed through credit expansions and speculative investment in stock markets, leading to financial and economic crises. Hence, we can see that post-Keynesian theory provides an economic framework for the conceptualisation of an idea which is present in other heterodox traditions, such as Marxian economics and 'old' Institutionalism. This is the idea that an unequal distribution of income between various social groups may lead to insufficient demand. Thus redistributive policies are crucial both for social and economic purposes.

The economic implications of inequality have not been dealt with adequately by economic theory. The tendency of aggregate demand to fall relative to aggregate supply, caused by the tendency of the investment multiplier to fall (because of income inequality), and by the tendency of the marginal efficiency of capital to fall (because of competition), will be permanently exercised, despite the countervailing tendencies that will be stronger or weaker depending on market expansion, concentration, and the stimulation of the elasticity of investment with respect to the expectation of profits. And in an economy characterised by cycles, during which the tendency of the aggregate demand to fall relatively to aggregate supply will be more or less manifest, it will not be possible always to maintain excess capacity at a moderate level, or the elasticity of investment with respect to profits high enough.

Thus crises are a key characteristic of capitalism, not an accidental exception, which can only be attenuated by a more equal income distribution. It seems clear that the direction to be taken given the present situation would have to be towards a reduction of inequality, regardless of what is the final stage that such process would lead us. Authors like Marx and Keynes agreed on the need of a more equal income distribution, although they had opposing (and to some extent unclear) views on the extent of redistribution, or on which would be the final stage of a process towards less inequality, with Marx being more radical than Keynes, who argued against large levels of inequality, but not against a much smaller degree of inequality.

The fact that Marx and Keynes were less clear on the explanation of a final stage to be reached, while focusing essentially on the direction to take at their time, is understandable given that they had a dynamic view of the economy. For to focus essentially on a final stage of a process towards greater equality, as some Marxist authors (unlike Marx himself) often do, may be misleading, since it presupposes a final static outcome when the economy is in reality a dynamic and complex process. A similar problem arises with any attempt to obtain an optimal 'organic' composition of income, and an optimal level of savings or of consumption, as many mainstream economists attempt to, given the economic, social and ecological implications of a dynamic and complex process.

When faced with the complexity and dynamics of the capitalist economy, Marx and Keynes placed their efforts in the analysis of the concrete situation they faced, and on the direction to take from there, rather than attempting to describe in detail a supposedly final stage. This is the approach of post-Keynesian theory and policy, which focuses on processes of change rather than on static equilibrium, in a context where policy can be (and most likely must be) revised as new information springs from the changes taking place (see Kaldor 1985).

Of course, the specific institutional setting for the implementation of a more equal income distribution is a matter of further debate. The specific institutional setting for implementing a more equal income distribution must take into account that the tendency of income inequality to increase is reinforced by the increase of concentration and market power, which in turn is necessary for reducing competition and preventing the marginal efficiency of capital, and thus aggregate demand, from falling. But this leads to a concentration of capital and aggravation of income inequality, which in turn reinforces the tendency of the aggregate demand to fall by reducing the investment multiplier.

This is a central contradiction of the capitalist process, already noted by Marx, who emphasised the role of wage reduction (caused by competition between firms and competition in the labour market) in reducing demand. While output expansion, nominal wage stagnation (or reduction), and increases in prices (and thus real wage reduction) all contribute to a reduction of unit labour costs, output expansion is inconsistent with (nominal or real) wage reduction because of the tendency for the fall of aggregate demand relative to aggregate supply that wage reduction causes.

Thus, in a scenario where income equality and concentration are both essential to prevent aggregate demand from falling, the internal organisation of large corporations (and the remuneration of workers) would have to play a key role in implementing new forms of income distribution, if this contradiction is to be overcome. This is a key issue to address when discussing the specific institutional setting for implementing a more equal income distribution. As Galbraith (1967) already argued long ago, the wage differences within large corporations (between top management and other workers) are contributing to more income inequality rather than providing a solution to this problem.

An additional question concerns whether an attempt should be made to reduce the concentration of capital, by implementing a regulatory setting which would favour smaller forms of organisation and regulate competition in a different way, countervailing the tendency of the marginal efficiency of capital to fall, and the consequent counter-tendency for concentration. However, even these smaller forms of organisation would also have to implement a more equal income distribution in their remuneration schemes for income inequality to be reduced, so as to prevent the investment multiplier from falling.

Concluding remarks

International competition, the mobility of goods, capital and labour, and income inequality have mutually reinforced each other in a process of cumulative causation. The increase in the mobility of goods and labour increases greatly the competition between workers, in the same way as the increase in the mobility of capital and goods increases the competition between investors and companies, the latter generating a tendency of the marginal efficiency of capital to fall (and pressuring firms for not increasing wages as the economy grows, thus increasing income inequality). The tendency of the marginal efficiency of capital to fall, combined with the tendency of the investment multiplier to fall caused by income inequality,

generates the tendency of the aggregate demand to fall relative to aggregate supply.

Even though the falling marginal efficiency of capital generated by competition is countervailed by concentration and centralisation in large companies, the present configuration of large corporations creates a tendency for income inequality, leading in turn to a falling investment multiplier. This contradiction can only be solved through a change in the institutional and organisational framework of business enterprise, which would have to promote new forms of income redistribution, and of production.

The reason why the economic crisis has reached such large proportions is because it disrupted the counteracting mechanisms that were sustaining aggregate demand, such as credit expansion and financial speculation. These financial mechanisms are part of an overall financial circuit in which a surplus, obtained due to the existence of income inequality, becomes available for financial speculation purposes, while credit is given to finance aggregate demand and sustain economic growth.

This mechanism can be observed at the family level, in which we saw families with lower incomes being financed towards consumption through the so-called subprime mortgages, or at the country level, with East Asia financing the United States' mass consumption, thus ensuring aggregate demand for their exports, while simultaneously providing US capital markets with the funds for financial speculation. The growth of China, and East Asian countries in general, where the savings ratio is much higher than in Western countries, may create even further contradictions by reducing the average propensity to consume and aggregate demand relative to aggregate supply for the world as a whole. The various counteracting tendencies to the fall of aggregate demand relative to aggregate supply have indeed aggravated the contradictions of the contemporary capitalist system, making the latter less stable.

As post-Keynesian analysis shows, and other heterodox traditions such as the Marxian or the American Institutionalist tradition also suggest, a more equal distribution of income is the only way to ensure enough aggregate demand for the contemporary productive capacity without causing these contradictions. A more equal distribution of income is desirable not only for social reasons, but also in order to ensure the sustainability of the contemporary economic system.

After witnessing the greatest depression ever seen, Keynes was able to provide an economic theory which explained the underlying mechanisms of a depression. Keynesian economics is a powerful economic theory which can be used to complement Marx's tendency laws, and combined with other heterodox approaches (such as American Institutionalism) in order to achieved a unified heterodox theory that explains the contradictions of the globalisation process.

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Note

1. For elaborations on post-Keynesian economic theory, see also Davidson (1994) or Harcourt (2006).

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