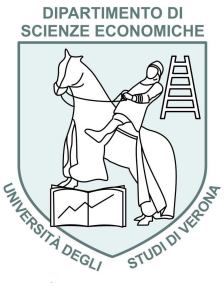

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Abstract

In the last 20 years the within countries income inequality has continuously increased. This is a global phenomenon which is observable both advanced and developing countries. Excessive income and wealth inequalities played a role in the genesis of the recent financial crisis and may impair the recovery of the world economy. The long term trend of rising inequalities is the result of different forces. On the one side technological change modified the demand for labour in favour of skilled workers widening the skill premium in wages. From the other side, globalization in trade and finance have contributed to the problem. In particular, fast financial liberalization seems to be a major source of increased inequalities. The huge expansion of financial flows in an international environment lacking adequate international regulatory and supervisory mechanisms means the problems of global economic instability and growing inequality cannot be solved at the national level. New supranational rules and cooperative solutions are called for.

1. The problem of the increase of income inequalities in the world economy

Since the Industrial Revolution, the history of the world economy has been characterized by a general rise in global inequality. This lengthy trend is the result of the interaction of two types of inequality: growing differences in GDP levels between countries (horizontal or inter-country inequality) and large differences in the income of individuals within each country (vertical or within-country inequality). During the first wave of globalization (1820-1914), although vertical inequality was high, horizontal inequality grew at a faster rate because industrialization in few core European countries initiated an uneven world development process leaving most of the other regions in the world behind. After the "first globalization" period, in 1914-1945, inter-country inequality continued to increase whilst income distribution inside countries was more even (Lindert and Williamnson, 2001). After WWII, in the Bretton Woods period (1944-1971), inequality between countries continued to rise, albeit at a slower pace

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because of post-war reconstruction and growth in Japan and Western Europe, offset by the gradual inclusion in the core of the world economy of a group of new industrialized Asian countries, the so-called "Asian tigers". These countries were able to increase their per-capita income and reduce poverty through export-led strategies supported by controls on capital flows and domestic investments in capital goods, infrastructure and education. In the same period, within-country inequality remained stable overall with improvements in several advanced and Asian countries. From 1980, in the so-called "second globalization" era, world economic and, in particular, financial integration accelerated, surpassing the already high level of the first phase of globalization in the years before WWI. Recently, the rapid growth of high-population countries such as China, India and Brazil as well as of other Latin American and South-East Asian countries, has positively affected inter-country inequality but not within-country income inequality which is now rising everywhere. This trend in within-country income distribution, common to both developed and emerging countries, poses several questions: does it have a positive or a negative impact on economic efficiency and social welfare? Is it an inevitable consequence of greater openness to trade and financial flows in emerging and developing countries? Does it depend upon continuous technological change spreading all over the world? Is it the consequence of liberalization policies mainly driven by international economic institutions such as the WTO, the IMF and the World Bank? Did it have a role in the genesis of the recent financial crisis? Obviously, no simple answer to the above questions can be found and a set of simultaneous explanatory factors, rather than single factor explanations, must be taken into account to explain the worldwide trend in income distribution. Nonetheless, it is difficult to avoid the idea that some causal link between globalization in trade and finance, global imbalances, the financial crisis and inequality does exist. This chapter explains why current trends in income distribution cannot be ignored in the discussion of the causes of the financial crisis and their implication for the re-design of economic theory and the international order. After a discussion of empirical international evidence on within-country income distribution, we analyse the main factors that seem to be at the root of the income distribution problem, taking in account, among other things, the role that policies fostering financial liberalization may have had in the overall increase in income inequality.

From the point of view of economic theory, it is worth noting that, unlike classical economic thought, standard neoclassical economic theory treats income distribution as a relatively minor issue. Assuming perfect competition, owners of the factors of production (labour, capital and land) are rewarded according to their marginal contribution to output. In this context, no conflicts over income distribution exist and changes in income share are viewed as the result of an efficient adjustment of the economy to technologically induced structural changes or to new market equilibria driven by demand or supply shocks. From this, it follows that changes in income distribution are not a problem *per se*. In the neo-classical paradigm, the Heckscher-Ohlin model of international trade (H-O) is one notable exception, in that it predicts unambiguous and sharp distributional effects in countries that open up to trade. In the H-O model, greater openness to international trade increases the real income of the country's abundant factor of production intensively employed in the production of exported goods. At the same time, the real income of owners of the scarce factor decreases, so that the group damaged by international trade is likely to oppose any move toward free trade, calling for some form of protection from foreign competition. Domestic income remuneration policies may therefore be necessary to convince international trade 'losers' to give up their opposition to free trade, allowing the economy to move toward an international Pareto superior equilibrium. Because of these predictions, the H-O theory is sometimes invoked as a possible explanation for the worldwide trend in rising income inequality. However, as we shall show later in this chapter, the actual trends in income distribution are not consistent with the 'naïve' H-O view and other explanations need to be found.

Moving away from the narrow static neoclassical world, studies of economic development pay more attention to income inequality. The reason is that developing countries undergo structural change in their institutions, the labour market and their economic structure, which affect the incomes of different segments of the population in non-uniform ways. The final goal of economic development should be the achievement of better living conditions for populations that are often locked into a poverty trap. However, a high rate of GDP growth does not necessarily mean greater welfare for everybody: it may lead to an improvement in the living standards of the majority of the population and to lower inequality or, on the contrary, it may lead to a growing share of

domestic GDP going to a small elite without any real benefit to the poor. The distributional consequences of different development policies cannot be ignored as shown by a large body of literatures on this topic, effectively summarized by Goldberg and Pavcnik (2007).

In developed countries, a growing interest in the theme of income distribution was evident in the USA at the beginning of the 2000s, well before the start of the financial crisis (Bryan and Martinez, 2008; Lawrence, 2008). Subsequently, after 2008 a lively discussion took place on the role of US income inequality in the genesis of the financial crisis (Reich, 2010). At a more general level, official reports published by the International Labour Organisation (ILO, 2008), and OECD (2008, 2011a, 2011b) not only show beyond any doubt that the recent period of globalization has also been a period of rising inequalities, but also indicate that the problem of income inequality has become a concern for important international economic institutions often criticised for the support they have given in the past to the 'Washington Consensus' ideology (Stiglitz, 2002) .

Why should we be concerned about income inequalities? After all, a degree of inequality is acceptable and can be explained by the fact that high wages are the consequence of high productivity of labour which has to be properly rewarded, according to the neoclassical view. Since the labour force is a heterogeneous aggregate comprising individuals with different skills and levels of education, it is likely that different individuals will have different rates of productivity and hence obtain different rewards as described by Murnane et al. (1995). Therefore, if the composition of the labour force changes and labour demand switches in favour of more educated and skilled workers, the gap between high and low wages will probably increase. As shown in the next section, the problem is that the gap between low and high income individuals has, in several cases, gone well beyond any reasonable and socially acceptable level. Having said that, the social perception of excessive inequality is not sufficient, on its own, to justify concern about its potential negative economic consequences: other factors are in play. For example, in the case of developing and emerging countries, excessive income inequality is often correlated with corruption and poverty problems that may hinder both growth and the modernization of the economy. In fact, there is evidence that '…longer growth spells are robustly associated with more equality in the

income distribution' (Berg and Ostry, 2011) and that equality is beneficial to the long-run sustainability of growth. At a more general level, one concern about income inequalities is that wherever income and wealth are unequally distributed and concentrated, democracy is emptied of any real content, because the growing costs of election campaigns mean that only the wealthy can afford to run for political office. As in the past, personal income, rather than citizenship, becomes the prerequisite for taking an active part in the political life of a country. In addition, it is well-known that the wealthiest people and corporations are very often able to influence policy decisions through the ownership of the media and via lobbying, unfairly promoting their interests.

Another problem which is particularly relevant today in advanced countries severely hit by the recent global financial crisis, is that an excessive concentration of income and wealth in the hands of the upper echelons of a society may depress aggregate demand, generating economic stagnation and inducing low income households and individuals to become increasingly indebted.

In general, the propensities to save or consume from disposable income are not uniform across households and individuals but vary with the income level. High income households have a greater propensity to save whereas low-income households consume a larger proportion of their incomes (Dyan et al., 2004). In formal terms, if we call the consumption propensity of low income households c_L and the consumption propensity of high income households c_H, assuming that $c_L > c_H$, we may show that the impact on aggregate consumption C of changes in the national income share α of low income households is positive.

Let us consider a simple closed Keynesian economy where two different types of consumers and households live: low income households H_L and high income households H_H. From the macroeconomic point of view the difference between the two household types consists in their consumption (and savings) propensity. The basic assumption is that the consumption propensity of the H_L group c_L is greater than the consumption propensity of the H_H group c_H. As a consequence, the aggregate consumption expenditure is a weighted average of the consumption of the two groups.

The first step is to break down aggregate consumption into two parts, recalling that total consumption is simply the sum of consumption from the two households groups:

(1) $C = c_L Y_L + c_H Y_H \qquad (0 < c_i < 1\ ;\ i = H, L)$

(2) $c_L > c_H$

The share of domestic income Y that goes to the H_L is α so income can also be broken down as follows:

(3) $Y = Y_L + Y_H$

(4) $Y_L = \alpha Y$

(5) $Y_H = (1 - \alpha) Y$

By replacing (A.4) and (A.5) in (A.1), aggregate consumption can be written as

(6) $C = c_L \alpha Y + c_H (1 - \alpha) Y = [c_L \alpha + c_H (1 - \alpha)] Y$

Equation (A.6) may now be differentiated to compute the effect of changes in the income distribution parameter α on C:

(7) $\frac{\partial C}{\partial \alpha} = (c_L - c_H) Y > 0$

The partial derivative of aggregate consumption C with respect to the H_L income share α is positive because of assumption (2). The main economic implication of (7) is that a shift of income distribution unfavourable to the H_L group, namely a decrease in α, has a negative impact on consumption.

In fact, according to (7) a lower α, namely a higher proportion of GDP in the hands of wealthy households, *depresses* aggregate consumption. If income distribution changes in favour of the upper segment of society (a decrease in α) but in the same time GDP growths at a sufficient rate, consumption may still increase because the higher per-capita income may offset the income distribution changes. However, in the case of weak economic growth or particularly adverse distributional changes, aggregate consumption cannot increase in the same proportion as GDP, unless lower income households

finance part of their consumption with debt. If enough credit is available, the outcome can be greater and greater private debt, or, if credit to households is constrained, the eventual reduction of the growth rate and economic stagnation due to declining aggregate demand. In its simplicity, this resembles some features of the US economy prior to and after the financial crisis: growing income inequality characterized by a rising concentration of wealth at the very top, the increasing indebtedness of households, a credit bubble that eventually burst followed by a period of stagnant domestic demand and an uncertain economic outlook (Wolff, 2010).

2. Empirical evidence about trends in within-country income distribution

Statistical studies usually rely on synthetic concentration indices calculated from national income data and surveys, consumption and the wages of households or individuals, depending on reliability and availability. Of the inequality measures, the Gini index[2] and ratios between quintile or decile of the income distribution, such as the D10/D1 or the Q5/Q1 (often along with intermediate ratio such as D10/D5 and D5/D1) are among the most used. The Gini index takes values in the range between 0 and 1 (or in percentage terms between 0 and 100), with 1 (100) representing the highest and 0 the lowest inequality. If the index were equal to 0, all individual in a country would have the same identical income (a full egalitarian society!). On the other hand, if the index were equal to 1, all domestic income would go to just one individual. As a consequence, an upward movement of the coefficient signals rising inequality. The international comparison of the Gini index and the ranking of countries according to their degree of inequality is possible but problematic due to measurement errors and because the sources, quality and reliability of domestic data may differ from one country to another. To facilitate comparative analysis, efforts have been made to create homogenous international databases on income distribution by the OECD, UN, ILO and other research institutes such as the University of Texas Inequality Project (UTIP) and the

[2] The Gini index was developed by the Italian statistician Corrado Gini in 1912 and is closely related to the Lorentz Curve, a graphic representation of income distribution in which individuals are ordered bottom to top on the horizontal axis according to their income, while cumulative income is measured on the vertical axis. In particular, the Gini index represents the ratio of the area between the Lorentz Curve and the diagonal of the graph (equidistribution line) and the area of maximum concentration of income, equal to the whole area below the equidistribution line. A practical guide to the use and calculation of the Gini index can be found at http://www.fao.org/docs/up/easypol/329/gini_index_040EN.pdf.

Cross National Data Center in Luxemburg (LIS). The empirical evidence discussed below draws on such databases.

It is good practice to use both Gini coefficients and distribution ratios, because the same Gini index may be associated with different underlying income distributions more easily identified with the help of intermediate ratios. For example, a higher Gini index due to a larger D5/D1 ratio is likely to represent a less problematic situation than when the increase is the result of a higher D10/D5 ratio because, in this case, there is a higher concentration of income in the hands of relatively few people at the expense of the middle class which, in today's societies, comprises the majority of the population. Hence, the information given by distribution ratios is generally a useful complement to the Gini index.

The economic literature is unanimous in identifying greater inequality in within-country income distribution over the last two decades (Cornia, 2003; Berg and Ostry, 2011; Bergh and Nilsson, 2010; Bollè, 2008; Celik and Basdas, 2010; Dreher and Gaston,2008; Goldberg and Pavcnik, 2007; Jauomotte et al., 2008; Palma, 2006; Qureshi and Wan, 2008; Ulubasoglu, 2004) and in attribution this trend to the concentration of income at the top of the distribution curve. Two wide-ranging and authoritative studies by the OECD (2008) and ILO (2008) are illustrative in this regard.

According to the OECD (2008: 17), wide differences in the absolute level of inequality between countries exist, as Table 1 shows, but income inequality in the last two decades has risen in two-thirds of all OECD countries. This is shown in Table 2 with the Gini index for pre-tax market incomes in 15 OECD countries. In the Table, the index is normalized to 1 in a base year that may be 1975, 1985 or 1995 depending on available data in each country The Table therefore shows changes compared to the starting year, rather than the absolute values of the index. Inequality has increased the most in Canada, Germany, the USA, Italy and Finland. A slight decrease occurred recently in the UK and Australia. On average, in this OECD sample, inequality, as measured by the index, increased by 12% in the period 1985-2005. It is worth noting that, according to the OECD, the rise in inequality is mainly due to wealthy households improving their position with respect to middle-class and poor families. In fact, taking the sample of 22 OECD nations as a whole, the average annual change in the real income of households at the top quintile of the distribution was 2.1% in the period

1985-1995 and 1.9% in the subsequent decade. In contrast, the real income of households at the bottom quintile grew by 1.2% in the first decade and 1.5% in the decade 1995-2005 (OECD, 2008: 29).

The general trends that emerge from the OECD study are particularly evident in the case of the USA and are confirmed by other statistical sources. For example, using data from the UNI/WIDER Income Inequality Database WIID2c (2008), Figure 1 shows the absolute values of the Gini index from 1968 to 2004 and Table 3 shows Q5/Q1, Q5/Q3 and Q3/Q1 ratios.

The graph shows a steady increase in overall income inequality in the USA from 1980. The index is very high for a developed country (Table 1). At the same time, the inter distribution ratios of Table 3 show a clear concentration of income in favour of the top quintile representing the top 20% of US earners. Interestingly, while the Q3/Q1 ratio did not change much over the period, both the Q5/Q1 and Q5/Q3 ratios continuously rose. The rise in the income share of the top 1% of earners is unsurprising. Table 4 shows that the improvement in the position of the wealthiest portion of the population is particularly clear in Anglo-Saxon countries, such as Canada, the United Kingdom and USA. In the USA, the concentration of income in the hands of the wealthiest portion of the population has recently returned to the very high levels prior to the 1929 crisis (Figure 2). Although caution is required in drawing inferences from this, one question is unavoidable: is it a coincidence that in the years before both the 1929 and 2008 crisis income inequality was very high in the USA?

The information on inequalities provided by the OECD is confirmed by a recent update (OECD, 2011a) and by the Labour Organization International (2008) Report on 'Income Inequalities in the Age of Globalization'. In this Report, the ILO analyses income distribution changes in countries at different development stages, based on a sample of 73 countries (more than in the OECD study). The main conclusions are the same: inequality has been growing in two thirds of the countries, whether developed or developing (ILO, 2008: 1). The ILO Report also contains important additional information on another worrisome phenomenon, namely the decrease of the share of national income that goes to wages and therefore to labour. According to ILO estimates, in 51 countries in the sample, the wage share of domestic income has decreased since

1990, falling by 13% in Latin America and the Caribbean, 10% in Asia and the Pacific and 9% in the Advanced Economies (ILO, 2088: 6).

The decrease in the wage share is closely related to the fact that wage growth generally did not keep pace with productivity improvements. For instance, based on National Bureau of Economic Analysis data, Lawrence (2008) shows that from 1980 to 2006, in the USA, labour productivity grew by 70% while real hourly wages rose by a mere 4.4%! ILO (2008: 7) analysed a reduced sample of 32 countries[3] for which data on productivity and wages were available, finding that in 24 countries productivity growth exceeded wage growth in the period 1990-2006. Notable exceptions were China and South Africa where wages performed quite well[4]. It is not difficult to understand that when the output per worker grows faster than wages, the wage share declines in favour of corporate profits and financial rents. Since white and blue collar workers are the majority of the population, the negative consequences for aggregate consumption are obvious, as explained in the previous section.

Another fact, particularly evident in the USA and stressed by Lawrence (2008), is that the financial sector was where the profit share grew the most at the expenses of wages so a redistribution inside the corporate sector in favour of financial companies also seems to have taken place, in addition to the redistribution between labour and corporations. This observation leads to a related aspect of the inequality issue: not all workers have been hit in the same manner by the fall in income share going to wages because an additional feature of the recent increase in inequality is the widening of the gap between high-wage and low-wage earners. Of course, jobs and pay cannot be equal in view of the technological features of production processes, the composition of the labour force, and the duties of workers and skills required by firms operating in different industries. We expect skilled workers to earn more than unskilled workers so that wage differences are not a surprise. What is surprising is the extent to which the gap has widened in the recent past. A common measure of the wage gap is the ratio between the pay of company executives and average employee wages, which has

[3] The countries are: Australia, Austria, Belgium, Brazil, Canada, China, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, India, Ireland, Italy, Japan, Korea, Luxemburg, Mexico, Netherland, New Zealand, Norway, Poland, Portugal, Russian Federation, Slovak Republic, South Africa, Spain, Sweden, UK, USA.

[4] On the contrary, in other BRICS countries such as Brazil, India and Russia, productivity growth was much higher than wage growth.

reached levels that are difficult to justify on the grounds of economic efficiency. In 2007, at the onset of the international financial crisis, for CEOs the ratio ranged from 71 in the Netherlands to 183 in the USA, while in the case of average executives it was 43 and 112 respectively (ILO, 2008: 17). The latter estimates are downward biased because they do not include share-based remuneration that actually forms up to 90% of executives and CEO's earnings. The practice of share-based remuneration and bonuses is based on the idea that if pay is linked to the economic performance of the company, employees are better motivated to find strategies and take actions that improve the market value of the firms. In many cases, however, that practice has led to distortions resulting in an excessive focus on short-term economic performance rather than long run strategies capable of producing stable growth. This distortion was evident for banks and financial companies and contributed to the mechanism that led to the sub-prime mortgage bubble in the USA. Another distortion is that decisions about the amount of bonuses given to executives and CEOs are often taken by the CEOs themselves, so that the level of share-based remuneration is often unrelated to actual economic performance. The results of empirically analysing the link between company performance and executive pay in different countries are uneven and, on the basis of an extensive analysis of the existing literature, the ILO (2008: 57) concludes that: 'overall, a stable and significant relation between pay and performance has yet to be established'. However, the practice of paying executives with shares and stock options was widespread in the years before the sub-prime mortgage crisis, particularly in financial companies, and apparently persists even after the bursting of the credit bubble in the USA, despite very negative public opinion and protests caused by the huge bonuses handed out in the middle of the crisis to AIG and other company executives involved in the financial melt-down of 2007-2008[5]. When the share and stock option components of executive pay are taken into account, the wage gap skyrockets. In the USA, the ratio between executive pay and average pay was 370 in 2003 but had almost doubled four years later, reaching 521 in 2007. The case of the USA is extreme but not exceptional; similar trends can be observed in other advanced and emerging countries.

So far we have discussed trends in income distribution. However, the wealth of individuals and households also plays an important role in consumption and savings

[5] In 2008, Wall Street executives earned $18 billion in bonuses (The New York Times, 2011).

decisions, affecting living standards. Consumption depends not only on income, but also on the ownership of houses and financial assets such as bonds, shares and stock options. We have just seen how, in recent years, stock options have increasingly become a significant part of the remuneration of executives and CEO: inequality in overall wealth distribution cannot be ignored. In this regard, empirical research shows that wealth inequality is correlated to and larger than income inequality. In a groundbreaking article, James B. Davies et al. (2011) computed the level and distribution of world household wealth in the year 2000 and obtained an estimate of the global Gini index equal to 0.802. That is very high compared to coefficients for disposable income in individual countries which typically range between 0.3 and 0.5. Looking at the shape of the wealth distribution, they also found that people at the top and very top of the distribution (10%, 5% and 1% decile and percentile) respectively hold 70.7%, 56.7% and 31.6% of the world's wealth. No clear differences in wealth inequality patterns among developed, low income and medium income emerging countries arose from their study. An international comparison between countries reveals that the USA scores first in wealth inequality with a Gini index equal to 0.801, a higher value than that of developing and emerging countries such as Bangladesh (0.660), Indonesia (0.764), Nigeria (0.736), China (0.550) and India (0.669). When we compare wealth distribution in countries at different levels of development, obviously we need to remember that absolute levels of poverty and wealth may differ by a large extent and that medium income or even low income people in advanced countries are often better off than many wealthy people in poor countries. Nonetheless, the fact that wealth inequality in the most advanced country of the world exceeds that of very poor countries where economic inefficiency, unemployment and political corruption are often endemic is something that could be considered scandalous.

In the end, what emerges from a large body of empirical evidence is an ongoing process of income and wealth concentration at the core as well as in the periphery of the world economy. There is also evidence that excessive income and wealth inequalities contributed to the financial crisis in the USA (Rajan, 2010; Reich, 2010). Finally, inequality is increasingly seen as a problem that may hinder the recovery of the world economy in the aftermath of the financial crisis (OECD, 2011) and reduce the long-term sustainability of growth in developing countries (Berg and Ostry, 2011).

3. Why has within-country income inequality increased?

Why have economic inequalities increased in the 'second globalization' era? It is important to answer this question if we want to design correct economic policies aimed at reducing the negative impact of inequality and, if possible, reverse the trend. In the last 25 years, globalization has grown alongside inequality, making it an automatic suspect. Some tests, examining the hypothesis that globalisation is *per se* responsible for growing inequalities, regress income distribution data on aggregate indices supposedly capturing the main features of globalization (Bergh and Nilsson, 2010; Dreher and Gaston, 2008). However, globalization is a multifaceted phenomenon with trade, financial and political aspects that often tend to affect income distribution in different directions and have different strengths so that in the literature other studies have tried to isolate and test the impact on inequality of the different components of globalization separately (Berg and Ostry, 2011; Celik and Basdas, 2010; Cornia, 2003; Goldberg and Pavcnik, 2007; Jauomotte et al., 2008; Palma, 2006; Qureshi and Wan, 2008; Ulubasoglu, 2004).

In the Bretton Woods era, under the institutional framework of GATT negotiations, world trade expanded greatly, particularly between advanced nations. States became more and more open to international trade and within-country income inequalities were generally constant or decreased. It is worth remembering that in this period, governments maintained controls on international capital movements in an environment characterized by fixed exchange rates. After 1971, with the breakdown of the Bretton Woods system and the start of the dollar standard era, the liberalization of world trade continued but financial liberalization was the chief innovation in the period. The move toward full economic and financial liberalization was forcefully promoted by advanced countries and endorsed by international institutions, such as the IMF and WB, prompting developing countries to introduce domestic reforms aimed at liberalizing their economies and opening their domestic market not only to trade but also to financial flows: so-called 'capital account liberalization'. The implementation of the set of neo-liberalistic monetary and economic policy prescriptions known as the 'Washington Consensus', after Williamson (1990), was supposed to be the key to successful economic development. However, the cluster of financial crises and bursting

bubbles in several countries in the 1990s and the 2000s, along with the rise in within-country income inequality, cast serious doubt on the validity of Washington Consensus prescriptions and gave rise to serious criticisms of the IMF and WB policies, leading to proposed reforms of leading international economic institutions (Bird, 2001; Florio, 2002; Przesworski and Wreeland, 2002; Bordo, 2000). The sequence of crisis that hit the world economy in the 1990s and the beginning of the 2000s includes: Argentina (1991), Mexico (1994), the Asian crisis (1997, 1998), Brazil (1998, 1999), Russia (1998), Turkey (2000), Argentina (2001). We should also recall the dramatic fall in GDP of Russia and other Eastern Europe countries, which - in the first half of the1990s - attempted to speed up the transition from planned to free market economies by implementing the rapid reforms and liberalization known as 'shock therapy' (Lawrence Klein and Marshall Pomer, 2001). On the whole, financial liberalization policies have not produced the positive impact on growth that its supporters expected. On the contrary, as Rodrik and Subramanian (2009) clearly show, no correlation between economic growth and financial liberalization in developing countries exists, so that the case in favour of the latter was clearly overstated. At the same time, according to other studies, the idea that capital account liberalization is associated with an increase in income inequality cannot easily be discarded. In any case, the literature confirms the idea that it is useful to separately asses the impacts of the different components of globalization (trade, finance, technology) on income inequality, even where they are interconnected, as in the case of trade and technological change, as discussed below. Table 5 summarizes the key result of selected studies about globalization and within-country income inequality.

4. Technological change and inequality

The hypothesis that technological change widens the wage gap is accredited by many and is generally accepted (Goldberg and Pavcnik, 2007). Certainly, one of the most important events in the last fifteen years has been the accelerated pace of technological progress due to the revolution in ICT. Jorgenson and Vu (2005) estimate that on average, at the world level, the contribution of ICT capital goods to economic growth increased from 10% in 1989-1995 to 15% in 1995-2003. The role of ICT capital goods as a source of growth was particularly important in the case of the advanced G7

countries, where its contribution jumped from 17% to 27%. However, a similar trend is also evident in seven major developing and transition economies (Brazil, China, India, Indonesia, Mexico, Russia, South Korea) where the percentage of economic growth due to the accumulation of ICT capital goods doubled, from 4% to 8%. In this country group, the experience of Brazil (up from 4% to 23%) was particularly striking. Almost everywhere in the world, the share of investments in ICT capital goods increased with important consequences on the organization of production and the demand for labour. New technologies made it easier for corporations to split production processes into separate stages that could then be outsourced and moved to other countries. Corporations in advanced countries found it convenient to locate the more labour intensive phases of production processes in less developed countries with a cheap labour force, whilst keeping at home design, research and development as well as retaining financial and technical control over the entire production process. The consequence on the labour market, in advanced countries, has been a widespread increase in the demand for skilled workers and, at the same time, a reduction in the demand for the unskilled. For this reason, differences in skills may explain differences in earnings (Devroye and Freeman, 2001).

When we talk about skills, it is useful to refer to the classification of working functions proposed by Author et al. (2001). They identify five categories, ranked according to knowledge content and complexity: routine manual, routine cognitive, non-routine manual, non-routine interactive and non-routine analytic. Routine manual functions do not require workers to have a particularly high level of education, while people engaged in non-routine analytic activities needs problem-solving capabilities that can be acquired only through years of education and experience. Jobs in factories where workers assemble cars or toys are an example of simple routine manual activities that are increasingly displaced by investment in the automation and informatisation of production. Employees in marketing departments devising communications strategies for the sale of new products are an example of workers engaged in non-routine analytic functions. Because of technological progress, the historical trend in the last thirty years has been that of a steady reduction in the demand for routine functions and a continuous increase in the demand for the more knowledge-intensive non-routine functions. The development of a knowledge society necessarily involves these trends in labour demand.

An obvious consequence, therefore, is that remuneration for non-routine tasks increases compared to routine functions. Inside firms, many routine manual functions, once assigned to unskilled workers, are carried out by computers or robots, or else in factories located in less developed countries (LDCs) where hourly remuneration is much lower than in developed economies. In the latter group of countries, therefore, the ICT revolution increased the productivity of the labour factor enormously and produced a 'skill biased' change in wage structures, widening the gap, not only between low and high pay, but also between blue and white collar workers (Lawrence, 2008). Therefore the rising skills and wage gap depends on two elements: a technology-propelled surge in the demand for non-routine tasks and skilled workers alongside downward pressure on the pay of individuals employed in routine tasks under the threat of unemployment and job dislocation in foreign countries. Changes in the production organization of corporations through technological progress may, therefore, explain part of the increase in income inequality in developed countries. What still cannot be explained under the heading of the ICT revolution is the excessive concentration of income at the top of the distribution curve and the abnormal increase in the remuneration of the top executives mentioned in the previous section. After all, the gap in wages and salaries due to the skill-biased change in the demand for labour is nothing but a 'premium' for knowledge, while the dramatic increase in the gap between top executive remuneration and average workers wages seems to be more the result of CEO greed, the decision-making mechanism inside companies and the powers of Boards of Directors, rather than a direct consequence of above average company performances (ILO, 2008).

What can we say about the impact of technological change on income distribution in emerging or LDCs? From the above, inequalities could be expected to decrease because of an improvement in the salaries of unskilled workers, supposedly the 'abundant factor of production' in these economies. If multinational companies invest in LDCs, buying or building factories in order to exploit abundant cheap labour in these countries, the demand for routine manual and cognitive positions should rise and consequently also the remuneration for these tasks. In the end, higher wages of unskilled workers should reduce inequality. On the contrary, as shown in section 2, income inequality increased in both LDCs and emerging countries. The prediction of decreasing inequality through stronger demand for unskilled labour is naïve and

inaccurate because technological progress also increases the demand for skills and non-routine functions in LDCs, as elsewhere. In this regard, in their review of the literature on the distributional effects of globalization in developing countries, Goldberg and Pavcnik (2007: 52) conclude that 'when we consider the 1980s and the 1990s as a whole, all countries seem to have experienced increases in the skill premium'. They also observe that 'interestingly, the skill premium increases seem to chronologically coincide with the trade reforms in several countries'. This observation raises the important question of the role neoliberal political and institutional reforms may have had in the inequality story. We shall return to it later on in this chapter.

One explanation for the widening wage gap in emerging and developing countries is that domestic investments and FDIs in these countries have led to the adoption of improved technologies. In other words, emerging countries have reduced the distance from the technological frontier and are no more simply dumping grounds for the obsolete technologies of advances countries. Through FDIs, when new capital goods and equipment are put to work in plants producing intermediate goods, multinational companies actually transfer technology to LDCs. FDIs and outsourcing in LDCs are therefore important parts of the explanation for the skill-bias determined wage gap (Goldberg and Pavcnik, 2007). The technological intensity of new factories in developing countries may be below that of factories in developed economies but it is higher than previous levels so in emerging economies too a skill bias in the demand for labour arises. Even if the type of skills that corporations demand in developed countries were systematically different from the skills they need in developing economies, the result would be the same: everywhere technological progress would shift demand for labour toward a larger portion of more highly educated and skilled workers. The bottom line is that widespread technological change may negatively affect income distribution in both LDCs and emerging countries (Jauomott et al., 2008; OECD, 2008, 2011a).

5. International trade and inequality

Globalization is a consequence of free trade. The degree of openness to international trade is a common measure of globalization and as such became an explanatory variable in several empirical tests of the causes of income inequality. Why should international trade affect within-country income distribution at all? International

trade theory provides one possible answer. According to the standard Heckscher-Ohlin model, greater openness to international trade should improve the marginal productivity of the country's abundant factor of production and therefore its real income. If we believe that skilled labour is abundant in advanced countries, while unskilled (or less skilled) labour is abundant in LCDs and emerging countries, then the straightforward application of this theory leads to one conclusion alone: greater openness to international trade (trade globalization) should increase the wages of skilled workers in developed countries and of unskilled workers in developing countries. The other side of the coin is that unskilled workers in advanced countries and skilled workers in LDCs should suffer from decreasing real wages. In this view, the wage gap increases in advanced economies and decreases elsewhere. However, while there has been a deterioration of the income position of unskilled workers in advanced countries, the same thing is not happening to skilled workers in developing and emerging economies. If trade has anything to do with income distribution, other explanations have to be found.

The previous section discusses how changes in demand for skills due to technological progress explain part of the recent worldwide trend in income inequality. Here we stress how the interaction between trade globalization and technological changes adds another element to the explanation of rising income inequalities. Trade globalization involves the adoption of policies aimed at reducing and eliminating obstacles to trade such as tariffs or import quotas. At the same time, less protection leads to the expansion of the tradeable sector of the economy exposed to international competition, comprising modern export-oriented firms often specializing in the production of intermediate goods. If a dualistic structure emerges, inequalities are very likely to increase.

International trade offers opportunities to developing countries but raises competitive pressure on firms; only the most efficient can survive. In order to do so, companies in the tradeable sector producing finished goods must re-organize and invest in new technologies. Consequently, their demand for skills changes in favour of non-routine functions. As the tradeable sector expands, the wages of employees in that sector rise with respect to wages in the non-tradeable sector and the wage gap widens. In addition, companies in the tradeable sector of emerging countries produce and/or

assemble intermediate goods for foreign multinationals. International outsourcing of production creates international trade and contributes to the growth of the tradeable sector in LDCs. Technological progress, trade globalization and outsourcing by multinationals interact and work in the same direction.

However, trade globalization is not always associated with inequality. After all, in the Bretton Woods era and in the 1970s, within-country inequality either increased only slightly or, frequently, decreased as the volume of international trade continually rose. This is the experience of the European countries that liberalized trade in the 1960s, creating the EEC. According to the OECD WIID2C database, for example in France the Gini index was 52 in 1962 but was 34 in 1970. In the same period it was fairly stable in Germany, at around 38. Another well-known example is that of the Asian countries that globalized trade in the 1960s and 1970s. Singapore, South Korea and Taiwan did not experience increases in income inequality until the 1980s (Cornia, 2003). However, inequality grew in several Latin America Countries that liberalized trade in the 1980s and 1990s (Wood, 1999). Different domestic approaches to political reforms and the timing of liberalization may account for this difference. After 1980, trade liberalization was often accompanied by privatization, labour market reforms and financial liberalization. On the other hand, in the 1960s and 1970s, Asian countries did not open their domestic financial markets and when, in the 1990s, they did, they were hit by the severe financial crisis of 1997-1998. It is difficult to separate the impact of trade globalization on inequality from the effects of political and institutional reforms accompanying globalization, but the suspicion is that reforms are largely responsible for the recent rise in inequalities, as suggested by the different historical experiences of the 1960s-1970s and 1980s-2000s.

6. Financial globalization, reforms and inequality

A modern market economy cannot live without a properly functioning financial system. According to economic theory, the role of financial markets is the allocation of otherwise unproductive savings to investment projects, positively contributing to economic growth and welfare. The rapid development of the world economy since the Industrial Revolution owes a great deal to domestic and international finance but financial markets have also been a source of economic instability and crisis as shown by

the fundamental works of Kindleberger and Aliber (2005) and Reinhart and Rogoff (2009). The patterns of global imbalances, discussed among others in Clarida (2007), Fiorentini (2011), Fiorentini and Montani (2010), Wolf (2008), and the recent sequence of regional international financial crises eventually going global in 2007-8, proves that the current functioning of financial markets is far from perfect. The dual nature of finance explains why regulatory and supervisory institutions were set up, although the history of capitalism is one of alternating phases of regulation and deregulation. Prudential regulation and the supervision of banks and stock exchanges by central banks and other institutions such as the SEC in the USA were introduced in order to avoid fraud and minimize the likelihood financial institutes defaulting and, in the case of default, to prevent contagion, which might threaten the systemic stability of the economy. On occasions, government and monetary authorities over-regulated, imposing interest rate ceilings or credit rationing. These measures interfere with the proper functioning of monetary and financial markets and distort fund allocation, so nowadays the liberalization of domestic monetary and financial markets is generally accepted because it reduces the distortions of over-regulation. Looking back to the events of the last decade, it is clear on the other hand that deregulation went too far. In the USA the Glass-Steagall Act separating the activities of commercial and investment banks was partly repealed by the Gramm-Leach-Bliley Act in 1999, allowing US banks to widen the range of their activities, covering new fields and fostering credit default swaps (CDS) and financial derivatives increasingly traded in the non-regulated over-the-counter (OTC) market. The negative role of these changes in the global financial crisis of 2007-8 is now well-known. Equally dangerous was the SEC decision in 2004 to allow banks to raise their leverage ratio from 10:1 to 30:1, a move that increased systemic risk enormously and, with it, the likelihood of huge losses, which materialized in 2008.

In relation to the liberalization of international capital flows, as already noted, in the Bretton Woods period the expansion of international trade was accompanied by limited international capital mobility. In a fixed or quasi-fixed exchange rate system, international capital mobility is impeded because central banks are not able to simultaneously target domestic money supply and maintain exchange rate parities in the event of massive capital flight. Because flexible exchange rate systems are compatible

with high capital mobility, it is no surprise that after the breakdown of the Bretton Woods exchange rate system in 1971, international capital flows and financial globalization dramatically increased. What is not obvious is that opening domestic markets to international financial flows (financial globalization) is always beneficial to the countries that implement these policies, especially where the domestic market is not suitably reformed.

One of the elements that differentiates the current phase of globalization from the end of the 19th century is the preeminent role of economic policies and international institutions (IMF, WB, WTO) in shaping domestic reforms in favour of financial openness. Since the end of the 1980s, several developing and emerging medium income countries, pressed by advanced countries, the IMF and WB (Stiglitz, 2002) have abolished controls over external capital flows in the hope of gaining more access to international capital markets and benefits in terms of investments and higher economic growth through financial openness. Financial globalization is thought to exert positive effects partly because of its disciplining effect on domestic monetary and budget policies. In order to attract foreign investments, a government budget has to be 'in order', inflation under control and interest rates free to adapt to international financial market conditions. In turn, lower inflation and the availability of cheaper credit should favour low-income households and have a positive effect on inequality. If openness to foreign financial flows actually resulted in higher rates of growth and less poverty nobody would be against it. Empirical evidence, however, shows that financial globalization has had no significant effect on growth rates. Rodrik and Subramanian (2009) estimate that in the period 1970-2004 the correlation coefficient between levels of financial globalization and annual average growth rate of GDP per capita in a sample of 105 countries is virtually zero at a non significant -0.0039365 coefficient. The estimate remains the same even if changes, not levels, of globalization are considered. Restricting the analysis to developing countries, Maurice Obstfeld (2009: 63) concludes that 'despite an abundance of cross-sectional, panel and event studies, there is strikingly little convincing documentation of direct positive impact of financial opening on the welfare levels or growth rates of developing countries'. On the contrary, evidence exists that greater financial globalization has had a negative impact on income inequalities (Table 5). One explanation of this is that too rapid financial globalization may have

weakened domestic financial systems in LDCs rather than producing modernization and development. This is consistent with the fact that the frequency of banking and financial crises rose dramatically in the 1990s and that, in 1995-2008, they occurred largely in the less developed non-OECD countries (ILO, 2008: 48). The crisis that hit several medium-income countries in the 1990s followed the removal of controls on foreign capital flows in order to attract more international investment. Unfortunately, as the case of the Asian crisis shows, short run foreign speculative investment and mismanagement of foreign loans by domestic banks often increased the vulnerability of domestic markets, rather than improving development prospects. In fact, the resulting financial turmoil had the strongest negative impact on low income households, so that poverty and inequality rose in the countries hit by the 1990s crisis (Galbraith and Jiaqing, 1999; World Bank, 2001). There is also evidence that the presence or absence of strong social institutions and safety nets made the difference as far as the impact of the systemic financial crisis on inequality was concerned (Galbraith and Jiaqing 1999). The chain of events leading from increased financial openness to the banking and financial crisis and from there to poverty explains why, at the end of the 1990s, several countries in East Asia and the Pacific region reversed their support for unlimited financial openness, reintroducing capital controls and developing trade surpluses in order to accumulate foreign exchange reserves, rather than resorting to international capital flows for development purposes (ILO, 2008; Wolf, 2008). The phenomenon of global imbalances with its paradoxical 'uphill' capital flows from the periphery toward the core US economy, was partly caused by the damage produced in the 1990s by financial liberalization in non-OECD countries.

Another channel through which financial openness has negatively affected within-country income inequality is related to the political dimension of globalization. In general, the decision to open a domestic market to foreign financial flows is part of a broader package of economic and political reforms, which in many cases also negatively affect income equality. Following the prescription of the 'Washington Consensus', in order to 'attract' foreign investors, many governments lowered tax rates on financial investments, reduced progressive taxation, privatized State-owned companies and utilities and reformed the labour market, introducing more 'flexible' contracts along with softening or repealing minimum wage laws. The effect of this set

of reforms has generally been a loss of bargaining power of Trade Unions, a compression of wages, a reduction of the wage share of GDP, a shift of the tax burden from financial companies to industrial companies and from high-income households to medium and low income households. One consequence of the reforms is to limit the role of governments in income redistribution policies, a fact that often goes hand in hand with the contraction of welfare systems and social safety nets (Cornia 2003; ILO, 2008; OECD, 2008). One simple way to assess the distributional role of Government is to compare pre-tax with after-tax income inequality. OECD data (2008) show that the latter is lower, confirming the importance of government policies. However, fiscal redistribution in the last two decades has not kept pace with the increase in inequalities. The ILO (2008: 136) estimates that in developed countries, where fiscal redistribution in the late 1990s increased on average by 2.5 per cent, the overall private Gini index increased by 3.4 per cent, with a net increase in income inequality. The situation in developing countries is even worse, since an adequate direct tax collection system is often lacking so indirect taxation yields the bulk of government revenues. Reform packages including fiscal reforms that attenuate the progressive nature of direct taxation, along with the already high level of indirect taxes whose regressive nature is well known, increase the tax burden on low income individuals and households producing a deterioration in income distribution. Social transfers are an additional powerful mechanism for achieving fairer income distribution and reforms that privatize public services and reduce welfare provisions exacerbates income inequality. Trade liberalization and tariff reductions in developing countries also reduce the availability of resources for financing social transfer programs.

The pressure that financial globalization exerts on domestic policies is not restricted to developing countries. In advanced countries, the reduction of pension benefits and so-called ‘structural reform’ of the labour market aimed at improving competitiveness were already being called for before the global financial crisis. In the USA and EU countries, one unpleasant consequence of the crisis has been the rapid growth of government debts due to the public bail-out of private banks and a fall in tax revenues caused by a fall in GDP. In the EU, in 2007 the average public debt/GDP ratio was below the Maastricht limit of 60 per cent, but three years later, in 2010 it rose from 59 to 80 per cent (Eurostat, Table tsieb090). In the same period, federal debt almost doubled in the USA, jumping

from 35.7 to 61.3 per cent of GDP (OECD, Main Economic Indicators) while the overall gross government debt increased from 61.3% to 94.3% (IMF, World Economic Outlook Database). The private credit bubble which caused the crisis has turned into a sovereign debt crisis because the international financial market, the 'invisible Leviathan' at the origin of the world crisis, saved by government intervention, paradoxically quickly turned its speculative attention to indebted EU countries. So far, the political response of EU governments and institutions has largely been inadequate and mainly based on restrictive domestic budget policies which alone can only deepen the economic and fiscal crisis in the absence of growth. It seems that the survival of the European Monetary Union and the economic and social model which guaranteed decades of peaceful growth and social security in Europe is now seriously threatened. The huge expansion of financial flows in an international environment lacking adequate international regulatory and supervisory mechanisms means the problems of global economic instability and growing inequality cannot be solved at the national level. New supranational rules and cooperative solutions are called for (Fiorentini and Montani, 2010).

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Table 1: The Gini index for selected countries

Country	Gini index	Year*
Albania	31.2	2004
Argentina	50.3	2005
Bangladesh	33.2	2004
Bolivia	50.4	2004
Brazil	56.4	2004
China	37.2	2002
Egypt	34.4	2004
Finland	26	2006
France	27	2006
Germany	27	2006
India	36.8	2004
Italy	32	2006
Nigeria	43.7	2003
South Africa	56.5	2000
UK	32	2006
USA	46.4	2004

Source: UNI/WIDER Income Inequality Database WIID2c (2008).

*Year depends on availability and reliability of data.

Table 2: pre-tax Gini index trends in 15 OECD countries

	1975	1985	1990	1995	2000	2005
Australia				1.00	1.02	0.98
Belgium		1.00	1.03	1.05	1.03	
Canada	1.00	1.04	1.08	1.11	1.11	1.16
Denmark		1.00	1.06	1.12	1.11	1.12
Finland	1.00	0.97	1.05	1.14	1.13	1.13
France		1.00	0.97	0.92	0.95	0.92
Germany		1.00	0.95	1.04	1.08	1.15
Italy		1.00	1.04	1.21	1.23	1.33
Japan		1.00	1.08	1.17	1.25	1.28
Netherlands	1.00	1.11	1.11	1.14	1.00	1.00
New Zealand		1.00	1.15	1.20	1.19	1.16
Norway		1.00	1.06	1.13	1.17	1.22
Portugal	1.00	0.98	0.95	1.07	1.05	
Sweden	1.00	1.04	1.05	1.13	1.15	1.11
United Kingdom	1.00	1.24	1.30	1.34	1.35	1.30
United States	1.00	1.08	1.13	1.20	1.20	1.22
OECD-15		1.00	1.05	1.10	1.10	1.12

Source: OECD Statlinks http://dx.doi.org/10.1787/420718178732.

Table 3: US inter quintile ratios of income distribution in the period 1968 – 2004

	Q5/Q1	Q5/Q3	Q3/Q1
1968	10.19	1.75	4.17
1972	10.71	1.79	4.17
1976	9.84	1.75	3.89
1980	10.16	1.76	3.93
1984	10.95	1.82	4.00
1988	12.18	1.91	4.21
1992	12.34	1.94	4.16
1996	13.24	2.10	4.08
2000	13.78	2.16	4.14
2004	14.74	2.16	4.32

Source: UNI/WIDER Income Inequality Database WIID2c (2008)

Table 4: Share of pre-tax income of the top 1% of the distribution

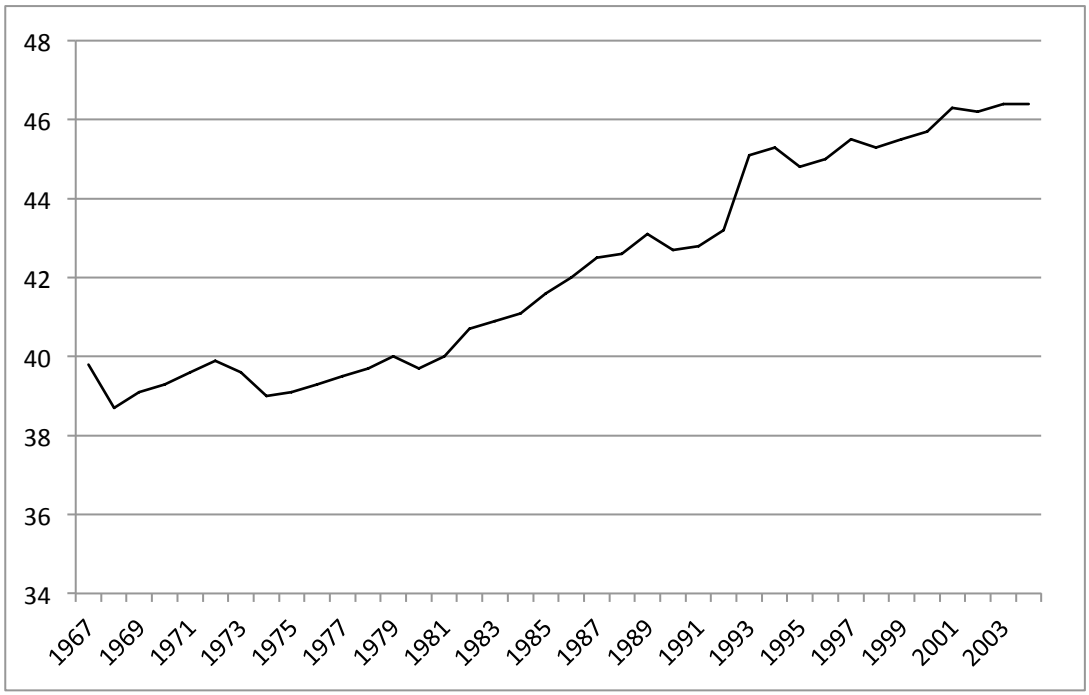
	Australia	Canada	France	Germany	Ireland	Japan	Netherlands	New Zealand	Spain	Sweden	Switzerland	United Kingdom	United States
1981	4.70	7.80	7.55	10.33	6.44	7.11	5.85	5.54	7.60	3.81	8.40	7.43	8.03
1986	5.21	8.24	7.44	9.90	6.18	7.21	5.87	5.04	8.36	4.09	9.05	8.49	9.13
1991	6.38	9.37	7.97	10.83	7.14	7.54	5.54	8.02	8.09	5.10	8.60	10.19	12.17
1996	7.24	10.62	7.59	9.83	8.41	7.36	5.39	8.93	7.94	5.59	7.76	11.61	14.11
2004										5.72			16.08

Source: OECD Statlinks http://dx.doi.org/10.1787/420757184562

Table 5: Results of selected studies on globalization and income inequality

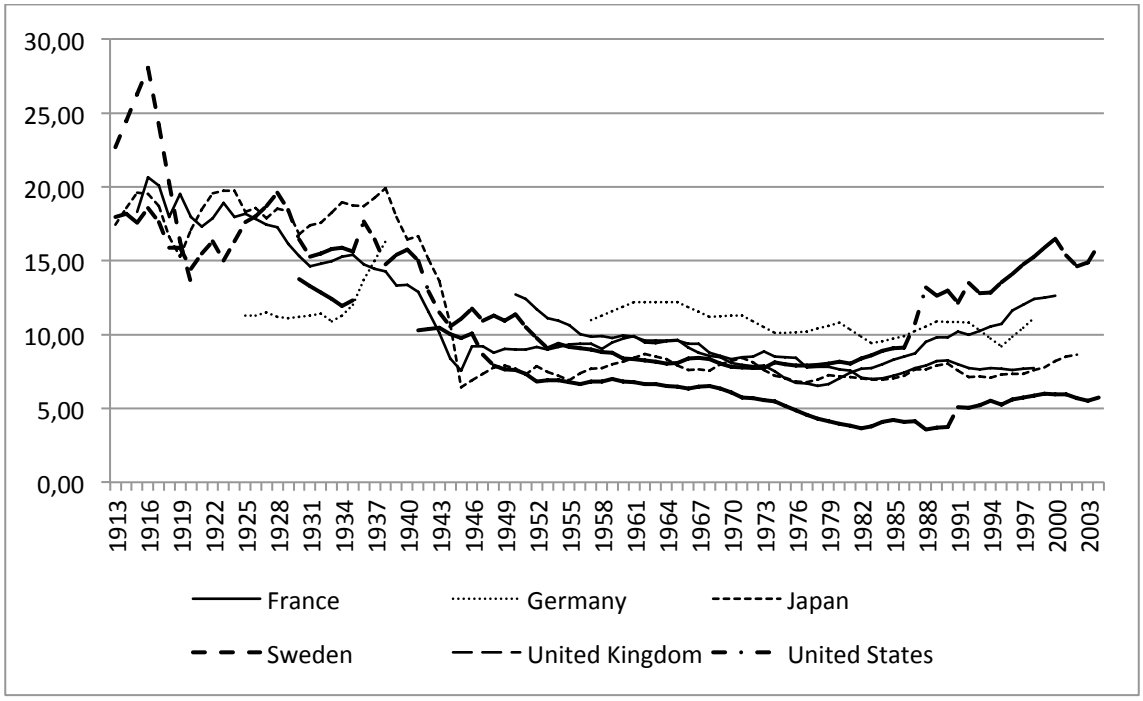
	Effects on within-country income inequality			
	Globalization (aggregate effect)	Trade liberalization	Financial liberalization	Technological progress
Bergh and Nilsson (2010;)	Increased inequality			
Celik and Basdas (2010)		Mixed results		Mixed results: increased inequality in developed countries; Decreased inequality in emerging countries (via FDI)
Cornia (2003)	Increased inequality via domestic reforms	Mixed results	Increased inequality	Increased inequality
Dreher and Gaston (2008)	Increased inequality in OECD countries; mixed results for developing countries			
Galbraith and Jiaqinq (1999)			Increased inequality	
Goldberg and Pavcnik (2007)		May increase inequality in association with unilateral liberalizing trade reforms		May increase inequality interacting with trade openness
ILO (2008)			Increased inequality	Increased inequality
Jauomotte, Lall and Papageorgiou (2008)		Decreased inequality	Increased inequality (minor effect)	Increased inequality (major effect)
OECD (2008)				Increased inequality
OECD (2011)				Increased inequality

Figure 1: Gini index for income inequality in the USA (1967 – 2004)



Source: UNI/WIDER Income Inequality Database WIID2c (2008)

Figure 2: Income share of the top 1% of the population



Source: OECD Statlinks http://dx.doi.org/10.1787/420757184562