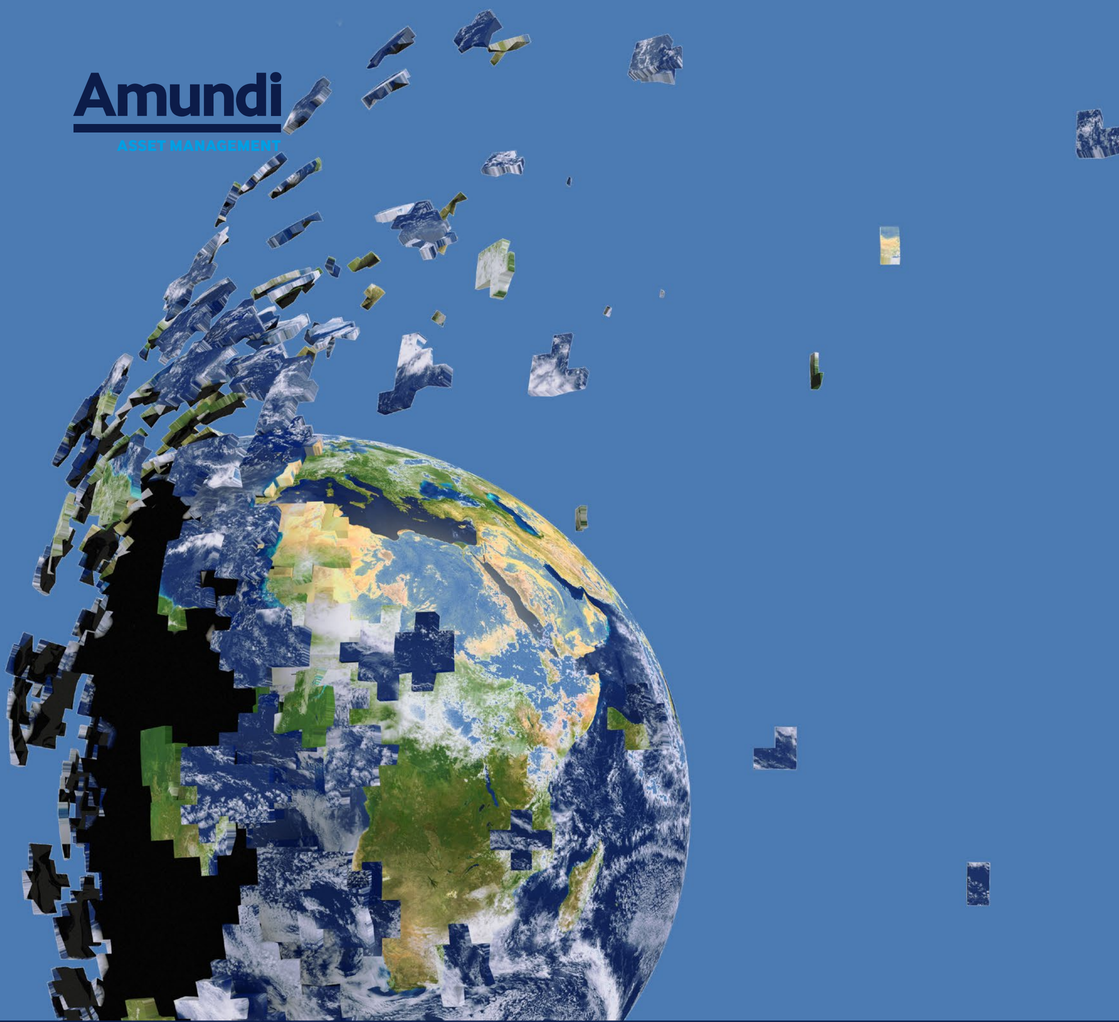

Inequality: what is at stake (1/4)

Globalisation, growth, financial liberalisation and inequality

Discussion Paper # 49 | June 2021

Philippe ITHURBIDE, *Senior Economic Advisor*

> "Inequality is clearly a serious problem that merits political attention. But focusing on trade is not the way to resolve it"

J. Frankel (2018)
"Do globalisation and world trade fuel inequality?"
The Guardian, July 2

> "While the distribution of wealth and income need not be equal, it must be to everyone's advantage"

J. Rawls, A theory of justice 1999, p. 53

Inequality: what is at stake (1/4)*

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(*) This article is part of a series of four Discussion Papers on inequality. It complements a Discussion Paper on "inequalities and poverty: ongoing challenges" and a Discussion Paper on "Pro-Piketty and Anti-Piketty: A review of the literature in 20 topics", both to be published shortly.

Abstract

With the misdeeds of globalisation, the rise in inequalities and the resulting perception of injustice have been subjects that have fuelled many debates for a little over ten years. The theme of inequalities has even come to the centre of many political programs. However, partiality, biases and common beliefs are prevalent. Is globalisation responsible for the increase in inequalities? Does growth promote inequalities? Do Inequalities hinder growth? These are essential questions.

This Discussion Paper aims to highlight the different angles of the relationships that may exist, on the one hand between growth and inequalities, and on the other hand between globalisation (economic, commercial, financial and digital) and inequalities. The subject is particularly complex, both economically and politically, theoretically and empirically.

Although a considerable part of the literature considers, for example, inequality to be harmful to growth, more recent studies have disputed this result and even found a potential and positive effect of inequality on growth … up to a point.

The relationship between globalisation and inequalities is also complex, and even if there is a strong and indisputable correlation between current globalisation and the rising inequalities, it is necessary to go into details to form a precise and useful point of view in terms of economic policy. In this article, we present the different phases of globalisation since the 15th century, as well as the dominant doctrines on international trade and their implications for inequalities. If economic globalisation is a determinant of

income inequality, it is mainly via financial globalisation - more specifically financial liberalisation - or digital globalisation, and not via the globalisation of trade.

Modern approaches to trade and growth place greater emphasis on microeconomic factors, allowing the implications for inequality to be better isolated. The (very) many determining factors at the origin of inequalities – upward and downward - are also presented, including societal factors... It is thus shown that while inequality is clearly a serious problem that deserves political attention, focusing only on trade and growth is not the way to solve it. The most unequal countries or those plagued by populism are certainly those which are under the most pressure in favour of protectionism, but this one, clearly at work since 2009, is not the solution to growing inequalities. Usually, tariffs (and especially trade wars) reduced growth and increased levels of inequality. Autarky has never been an option, and the persistence of open, unprotected, less profitable and more fragile sectors inevitably increases inequality. In other words, only effective redistribution and inclusive policies can correct glaring inequalities, while structural policies can improve fairness and equal opportunities.

Keywords: inequality, globalisation, growth, financial liberalisation, New Trade Theory, digital globalisation

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Executive summary

1. Inequality: taking stock

Over the past 30 years, income inequality has widened in the United States, the UK, and Germany, among others. The share of income of the top 1% rose sharply between 1980 and 2016 in the US, while that of the bottom 50% fell dramatically. Since 1996, the income of the top 1% has exceeded that of the bottom 50%. The income curves crossed, with the top 1% earning 20% of total income versus 13% for the bottom 50%. In Europe, the gap between the share of income of the top 1% (12%) and that of the bottom 50% (22%) has been relatively stable since 1990. Greece, Ireland and Portugal are fundamentally inegalitarian countries (primary income before taxes and transfers). In comparison, Sweden, the Netherlands and Denmark are economies with less inequality and less need for transfers. In France, the employment rate is lower, but job insecurity and the emergence of the working poor is much less pronounced. The unequal sharing of value added, which is detrimental to wage earners, is also less extreme than in the US.

Several studies have also shown that the middle classes in developing countries are catching up, with their real income increasing the most. However, inequalities are on the rise. According to the World Inequality Report (2018), the income share (in national income) of the richest 1% of the population rose significantly in lot of countries, of which the BRICS. There is a higher inequality in the Middle East and in countries like Brazil or India than in Europe. And this inequality is even higher in China and Russia.

How to explain these trends? The main accused are often economic growth, globalisation, financial liberalisation, free trade ... Is it correct?

2. Growth and inequality: an indisputable link?

Who capture growth? The growth process is considered inclusive when, in accordance with Sustainable Development Goal on inequality, the income growth of the poorest 40% of the population has been at least as high as that of per capita income. An analysis by country gives contrasting and unflattering results. With the exception of Ireland and Spain, the distribution of growth was rather egalitarian across income groups in Member States where economic growth was low or negative. This is notably the case of Belgium, Croatia, France, the Netherlands, Portugal and the United Kingdom. But in Member States where income growth has been strong, higher income groups have tended to absorb a relatively higher share of total growth. This was particularly the case in the countries of Eastern and Northwestern Europe, with extreme cases such as Bulgaria and Poland, where income growth mainly fed the richest 20%.

Although it is generally accepted that inequalities negatively impact growth, the relationship is much more complex when it comes to quantifying the impacts. On the link between growth and inequalities, we can find in the literature many a priori clear-cut results, in one sense as in the other. And taken as a whole, they are contradictory and even antinomic.

The relationship is unstable in time and space, and much research has statistical biases. In addition, it is a question of defining the type of inequality to be scrutinised (inequalities between the hyper-rich and the rest of the population, gross or net inequalities, absolute or relative inequalities, etc.) and the indicators being used: the results obtained depend heavily on it. This instability strongly blurs the general message. In total, there is a big gap between intuition or theory and empirical verification:

- **Income inequality can on the one hand be detrimental to growth**, if inequality becomes intolerable, if the share of value-added is one-way and hurts wage earners, if primary income inequality is not corrected by the redistribution system, if opportunities fade away, and if social determinism lowers the prospects of the disadvantaged classes. The link between inequality and growth operates through different channels: it can reduce aggregate demand, fuel financial instability, hamper middle-class investment and risk-taking; it can hamper the improvement of skills and education, and thus reduce productivity; it can promote crime and corruption, hinder socio-economic mobility … If growth does not go hand-in-hand with the creation of quality jobs (instead of part-time, fixed-term, low-qualification jobs, etc.) and with the redistribution of wealth, then inequalities will increase
- **On the other hand, inequalities can have a positive impact on economic activity and production** to the extent that income gaps provide incentives and rewards for self-effort, risk-taking and innovation (as long as wage differentials do not affect employee morale and productivity).

It should be borne in mind that it is not easy to show the empirical relationship between growth and inequality. **Although there is a considerable part of the literature that considers inequality detrimental to growth, more recent studies have challenged this result and even found a potential and positive effect of inequality on growth**. In fact, to show the link between inequality and growth, it is better to analyse the supposed factors one by one, with more granularity. The empirical work reviewed in this discussion paper demonstrates that by doing this, the results are clearer and the analysis richer. In other words, **focusing on the microeconomics of inequalities allows us to better understand the relationship between factor of inequality and growth, and to better quantify this issue of economic and social policy**.

3. Globalisation and inequality: lessons from trade theory

The theory of international trade has evolved considerably over the centuries. Considered a zero-sum game by mercantilist theory (about 300 years ago), trade has become, with Adam Smith and David Ricardo, an activity intended to benefit all partner countries, assuming that each puts forward its absolute (Smith) or comparative (Ricardo) advantages. But this approach has an important limitation: it compares countries as a whole, and it does not address the differences that may exist between categories of people. **The classical theory therefore does not allow to address the question of the evolution of the distribution of income within a**

country, before and after trade, and the question of intra-country inequality. The Heckscher-Ohlin and Stolper-Samuelson models filled this important gap, because they precisely distinguish between workers and owners of physical capital, whether financial or human. **According to these new approaches, in vogue throughout the 1950s to 1980s, international trade was to benefit the abundant factor of production and was to harm the scarce factor of production**. In other words, in rich countries, it had to benefit the owners of capital and hurt low or unskilled labour. At the same time, it was to benefit low-skilled and unskilled workers in developing countries. This was partially verified in reality, but not fully, and only in rich countries: **the idea that free trade was hurting low-skilled workers in rich countries began to materialise ... but the hope that trade would reduce inequalities in countries where workers are the least skilled, because their services are more in demand in an integrated global market, has not, however, been confirmed**. We have also known for a few years that the reduction in tariffs, supposed to promote trade and therefore benefit developing countries, actually went hand in hand with increased inequality in the poorer countries.

It was in this context of doubts about the benefits of international trade that, from the end of the 1970s, the academic literature **thoroughly review the models and the underlying assumptions in order to better reflect reality, and rethink traditional arguments for free trade**. It was first the taking into account of hypotheses of imperfect competition and increasing returns to scale (NTT - New Trade Theory, with Krugman and Elhanan in the 1980s), then a little later the taking into account of the heterogeneity of companies (NNTT - New New Trade Theory), especially in terms of productivity (see for example Melitz (2003)). **A review of the theories of Heckscher-Ohlin and Stolper-Samuelson does not lead to the conclusion that these theories are irrelevant, but rather that the origin of current trends in inequality is clearly not limited to trade**. The influence of technological progress, the shortcomings of redistribution policies in many countries (including the United States), financial liberalisation are all factors that accentuate inequalities. To sum up with Frankel (2018) **inequality is clearly a serious problem that merits political attention. But focusing on trade is not the way to resolve it**.

4. Globalisation and inequality: an indisputable link?

The myth of "happy globalisation" has fizzled out: the impact on the climate, the deterioration of the situation of the middle classes in developed countries, forced human migrations in developing countries, the relocation of companies, the precariousness and the loss of sovereignty are, along with the rise in inequalities, among the consequences most often mentioned. Regarding inequalities, globalisation can work in two opposite directions: financial globalisation increases inequalities between profits and wages, while economic globalisation increases wage (and employment) inequalities between skilled and unskilled people.

Even if there were already interesting empirical works on income inequalities from the end of the 19^{th} century (H. George (1879) and C. Spahr (1896) in particular), the literature was not abundant … until the 1950s. Comprehensive studies, both theoretical and empirical, have been carried out on the relation globalisation - inequalities, by economists and statisticians, but also by historians. Several results can be drawn in synthesis from these studies:

- To explain the rise in inequality that began in the 1980s and has accelerated since the turn of the century, many have pointed out that indicators of globalisation, such as the trade-to-GDP ratio, have also risen since 1980. **But correlation does not imply a causal link between trade and inequality.**
- The existing literature does not make it possible to establish conclusively and widely (in space and time) whether globalisation has a net positive, negative or no effect on income inequality. On average, if globalisation has an effect of increasing inequalities, it is most often low to moderate.
- However, globalisation is a too vast concept. It is helpful to enter into the details.
- It is now accepted that **the globalisation of trade has a limited impact effect on income inequalities, a more limited impact than financial globalisation (financial liberalisation, financial development, quality of institutions).** In other words, **if economic globalisation is a determinant of income inequality, it is mainly through financial globalisation and not through the globalisation of trade**. As Frankel (2018) noticed, *"inequality is clearly a serious problem that merits political attention. But focusing on trade is not the way to resolve it"*.
- When financial globalisation has an impact on inequality, **financial liberalisation has larger impacts than financial development or quality of institutions**. A fact to be put in parallel with the dominant doctrine which, for several decades, advocated financial liberalisation for developing countries. Even if **the negative impact may exist on inequality, the advantages of financial liberalisation on economic development and poverty reduction are immense. Finance and capitalism (when it is not about collusion capitalism) are not always and everywhere enemies of the fight against poverty (an absolute concept) and inequalities (a relative concept)**.
- There is also **no compelling evidence that globalisation has, on average, contributed to lowering income inequalities in developing countries**.
- **The increase in inequality in developing countries - even when it is small or moderate - is generally similar to that seen in advanced countries, a finding that also contradicts mainstream "doctrine".**
- **Globalisation is not very inclusive**: it often benefits some, and not others …
- **Globalisation was expected to help the less skilled workers who are presumed to be the locally relatively abundant factor in developing countries. It is not the case**: there is evidence that these workers are generally not better off, at least not relative to higher skilled or higher education levels employees. What explains this apparent paradox? Is the theory underlying the conventional wisdom too stylised to capture the reality of the developing world? Or were

there other forces at work that may have overridden the effects of globalisation? Both arguments are at play.

- **A new form of globalisation started in the 2000s. the digital globalisation (the digitisation of the world) is, in short, the fourth dimension of globalisation**, after industrial globalisation, trade liberalisation (since the end of the Second World War) and the financialisation of the world (the acceleration of which dates from the 1980s). It is evident that the digital inequalities are strong and that the digital gap between the countries is largely significant. This situation even enshrined a concept: the digital divide, i.e. the economic and social inequality as regard the access to, the use of, or the impact of information and communication technologies.
- **While globalisation may have exacerbated inequalities in various ways**, the major finding emerging from all recent research is that **the root cause of the rise in inequality must be found elsewhere**. The explanatory factors of income inequality which figure prominently in the academic literature are the structure of the political system, the institutions of the labour market and in particular the relations between workers and managers of corporates, the heterogeneity of companies, the survival and growth of companies, access to education, technological changes and the consequences on the relative skills between types of workers, the allocation of public expenditure, the role and efficiency of redistributive policies (in other words the specificities of the Welfare State), purely macroeconomic factors such as inflation, growth or the distribution of national income … In other words, **alongside macroeconomic factors, one can identify an effective microeconomics of inequalities.**
- **Protectionism, at work since 2009, is not the solution to rising inequalities. Usually, tariffs (and especially trade wars) lower growth, and raise inequality levels**. The persistence of open, unprotected, less profitable and more fragile sectors raise inequality. **As autarky has never been an option, only effective redistribution policies can correct gross inequalities**. To ensure that a country generates less gross inequalities, the emphasis must be on inclusive policies: only effective redistribution policies can correct gross inequalities, while structural policies can improve fairness and equal opportunities. It is always preferable to reduce primary inequalities, in order to be able to better target redistribution policies and make them more effective … and limit public expenditures.

Introduction
Inequality: a centre of focus for over a decade

Although the world has become more egalitarian and developing economies are closing the gap with the advanced economies, inequality and the decline of the middle class in the latter have become serious concerns. The subject of inequality has been front and centre since the 2008 financial crisis. Many studies and books have been published on it, with some becoming best sellers. Businesses are treating it through the lens of gender balance and executive pay. Governments have intervened with initiatives and legislation, and social movements have sprung up to deal with it, from "Occupy Wall Street" in the US to the "Yellow Vests" in France.

In 2014, Pope Francis tweeted *"inequality is the root of social evil."* A few years later, former US President Barack Obama also referred to inequality as the *"defining challenge of our time"* in the mid-2010s. More recently, UK Labour Party leader Jeremy Corbyn called for an economic policy to tackle the country's "*grotesque inequality*." There is a growing consensus that the concentration of income and wealth has had a negative impact on the economic and social spheres. Meanwhile, Angus Deaton, a Nobel laureate, argues that worrying about the negative effects of inequality, such as slowing economic growth and malfunctioning democratic institutions, is looking at the problem backwards. "*Inequality is not so much a cause of economic, political, and social processes as a consequence*." Admittedly a clear correlation, but what is the causality? Intuitively, both are legitimate views and causality doubtlessly works both ways. So where do we stand exactly?

This article focuses on the factors underlying the rise of inequality, and on the relationships between globalisation, growth, crises and inequality. It is the first of a series of four discussion papers. The second one will present the current situation of world inequality and world poverty: development and poverty are absolute concepts, while inequality is a relative concept. It is always important to have it in mind. The third article will develop the Piketty and anti-Piketty debate, focusing on close to twenty divergences between academic research articles on inequality. The last one will be centred on the issue of inequality within corporates, i.e. the pay ratio and the gender (in)equality.

I. Taking stock - A brief overview on inequality

When we talk about inequalities, it is crucial to define what we are talking about, because the conclusions can be very different depending on the concept (and indicators) adopted. There are many forms of inequality, and the forms that are most frequently studied are:

- **Inequalities according to the field analysed**: depending on the subject of study, we may have to study inequalities in income inequalities, wealth inequalities, consumption inequalities, social determinism, access to culture, to health systems ...;

- **Inequalities between countries**: we will then compare average incomes, median incomes, the differences between social groups (income, assets, consumption, etc.), gender gaps, CEO pay ratio, the effectiveness of redistribution policies, etc.;
- **Inequalities within a country**: we will then compare the differences between social groups (average income, median income, income inequalities, wealth inequalities, consumption inequalities, etc.), gender gaps, CEO pay ratio, effectiveness of the redistribution policy ...;
- **Inequalities between regions in countries**, by comparing real disposable incomes, unemployment rates, cost of living, public services, opportunities ...
- **Inequality between the richest and the poorest**, generally by comparing the respective situation of different income or wealth groups (the richest 1% or 10% against the bottom 50%, for example), efficiency of the tax system ...;
- **Inequalities between genders**, men and women;
- **Inequalities between age groups**;
- **Inequalities between employees and business leaders**, mainly by analysing the income of CEOs in relation to the average and median income of the business;
- **Absolute inequalities and relative inequalities**;
- **Gross and net inequalities** (before and redistribution)
- ...

Multiple forms, and therefore multiple results which sometimes give different visions of the same country or a group of countries. Each type of inequality gives rise to appropriate and specific economic and social policy responses.

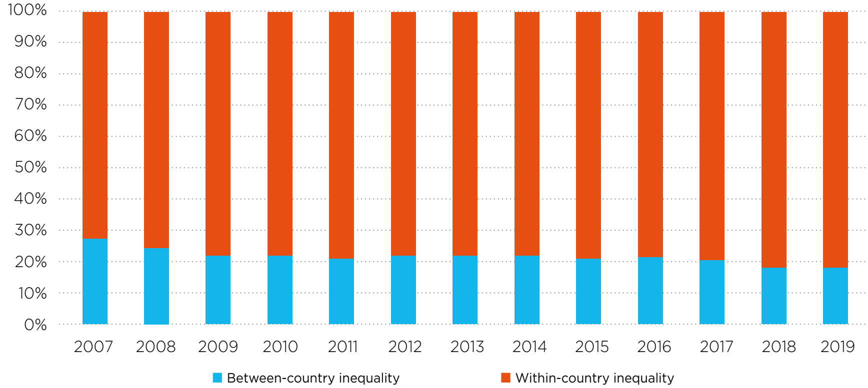
In this section, we are only going to present some overall results allowing to make a first rough diagnosis and to present some of the essential issues. We will analyse the components of inequalities in more detail in a forthcoming discussion paper.

I.1. Within country and between country inequality

The inequality structure is the combination of within-country and between-country inequality. **Over the years, global inequality among the world's entire population has returned to late 19th century levels.** So, after two centuries of continuously rising inequality following the industrial revolution, this trend has reversed. **Overall, inequalities between countries have fallen 35% since 1990, whereas internal inequalities have risen 14% (slowing the sharp decline in global inequality).** This trend reversal, which began in the 1990s, can be attributed to the reduction of inequalities between countries, i.e. developed countries and emerging countries/ developing countries. If the world has become more egalitarian, with developing economies narrowing the gap with advanced economies, ... inequalities (before wealth transfers) and the decline of the middle classes are becoming real sources of concern in advanced economies.

Much of the inequality now lies in within-country inequalities. Europe, both more integrated than other areas in the world, and much more equal than many countries or economic areas, provides a similar observation. According to Filauro – Fischer (2021), around 80% of the European Union inequality depended on within-country inequality in 2018, while less than 20% could be attributed to income differences between European Union member states (Chart 1). The between country inequality dropped form close to 30% to less than to 20% in less than 30 years.

Chart 1: EU inequality decomposition by country (Theil index, disposable incomes)



Source: voxeu.org, Filauro – Fischer (2021)

Notes: Year refers to incomes of the previous year. Incomes corrected for purchasing power parities. Data unavailable for Croatia (2007, 2008), Malta (2007), Italy (2019) and Ireland (2019).

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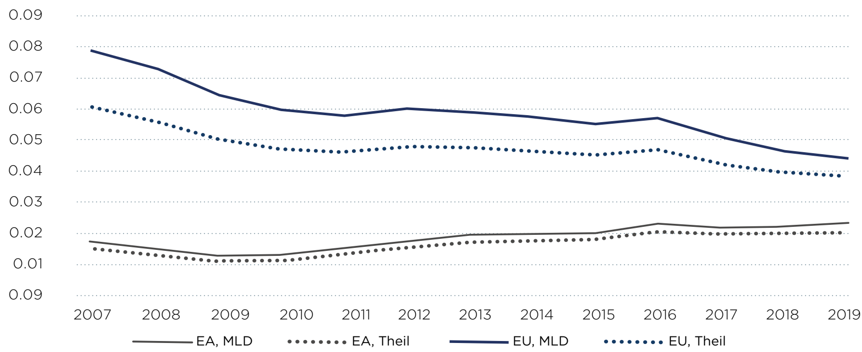
Inequalities between European countries (measured with national average income gaps) have been declining at an almost constant rate since 2007 (chart 2). This convergence is mainly due to the catching up of the economies which have joined the European Union, facilitated by the stagnation of average incomes in the countries of the South. These countries have been affected durably by the great financial crisis and the austerity policies in particular (see Bughin – Pissarides (2019), Cseres-Gergely – Kvedaras (2019), Archanskaia – Filauro – Peschner (2020)).

Filauro - Parolin (2019) compared the structure of inequalities in the 28 Member States of the European Union (EU-28) to that of the 50 United States, between 2007 and 2014. The originality of this study is to compare the American States and European States, and not just as most studies do, the United States as a whole, and European countries. Their results show several things:

- Even if the EU-28 is more heterogeneous than the United States, income inequality after redistribution in the EU-28 remains lower than that of the United States.
- Inequalities have increased in the United States over the period studied, whereas they have stagnated since 2008 in the EU-28.

- In both zones, and more particularly in the United States, differences in income within states contribute more to inequalities at EU level than differences between states. In other words, the strengthening of egalitarian institutions in the 28 Member States has more consequences for reducing income inequalities than economic convergence.
- However, if the EU-28 were as homogeneous as the United States, but maintained its relative inequalities within each country, pan-European inequalities would decrease by 20%, which is not negligible. In the United States, only 1% of total inequality is due to income differences between the 50 American states (Filauro – Parolin (2019), Blanchet – Chancel – Gethin (2019).
- Inequalities in the United States would fall by 34% if the country succeeded in reducing its intra-state inequalities to the level of those prevailing in the EU-28.

Chart 2: Between-country inequality in the EU and euro area (Theil index and Mean Logarithmic deviation, Disposable incomes)



Source: voxeu.org, EU-SILC, data, Filauro – Fischer (2021)

Notes: Year refers to incomes of the previous year. Incomes corrected for purchasing power parities. Data unavailable for Croatia (2007, 2008), Malta (2007), Italy (2019) and Ireland (2019).

It should be noted that when it comes to inequalities, the short-term outlook is rather bleak in the EU due to the COVID pandemic.

On the one hand, inequalities between countries are increasing due to the pandemic and containment measures which tend to hit the relatively poorer EU countries harder, especially those where tourism is crucial and those in which remote work is more difficult.

On the other hand, inequalities within countries are also expected to increase, as the pandemic affects lower income groups more severely. People on temporary contracts, the self-employed, young people, to name a few, are more affected by loss of employment income. This holds true in all Member States (European Commission (2020)). The end result will depend on the ability of the tax and benefit systems to cushion lost income.

I.2. Regional inequalities: a problem to come?

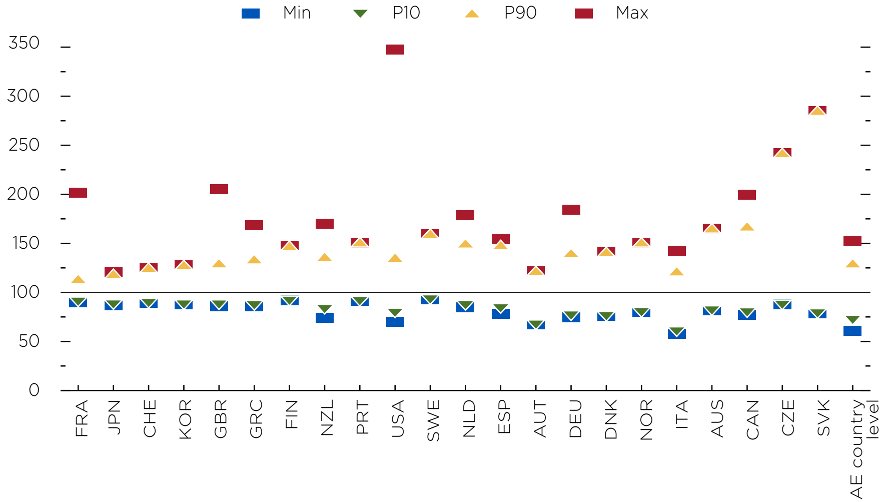
When regional inequalities within a country increase, the feeling grows that some people or regions are left behind. This weakens social cohesion, hardens the political climate, erodes confidence, and may prompt radical changes in certain elements of economic policy. The subject is all the more important as it is now well established that the role of local conditions in people's chances and social mobility - the economic and social potential of the place in which we live - is essential.

There is no doubt, however, that **widening inequalities between regions within a country are in some ways an inevitable, if not normal, feature of growth**. The specialisation of regions (more or less profitable) and the urbanisation of certain areas increase trade, stimulate productivity and lead to a higher concentration of economic activity and wealth. The regions concerned stand out from the others even if the growth of the motor regions can spread to the peripheral regions. The academic and empirical literature has been interested in this subject for only fifteen years, in fact since the great financial crisis of 2008.

One might think that moving to these areas is enough to find better jobs and a better life. But it's not always that simple. It is increasingly difficult to settle in dynamic large cities which offer more jobs either because the skills necessary to take better paying jobs are out of reach, or because of the cost of living (of which the cost of housing) is too high. According to the IMF (IMF (2019), Gbohoui - Lam - Lledo (2019)), the net benefits that low-income households derive from moving to higher-income regions have decreased by 25 to 35% over the past decade in Spain and the United States. Their studies also show that "*income disparities between regions, persistent and increasing for 15 years, reinforce inequalities. The lagging regions are those with higher unemployment, and they have on average a 70% probability of remaining so. (...) This probability is even higher in countries like Canada or Italy*"(Gbohoui - Lam - Lledo (2019)). The data clearly show that **the growing income disparity between regions is linked to the decline in labour mobility**.

Regional inequalities can be measured by calculating the 90/10 ratio, i.e. dividing the real GDP per capita of the 10% of the best performing regions (or 90th percentile) by that of the worst performing 10% of a country (10th percentile). In Italy, this ratio is close to 2 (GDP per capita is roughly twice as high in the prosperous province of Trentino Alto Adige as in Sicily). In Japan, this ratio stands at 1.35, amongst the lowest level among advanced countries. This ratio is 2.1 in Canada, 2.8 in the Czech Republic, 3.6 in Slovakia, 1.3 in France... In advanced countries, the 90/10 ratio is generally close to 1.8, including in the United States (1.7). In other words, **the 90th percentile region is on average 80% richer than the 10th percentile region**. However, this ratio should not hide that certain regions have an average income that is much higher than the rest of the country: for example, the average real income in the Paris region or in the London region is twice that of the national median region. Only the United States is doing "better", with a figure of 3.5 (see Chart 3). The extent of regional disparities differs widely across advanced economies.

Chart 3: Regional disparities (2013 real GDP per capita)



Sources: Organisation for Economic Co-operation and Development (OECD) Regional Database; and IMF staff calculations.

Note: P10 indicates the 10th percentile of the regional real GDP per capita (purchasing power parity-adjusted) distribution within the country. Countries are sorted by the ratio of the within-country 90th percentile to the 10th percentile of regional real GDP per capita. Regional medians (P50) by country are normalised to 100, with other percentiles and the maximum and minimum shown relative to the median by country.

All in all, **in the advanced countries, regional disparities have widened over the past 30 years, partly wiping out the sharp decline recorded over the previous 30 years**. These growing disparities mean that the poorest regions of advanced countries are no longer catching up with the rich as quickly as they used to. In contrast, **in emerging countries, regional disparities are generally stronger, but since the 2008 financial crisis, not only have they been contracting, but convergence has increased on average.**

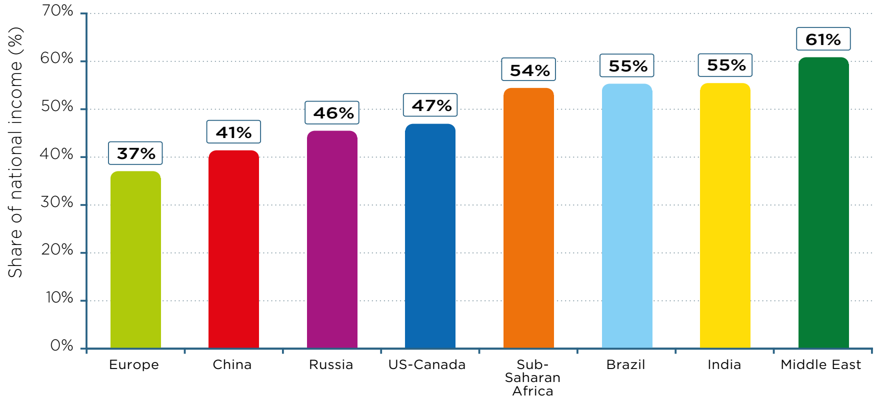
Without underestimating regional inequalities, it should be noted that the analysis of household disposable income inequalities at country level suggests that **the regional component remains small in advanced countries**: it ranges from less than 1% in Austria to around 15% in Italy, 5% on average. In other words, **income gaps are generally much larger within a region than between regions**, and a contraction of regional differences in average disposable income would only have a moderate effect on income inequalities in the country … except, no doubt in Italy.

I.3. The richest 10%: an international comparison

Studies on inequality focus on the distribution of the wealthiest classes and the least well-off. It is interesting to compare the countries with each other, and to watch the evolution of inequalities over time.

The share of the wealthiest 10% in terms of income ranged from 37% in Europe to more than 60% in the Middle East and nearly 50% in North America (chart 4). Middle East, India and Brazil are countries / areas where inequality is at the highest, while Europe is the most egalitarian area.

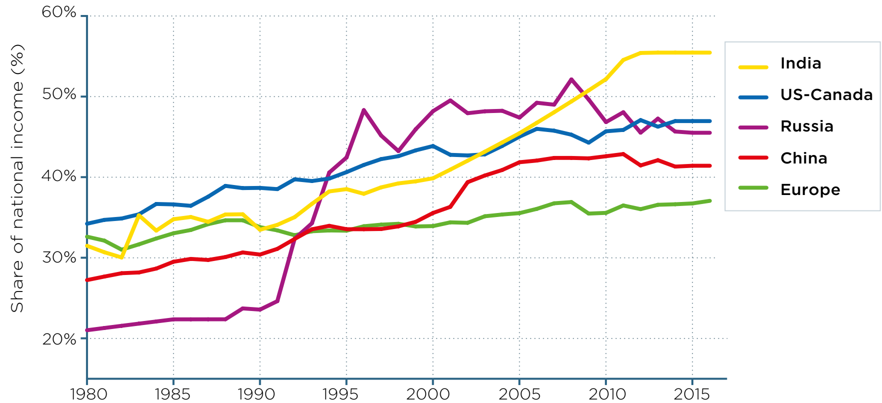
Chart 4: Share of income earned by the wealthiest 10% worldwide (2016)



Source: WID.world (2017). See wir2018.wid.world for data series and notes.
In 2016, 37% of national income was received by the Top 10% in Europe against 61% in the Middle-East.

Over time, the share of this 10% has been steadily increasing since the 1980s (chart 5), particularly in India, China and the United States. The increase is more modest in Europe. The end of the USSR coincides with a sharp rise in inequalities.

Chart 5: Share of income earned by the wealthiest 10% worldwide, 1980-2016: inequality on the rise virtually everywhere, but at different rates

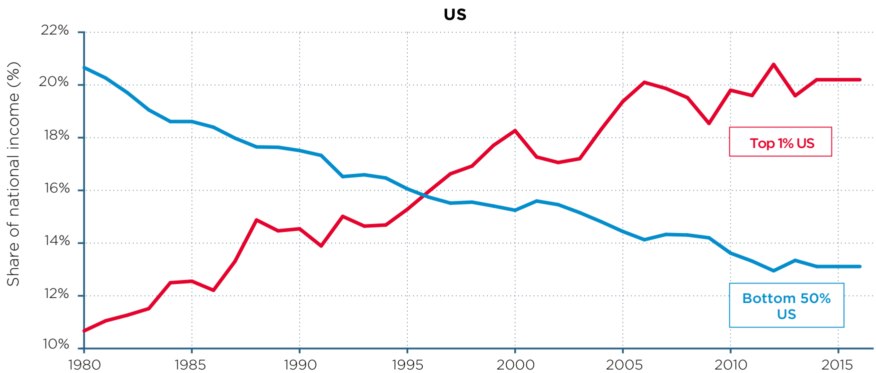


Source: World Inequality Report (2018) - WID.world (2017). See wir2018.wid.world for data series and notes
In 2016, 47% of national income was received by the top 10% in US-Canada, compared to 34% in 1980.

I.4. The richest 1% vs. the bottom 50%: US vs the rest of the world

In the United States, the share of income of the top 1% rose sharply between 1980 and 2016, while that of the bottom 50% fell dramatically (chart 6). Since 1996, the income of the top 1% has exceeded that of the bottom 50%; the income curves crossed, with the top 1% earning 20% of total income versus 13% for the bottom 50%.

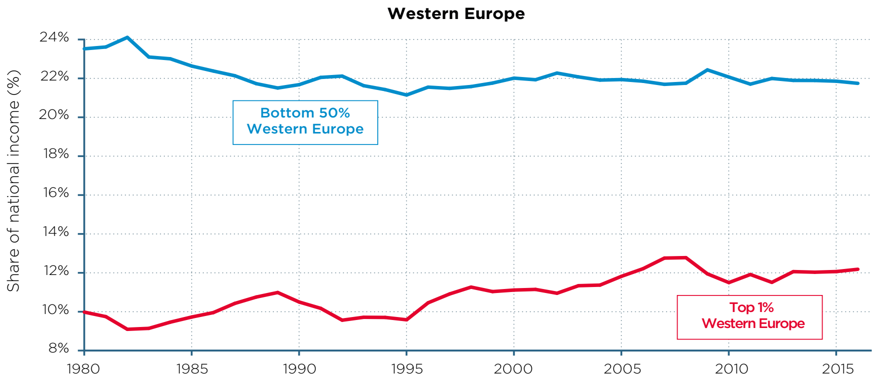
Chart 6: Share of income earned by top 1% and bottom 50% in the US distribution of wealth, 1980-2016: Diverging trends



Source: World Inequality Report (2018)-WID.world (2017). See wir2018.wid.world for data series and notes.
In 2016, 12% of national income was received by the top 1% in Western Europe, compared to 20% in the United States.In 1980, 10% of national income was received by t he top 1% in Western Europe, compared to 11% in the United States.

In Europe, the gap between the share of income of the top 1% (12%) and that of the bottom 50% (22%) has been relatively stable since 1990 (chart 7). Greece, Ireland and Portugal are fundamentally inegalitarian countries (primary income before taxes and transfers). In comparison, Sweden, the Netherlands and Denmark are economies with less inequality and less need for transfers.

Chart 7: Share of income earned by top 1% and bottom 50% in the Western European distribution of wealth, 1980-2016: night and day compared to the US



Source: World Inequality Report (2018) - WID.world (2017). See wir2018.wid.world for data series and notes.
In 2016, 22% of national income was received by the Bottom 50% in Western Europe.

Emerging countries (China, Brazil, India, Russia) have a similar pattern of inequality, with an increasing share of income going to the top 1%. Note the share of global national income of the OECD countries fell from 41% to 35% between 1990 and 2019, another indication that the emerging economies are catching up.

According to the World Inequality Report (2018), the income share (in national income) of the richest 1% of the population is 28% in Brazil. In Russia, this share fell from less than 4% in 1980 to 20% in 2016. In India, this figure rose from 6% in 1982 to 22% in 2016. In China, it jumped from 6% in 1978 to almost 15% in 2016. And, in South Africa, it rose from less than 10% to more than 20% in just over 15 years (at the same time, this figure remained stable (10% in 1980, and 12% in 2016) in Europe, while it rose sharply in North America (from 11% to 20%). The trends are less marked for the richest 10% (except in China and Russia - since the end of the communist bloc), but we still see a much greater inequality than in Europe in regions like the Middle East, or in countries like Brazil or India, with strong growth in China and Russia. As for the share of bottom 50% income across the world, it has been declining since the 1990s in North America, China and India, but it is gradually increasing in the Middle East, in Russia (since 1995), in Brazil and in Sub-Saharan Africa.

Several countries have a high potential for redistribution - reducing inequality in the distribution of primary income. The US is the developed country that does the least to fix the disparities, while Finland is the most egalitarian after redistribution. Ireland, a very inegalitarian country initially, is an example of a country that is working hard to address inequality through the distribution of primary income. The Netherlands and Luxembourg, although relatively egalitarian, are in relative terms more unequal than several European countries including France, which does a good job of addressing the distribution of primary income.

Over the past 30 years, income inequality has widened in the United States, the UK, and Germany, among others. In France, where inequality was already lower than elsewhere, it has remained relatively stable, growing only slightly. In the United States in particular, rising inequality is due to high incomes and the increase in the numbers of working poor. This has been exacerbated by the distortion in income sharing, which is unfavourable for the most precarious and least qualified. However, the labour force participation rate is high and the unemployment rate is low. In France, on the other hand, the employment rate is lower, but job insecurity and the emergence of the working poor is much less pronounced. The unequal sharing of value added, which is detrimental to wage earners, is also less extreme than in the US.

Several studies (e.g. Lakner – Milanović (2013)) have also shown that the middle classes in developing countries are catching up, with their real income increasing the most. Middle-class wage earners in developing countries are in the 50th to 60th percentiles in the distribution of world income. In the developed countries, the middle class is in the 80th to 90th percentiles.

The table 1 represents wealth classes by region: we see the relative wealth of North America and Europe, compared to Africa or Latin America. We also note the highly unequal nature of the Asia-Pacific, which is the third zone in terms of the percentage of rich people, but also one of the most represented in terms of the poor. India remains the country with the highest representation of the poor.

Table 1: Global wealth (as a %, world): wealth classes by major world region

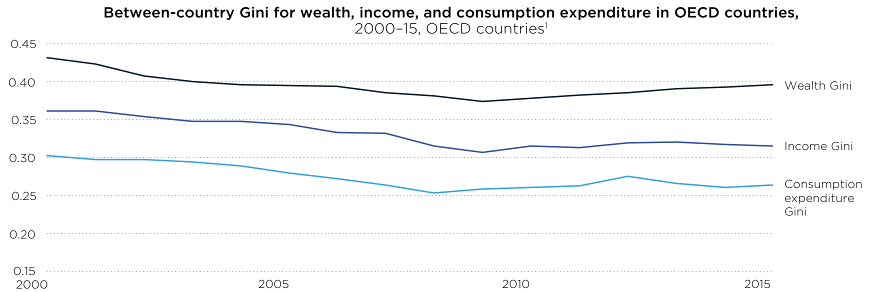
Region	Less than $10k	From $10k to $100k	From 100k to $1m	More than $1m
Africa	19.5	4.1	0.8	0.4
Asia-Pacific	27.2	17.6	22.0	16.0
China	9.3	42.6	21.8	9.5
Europe	7.8	12.0	30.3	28.4
India	23.5	10.4	3.0	1.6
Latin America	10.2	8.1	2.5	1.4
North America	2.5	5.1	19.7	42.6
WORLD	**100**	**100**	**100**	**100**

Source: Crédit Suisse Research Institute, "Global Wealth Databook 2019".

I.5. Wealth inequality vs. income inequality vs. consumption inequality

Economic inequality is manifested in different ways. **Wealth inequality is consistently higher than income inequality, which in turn is higher than consumption inequality** (chart 8). This hierarchy remains the same, whether distribution is measured using the Gini coefficient or the share (%) of wealth, income and consumption. Between different countries, the three distribution measurements using the Gini coefficient have fallen to similar rates since 2000, according to Crédit Suisse, OECD and World Bank data. Between 2000 and 2015, the Gini wealth index dropped from 0.43 to 0.40, the Gini income index from 0.36 to 0.32, and the Gini consumption index from 0.30 to 0.26. All three have increased, however (rising inequality), since the 2008 financial crisis.

Chart 8: Income, wealth and consumer inequality in OECD countries according to the Gini index



[1] Income Gini is calculated between countries based on average gross national income; wealth Gini is calculated between countrie s based on average wealth; consumption expenditure Gini is calculated between countries based on average consumption. Source: Fine – Manyika – Sjatil – Tadjeddine – Tacke - Desmond (McKinsey (2019)) - World Bank Open Data, April 11, 2019, data.worldbank.org; Credit Suisse Global Wealth Databook 2018, Credit Suisse, 2018; Gini index (World Bank estimate), World Bank, January 30, 2019, data.worldbank.org; Household accounts, OECD, February 2019, data.oecd.org; Population , World Bank, February 2019, data.worldbank.org; O'cial exchange rate, World Bank, February 2019, data.worldbank.org; McKinsey Global Institute analysis

Actually, given that tax schemes and employee benefits are constantly evolving, **it is undoubtedly better to measure the change in inequality using consumption expenditure rather than income**. However, a survey conducted by the American Enterprise Institute showed that, between 2000 and 2010, **the consumption levels of different population quantiles were stable in the US: the share of overall consumption fell from 8.9% to 8.7% for the poorest 25%, and from 17.3% to 17.1% for the second 25%, but climbed from 37.3% to 38.6% for the richest 25% … diverging significantly from Piketty's statistics.**

Wealth inequality between countries has also decreased on average since 2000. In recent decades, developing economies (led by China and Italy) have undergone rapid economic growth, narrowing the gap with advanced economies in terms of wealth and income. The share global wealth going to high-income countries slid from 80% in 2000 to 71% in 2014 according to the World Bank. The share going to intermediate-income countries rose from 14% to 22% (see appendix for tables quantifying the distribution of wealth around the world).

As is true for wealth, **income inequality** between countries has come down worldwide, fuelled by economic growth in developing countries.

I.6. Relative vs. absolute inequality

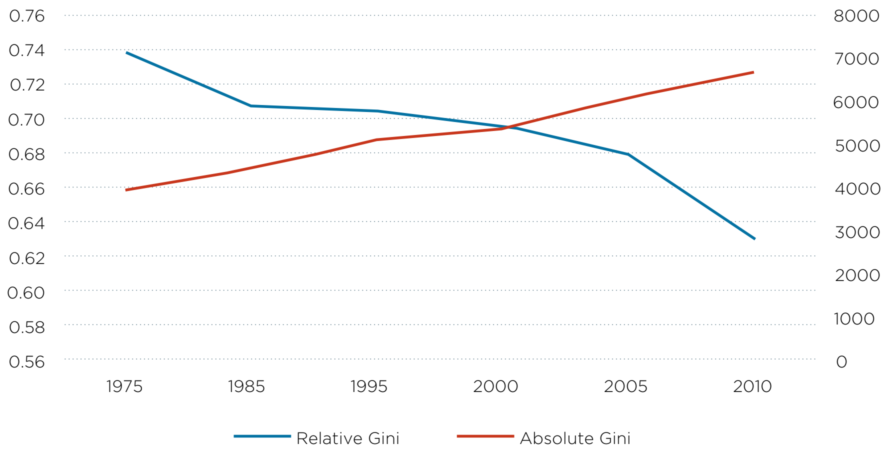
Let's take a simple example. Consider two persons, one with an income of US $ 1 per day, the other with an income of $ 10 per day. Suppose that 20 years later, their respective income has increased to $ 6 a day and $ 60 a day. In "absolute" terms, the inequality between these two persons increased sharply (from $ 9 to $ 54); in relative terms, it has remained stable (1 in 10). So, what should we look at: absolute inequalities or relative inequalities? According to Amiel and Cowell ((1992), (1999)), the evidence suggests that many people do perceive absolute differences in incomes as being an important aspect of inequality.

And as the work of Niño-Zarazúa - Roope - Tarp (2016) rightly points out, "*relative inequality indicators have been by far the most widely used in empirical economic analysis, but, based on economic theory and empirical evidence, it is far from clear that we should favour relative over absolute notions of inequality*". The differences are important. As these two authors show, relative global inequality, as measured by the Gini coefficient[1], declined steadily over the past few decades from 0.739 in 1975 to 0.631 in 2010. According to the authors, the fall over the past 35 years was mainly driven by declining inequality between countries (Chart 8), due to the extraordinary economic progress observed in fast developing countries such as China and India. They note this overall trend is remarkable, because it was achieved despite an increasing trend of inequality within countries. In contrast, *"absolute inequality, as measured by the absolute Gini coefficient, which is based on absolute changes in*

[1] *The relative Gini takes the value zero for a society where all are equal, and the value of one for a society where all income goes to one person*

income (and depicted by the red line in chart 9)*, has increased dramatically since the mid-1970s*".

Chart 9: Trends in global inequality from a relative and absolute perspective



Source: Niño-Zarazúa – Roope – Tarp (2016)

Over the past 50 years, more than one billion people around the world have been lifted out of poverty, thanks to substantial economic (and income) growth in developing countries. This growth has been accompanied by a striking rise in absolute inequality, but in the other hand, it has also improved the lives of hundreds of millions of people, with a decline in mortality, in childhood mortality, an increasing access to education and health systems .... "*It is difficult to imagine how in practice such growth, and the associated poverty reduction, could have occurred without an increase in absolute inequality*" (Niño-Zarazúa – Roope – Tarp (2016)). **The fight against global poverty and absolute inequality must not damage growth prospects, it must favour more inclusive growth with falling 'relative' inequality**.

To sum up, after two centuries of continuously rising inter-country inequality following the industrial revolution, the trend started reversing in 1990s, with developing countries partially catching up to advanced countries. **However, another trend started: after several decades of stability, intra-country inequality began rising again**. Overall, inter-country inequality has fallen 35% since 1990, while intra-country inequality has risen 14%, which has slowed the fall in overall worldwide inequality.

II. Economic growth, recession, crises and inequality

The relationship between growth and inequality is very complex. Income inequality impacts growth through a multitude of channels that can have either a positive or a negative effect depending on market conditions and the existence and progressivity of redistribution policies. Economic theory has thus evolved a lot on the subject of the relationship between growth and inequalities.

II.1. Is growth inclusive? Who capture growth? The case of Europe

The growth process is considered inclusive when, in accordance with Sustainable Development Goal on inequality, the income growth of the poorest 40% of the population has been at least as high as that of per capita income. In line with this goal, Archanskaia, Filauro and Peschner (2020) investigated who benefits from growth. This is an essential question in the current debate on inequalities. And the answer is clear for Europe (data from Blanchet, Chancel and Gethin (2019)): contrary to what the most pessimists can imagine in this area, it is indeed the poorest 50% of Europe who, in recent years and in terms of revenue growth, have benefited the most from the growth. It is not the richest 10% (or the 1%) who benefit the most. Note that the definition of Europe in the data used does not coincide with the European Union: they also include European countries not members of the EU such as Albania, Bosnia and Herzegovina, Iceland, Kosovo, Macedonia, Montenegro, Norway, Serbia and Switzerland.

Table 2 highlights the fact that **low income groups captured a much greater share of total income growth over the period 2000-2017 than over the period 1980-2000**. The poorest 50% of the income distribution captured a higher share in 2007-2017 than in 2000-2007, and a higher share in 2000-2007 than in the previous decade. For example, 49% of overall after-tax income growth went to the bottom 50% from 2007 to 2017, compared to 23.4% from 2000 to 2007 and 13.3% from 1990 to 2000. At the same time, the overall growth of after-tax income of the top 10% fell by 3% between 2007 and 2017, while it had increased by 45% between 2000 and 2007 and by 42% between 1990 and 2000.

Table 2: Share (%) of aggregate economic growth captured by different income groups

Share of growth captured (%)	1980-2017	1980-1990	1990-2000	2000-2007	2007-2017
PRE-TAX INCOME					
Bottom 50%	17.6%	12.0%	9.8%	22.5%	41.2%
Middle 40%	39.8%	41.1%	41.3%	33.6%	49.7%
Top 10%	42.7%	46.9%	48.9%	43.9%	9.1%
Top 1%	16.1%	17.0%	20.0%	18.5%	-4.3%
Top 0.1%	5.9%	7.0%	7.6%	7.6%	-6.5%
Top 0.01%	2.2%	3.0%	2.7%	3.2%	-4.7%
Top 0.001%	0.8%	1.2%	0.9%	1.5%	-2.9%
Full population	100%	100%	100%	100%	100%

Share of growth captured (%)	1980-2017	1980-1990	1990-2000	2000-2007	2007-2017
POST-TAX INCOME					
Bottom 50%	20.9%	15.9%	13.3%	23.4%	49.5%
Middle 40%	41.9%	45.7%	44.9%	31.2%	53.6%
Top 10%	37.2%	38.4%	41.8%	45.4%	-3.1%
Top 1%	13.6%	11.4%	15.4%	23.4%	-14.0%
Top 0.1%	5.0%	3.8%	6.1%	10.8%	-11.4%
Top 0.01%	1.8%	1.5%	2.5%	4.6%	-6.8%
Top 0.001%	0.7%	0.5%	1.1%	1.9%	-3.8%
Full population	100%	100%	100%	100%	100%

Note: Europe includes also non-EU countries (Albania, Bosnia-Herzegovina, Iceland, Kosovo, Macedonia, Montenegro, Norway, Serbia, Switzerland)

Data source: Blanchet, Chancel and Gethin (2019)

This result may seem surprising or disproportionate, but it should not be forgotten that part of it comes from the definition and scope of Europe used in the study. As Archanskaia - Filauro - Peschner (2020) points out, Central and Eastern European households were over-represented in the lower income classes in Europe during the period. In fact, in countries like Romania and Bulgaria, almost the whole population, even the richest people, are among the European bottom 50%. Even if the situation of the bottom 50% has been better than is generally believed, and even if Europe has a certain effectiveness in terms of redistribution of income (the pre-tax income vs. post-tax income data attest to this), **the results shown in the table below are marred by significant biases, which do not allow us to take account of faithful to reality**. An analysis by country gives more contrasting and less flattering results. On the one hand, **the national distribution of growth is very heterogeneous between the EU Member States**, and on the other hand, there is **a strong link between growth and capture of growth by the highest income groups**.

With the exception of Ireland and Spain, **the distribution of growth was rather egalitarian across income groups in Member States where economic growth was low or negative**. This is notably the case of Belgium, Croatia, France, the Netherlands, Portugal and the United Kingdom. In Greece and Luxembourg, the top quintile contributed the most to the total income loss. But **in Member States where income growth has been strong, higher income groups have tended to absorb a relatively higher share of total growth**. This was particularly the case in the countries of Eastern and Northwestern Europe, with extreme cases such as Bulgaria and Poland, where income growth mainly fed the richest 20%.

II.2. Does Inequality hinder growth?

II.2.1. A trade-off between reducing inequalities and promoting growth in the 1950s and 1960s

In the 1950s and 1960s, economists such as Nicholas Kaldor and Simon Kuznets argued that there was a trade-off between reducing inequalities and promoting growth. One cannot go with the other.

In the 1950s, the United States and the United Kingdom were experiencing both rapid growth and one of the largest drops in income inequality in history. Analysing the evolution of inequalities in rich countries (and a few poor countries), Kuznets (1955) showed that while growth first generated inequality, it diminished as the economy grew. Through its curve drawing an "inverted U", Kuznets represents the idea according to which in a country, inequalities are reduced "mechanically" with economic development. Among the factors explaining the decline in inequalities identified by Kuznets (the relationship between growth and inequalities), one can more specifically note the development of education, the decline in productivity gaps between sectors, a decline in the return on capital and an efficient redistribution of income. Kuznets proposed two structural reasons for this historical phenomenon: workers moved from agriculture to industry, and rural workers became urban. According to Kuznets, inequalities decrease after 50% of the workforce has been employed in a higher-income sector. With inequality peaking in the developed world somewhere around the turn of the twentieth century, he then designed what was later called the "Kuznets curve". But as Milanović (2016) notes, the Kuznets curve "*gradually fell out of favour because its prediction of low inequality in very rich societies could not be squared with the sustained increase in income inequality that started in the late 1970s in practically all developed. Many people thus rejected it.*"

II.2.2. Income inequality almost invariably led to lower growth: the 1990s studies

During the 1990s, studies analysed the relationship between inequality and growth, and showed that income inequality almost invariably led to lower growth:

- Taxation is very unfair and not very favourable to growth in very unequal societies (Alesina and Rodrik (1994), Bertola (1993), Persson and Tabellini (1994));
- Inequality in many cases discourages investment and weakens growth due to inefficient allocation of capital and resources (Ravallion (2001));
- Inequality weakens the effectiveness of growth in reducing poverty (Ravallion (2001));
- The (negative) impact of inequalities on growth is more pronounced for developing countries than in rich countries (Cunha Neves - Alfonso - Tavares Silva (2016))
- The existence of imperfect capital markets also results in a relationship between inequality and lower growth (Aghion - Caroli and Garcia-Peñalosa (1999)).

Concerns about inequalities are not new: Plato, Aristotle, Adam Smith, Karl Marx… to name a few, have underlined the undesirable effects of inequalities on the social environment. They are perceived as socially unfair (when they are not related to merits, efforts, risk taking … or when they come exclusively from benefits related to birth …), but they also have negative implications for political stability (Alesina and Perotti (1996)), crime (Kelly (2000)) and corruption (Jong-Sung and Khagram (2005)).

II.2.3. A "certain" inequality generates growth: the 2000s studies

Studies carried out in the 2000s reach less pessimistic conclusions, and suggest that a "certain" inequality generates growth (Forbes (2000); Barro (2000)). Others see the greater control of inequalities in some Asian countries as an explanation for their lower growth (Niño-Zarazúa - Roope - Tarp (2016)).

According to Heimberger (2020)), one of the reasons why the literature on the relationship between inequalities and growth is often inconclusive is based on the fact that they most often neglect the heterogeneity of countries, or do not isolate the factors that make the specificity of a particular country. In fact, **the specific studies carried out country by country or those focusing on inequality of opportunity, for example, show more clearly the negative effect of inequalities on growth** (De Dominicis et alii (2006), Grigoli - Paredes - di Bella (2016)).

In short, what emerges from all these studies carried out in the years 2000 and 2010 is that **there is indeed a relationship between inequalities and growth, but that this relationship is not static or stable: it changes over time and with the level of development, and it differs from country to country, from factor to factor**.

It is in this context that Milanović (2016) tried to reconcile the original theories and the reality put forward by empirical work, introducing the concept of **Kuznets' "waves"**, i.e. the existence of cycles of increasing and reducing inequalities, cycles that would be in line with the different phases of development. Milanović thus identifies a second Kuznets curve in the United States since the 1980s, which results in a further increase in inequalities. According to him, the current technological change, with increased globalisation, have once modified the working conditions of the labour market (as had been observed by Kuznets in the 1950s): we are currently witnessing a reallocation of labour from the homogeneous industrial sector to the heterogeneous service sector. Coupled with globalisation, this generates a decline of the middle classes (and the downgrading of low-skilled labour) and lower taxes on capital. These are obviously good prerequisites for a further increase in inequalities. In other words, **the current rise in inequality would be the ascending phase of the second Kuznets curve of modern times**.

Since the 1990s, some economic historians have also looked into the question, and they have further identified periods of increasing and decreasing inequalities in pre-industrial Europe (Van Zanden (1995), Nogal and Prados (2013), Alfani (2014), Ryckbosch (2014), and even since the Stone Age (Scheidel (2017)). According to these authors, in pre-industrial societies, Kuznets cycles occur in contexts of quasi-stationary average income; in other words, they do not find their origin in economic factors, but rather in epidemics and wars, which "*lead to a decline in the population, an increase in average income, an increase in wages (due to the scarcity of the labour force) and therefore a decrease in inequalities, until demographic growth cancels out all these gains through a very Malthusian process*"(Milanović (2016)). Scheidel puts into perspective all the periods of reduction in (extreme) inequalities in the context of long cycles. The history of inequalities can be summed up in long periods of growth in inequality alternating with shorter - often brutal - periods of reduction. According to his work, long periods of growing inequality correspond to periods of peace, allowing the accumulation of capital and wealth and promoting economic prosperity. On the other hand, periods of reduction of inequalities correspond to phases of destruction of wealth: he thus puts forward four determining factors: war, revolution, the collapse of states and pandemics, what the author calls "four levelling horsemen". When these horsemen appear, they ruin all populations and even more so the populations that hold the capital. One constant throughout history is that there are phases of massive reduction in extreme inequalities. Scheidel shows that the phase of reducing inequalities that we experienced between 1918 and the 1970s would not be linked to any political awareness (what Piketty thinks), but to the shock wave of the 1914-1918 war and the communist revolution. Similarly, the phase of rising inequalities that we are currently experiencing would, on the other hand, be linked to the situation of peace which has reigned since the Second World War. Knowing that the phases of increase in extreme and relative inequalities also go hand in hand with an enrichment of the less privileged classes and a reduction in poverty and extreme poverty, it is undoubtedly better to rejoice in the phases of peace than in the phases dominated by the four levelling horsemen ...

This long-term work highlights the existence of Kuznets waves over the past six or seven centuries. But after the Industrial Revolution, the waves are more linked to economic factors such as technical progress or the reallocation of labour, as Kuznets imagined.

However, **the contribution of historians is clear: wars, revolutions, state collapses and pandemics are the most powerful engines in income equalization**. We can cite in particular the compression of high incomes through higher taxation (of capital, of the richest), financial repression, price controls and, in cases of war and revolution more specifically, rationing and destruction of physical assets (this is the case in Europe after the two world wars, in Japan in 1945, etc.). Kuznets underestimated these driving forces in his analysis, which limits the scope of his analysis.

In total, the link between inequalities and growth operates through different channels:

- Inequality can deteriorate political stability (Alesina and Perotti (1996)),
- Inequality can reduce the effectiveness of economic growth in reducing poverty (Ravallion (2001));
- Inequality can increase corruption (Jong-sung and Khagram (2005));
- Inequality can hinder investment (Bardhan (2005); Dabla - Norris - Kochhar - Ricka - Suphaphiphat - Tsounta (2015);

- Inequality can increase violent conflict between groups (Østby (2008));
- Inequality can increase crime (Kelly (2000), Soares and Naritomi (2010));
- Inequality hinder the risk-taking of the middle class (Boushey (2011));
- Inequality can fuel financial instability (Rajan (2011); Acemoglu (2011));
- Inequality can hamper the improvement of skills and education, reducing productivity (Stiglitz (2012));
- Inequality can hinder socio-economic mobility (Krueger (2012); Corak (2013)).
- Inequality can reduce aggregate demand (Carvalho and Rezai (2014));
- ...

In conclusion, the relationship between growth and net inequality has long been debated, but many studies conducted in recent years have nonetheless focused on negative and significant impacts of (net) inequality indices on countries' growth rates.

It should be borne in mind, however, that it is not easy to show the empirical relationship between growth and net inequality. **Although there is a considerable part of the literature that considers inequality detrimental to growth, more recent studies have challenged this result and found a positive effect of inequality on growth:**

- On the one hand, **inequalities have a positive impact on economic activity and production** to the extent that income gaps provide incentives and rewards for personal effort, risk taking and innovation (as long as wage differentials do not affect employee morale and productivity). These effects may only be temporary.
- **But on the other hand, income inequality can also harm growth**, if the feeling that inequality is increasing becomes intolerable, if the share of value-added is one-way and hurts wage earners, if primary income inequality is not corrected by the redistribution system, if opportunities fade away, and if social determinism lowers the prospects of the disadvantaged classes ... As we have seen above, the link between inequalities and growth operates through different channels.

II.3. Inequalities and financial crises

II.3.1 Can inequalities generate economic and financial crises?

The links between inequalities and growth can amplify conflicts and crises, but they do not seem able to directly provoke it. However, studies carried out in the United States analysing the links between consumption, leveraging and the financial crisis, have shown that income inequality can directly contribute to the onset of crises. In 2006, Krueger and Perri had shown that income inequalities do not necessarily translate into consumption inequalities as soon as households reduce their savings and accumulate debt to maintain their consumption levels and habits. According to Atkinson and Morelli (2011), another phenomenon is likely to worsen this situation: relative income and the propensity to measure one's financial success against that of one's peers and to let their spending behaviour influence one's own behaviour. Schularick and Taylor (2012) had also shown that financial crises are often preceded by excess credit. This situation is all the more dangerous as it can lead to credit bubbles, financial bubbles and crises. In other words, **inequalities can push the poorest households to increase their leverage effect** (Rajan (2011, Treeck (2014)), **thus making a crisis more likely.** As Kumhof and Ranciere (2011) noted: "*without the prospect of a recovery in the incomes of poor and middle income households over a reasonable time horizon, the inevitable result is that loans keep growing, and therefore so does leverage and the probability of a major crisis that, in the real world, typically also has severe implications for the real economy*". They conclude that rising inequality led to a credit boom and eventually to a financial crisis in the US in the first decade of the 21st century as it did in the 1920s. Gu and Huang (2014) also found a significant causality between inequalities on the one hand, and credit booms and financial crises on the other hand for Anglo-Saxon countries.

All in all, **all the analyses carried out on the subject suggest that a more unequal society is likely to weaken the economy by increasing financial vulnerabilities. However, the empirical evidence to support a causality between inequality and actual financial crises is very weak**. Atkinson and Morelli (2011) examined the relationship between banking crises and income inequality over a 100-year period (1911-2010) and in 25 countries. They conclude that "*banking crises were preceded by falling inequality as many times as by rising inequality*". According to these authors, **it is fairer to say that financial crises are followed by growing inequality, than the reverse**. Bordo and Meissner (2012) went further, analysing 14 advanced countries between 1920 and 2000, and they suggest these are not general relationships between income inequality, credit booms, and financial crises. Credit booms heighten the probability of a banking crisis, but they do not find any evidence that a rise in top income shares leads to credit booms. Instead, low interest rates and economic expansions are the only two robust determinants of credit booms. "*Evidence from US experience in the 1920s and in the years up to 2007 and from other countries does not support the inequality, credit, crisis nexus*".

II.3.2. Does inequality increase in times of crisis?

Typically, if wealth losses from a financial crisis hit the top of the income distribution hard, lower-income people will be more affected if the financial crisis is followed by an economic downturn.

In terms of **gross income**, an increase in the unemployment rate subsequent to a crisis can bring a portion of income down. Furthermore, capital income, which is highly concentrated in the upper income bracket, can also be lowered. Inequality can be absorbed or widen; there is no hard and fast rule.

Growth is not necessarily synonymous with decreasing or increasing inequality. If growth does not result in the creation of high-quality jobs (part-time jobs, fixed term employment contracts, low skill jobs, etc.) and redistribution of that income, then inequality is going to increase.

So, contrary to some beliefs, income inequality can increase both in periods of job growth and in periods of crisis. This is the story of the 2000s and the 2010s. During the 2000s the employment rate increased but the types of jobs created, mostly temporary or part-time or self-employment, increased inequality on the labour market. Furthermore, even though disposable household income rose on average in the OECD countries (a little more than 1.5%), the income of the wealthiest increased faster in three-quarters of them, leading to a rise in inequality.

Low interest rates and inequality have an unclear relationship. The ECB has stated that inequality should be factored into monetary policy, but the relationship is not obvious. On the one hand, low interest rates reduce income inequality since they favour borrowing households over lenders. Low- and medium-income households tend to be borrowers while higher income households are mostly lenders. However, at the same time low interest rates worsen wealth inequality because they favour households that own financial assets, real estate, and businesses.

Rising unemployment rates following a crisis may bring about a decline in some income, including that of capital, but there is no absolute rule. Generally, economic policies are designed to help the disadvantaged classes following a crisis, which should lower inequality. However, if countries hurt by a crisis are forced to implement austerity policies, inequality widens. Europe in the 2010s is a classic example, especially Italy, Spain, Greece, Ireland, and Portugal. Even if over a longer period, the results are mixed (Denk and Calnede (2015) did not find a significant effect of banking crises on income inequalities in 33 OECD countries between 1970 and 2011), the impact of the 2008 financial crisis is clearly visible: looking at the 17 OECD countries for which data are available over a long-time period, OECD (2013) concluded that market income inequality increased by more between 2007 and 2010 than what was observed in the previous 12 years.

The results may differ for a banking crisis or a currency crisis (table 3). Baldacci - de Mello - Inchauste (2002) have shown that currency crises lead to an increase in the Gini coefficient (that is, to greater inequalities). Atkinson and Morelli (2011), as well as Li and Yu (2014) have for their part similar results following banking crises. For Agnello and Sousa (2012), on the other hand, the results are more mixed. While in OECD countries, a banking crisis tends to reduce inequalities, the authors detect significant increases in inequality before the onset of the crisis, but no effect thereafter. In a study of developing countries, Honohan (2005) does not find significant evidence of changes in Gini coefficients before and after a banking crisis. Same conclusions for Jaumotte and Osuorio Buitron (2015).

In sum, the answer is globally uncertain. Inequality does not necessarily increase in times of financial crisis: economic policies can hinder the phenomenon.

Table 3: Studies on the impact of financial crises on inequality		
Study	**LHS variable**	**Conclusion**
Baldacci, de Mello and Inchauste (2002)	Gini, quintiles and poverty indicators	**Currency crises** are associated with increase in poverty and income inequality
Honahan (2005)	Gini	No evidence for a significant difference between Gini coefficients before and after a **banking crisis**
Agnello and Sousa (2012)	Gini	In OECD countries, a **banking crisis** reduces inequality, but in non-OECD rise in inequality before the onset of the crisis but no effect thereafter. Financial depth reduces inequality (only in OECD countries)
Li and Yu (2014)	Gross Gini	**Banking crises** are associated with increase in poverty and income inequality
Jaumotte and Osorio Buitron (2015)	Gini	No evidence for a significant difference between Gini coefficients before and after a **banking crisis**

Source: adapted from de Haan and Sturm (2017)

II.4. Do redistribution policies harm growth?

A question arises: if growth creates inequalities, does correcting these inequalities affect growth? Recent studies show that **redistribution policies do not harm growth**. In the long term, redistribution policies are crucial. Halter, Oechslin and Zweimüller (2014) offer a good example. They have developed a theoretical model in which higher inequality leads to faster growth in the short term (thanks in particular to a more efficient distribution of assets between individuals). However, it is not sustainable: in the long run, inequality leads to an under-allocation of public goods which subsequently reduces growth. The facts are consistent with their theoretical model, with a positive effect in the short run, and a negative effect in the long run. Since the sum of these two coefficients is negative, they suggest that a permanent increase in inequality has a negative effect on long-term growth.

According to Ostry, Berg and Tsangarides (2014) in particular, there would be no real trade-off between growth and equality ... According to these authors, a higher net inequality (ie after redistributive effects of taxes) is significantly associated with lower future growth, while redistribution is not significantly correlated with growth. In other words, redistributive policies that reduce the net Gini coefficient can increase growth. If they show that redistribution policies do not have negative effects on growth, it is reasonable to assume that this will remain the case as long as redistribution policies do not result in unreasonable tax increases or prohibitive additional deficits. Such policies can nevertheless be necessary when the increases in income for the richest have no impact on other social classes; in other words, the existence or not of a "trickle-down effect" is crucial.

Many studies show their skepticism about the existence of trickle-down effect. A study covering a sample of 159 countries during the period 1980-2012, conducted by Dabla-Norris - Kochhar - Ricka - Suphaphiphat - Tsounta (2015) even shows that growth is more robust if the income share of the lower quintiles (the top three quintiles) increases relative to the top quintile. It is more fragile in the opposite case, i.e. when the income share of the top quintile increases. This study thus shows the importance of the quintiles of the poorest populations and of the middle class for growth, an importance ultimately greater than that of the richest categories. These results have been strongly contested, in particular by Kraay (2015), who points out that even if many studies report strongly significant negative effects of inequalities on growth, we must remain cautious, because the empirical econometric methods generally used in this type of 'studies are technically "weak": "*the internal instruments relied on by this estimator in these inequality-and-growth regressions are weak, and weak instrument-consistent confidence sets for the effect of inequality on growth include a wide range of positive and negative values*". This suggests that strong conclusions about the effect of inequality on growth - in both directions - cannot be drawn from these studies. Kraay therefore systematically explores "*a wide range of alternative sets of internal instruments, and finds that problems of weak instruments are pervasive across these alternatives*".

In conclusion, recent studies show that redistribution policies do not harm growth. And they are all the more necessary in countries where increases in the incomes of the richest have no impact on other social classes, in other words, when the "trickle-down effect" is weak or absent.

II.5. Wars, pandemics, revolutions ... the role of violence in reducing inequalities

It is indisputable that inequalities have developed with the possibility of accumulating assets, a possibility that agriculture and cattle breeding initially, then the industrial revolution then, have multiplied to reach the proportions that we know today. W. Scheidel (2017) insists on the fact that two important elements condition the level of inequality in a given society: on the one hand the property rights of assets (land and livestock initially) and on the other hand the possibility of transmitting the capital accumulated from one generation to the next. According to him, it is between the end of the last ice age and the beginning of the Holocene period (a geological period spanning the last 12,000 years, and still ongoing) - that Scheidel calls "*the great disequalisation*" that inequalities have exploded. The question remains: what is it that abruptly reduces inequalities?

The author has analysed "peaceful" forms of reducing inequalities, but he does not retain them as really effective means, given their too modest effects. Without the use or threat of violence, land reforms have reduced inequalities very little, if at all. The same is true for changes in political regimes or economic crises without real revolution. Scheidel recognises the existence of the capacity of strongly unionised workers to reduce or limit income inequalities, but he considers that the development of unionism in the 20th century is only one of the consequences of the two world conflicts (unionisation rates are raised only after wars). Likewise, he does not dispute the existence of the rise of the welfare state, but the welfare state is not behind the sharp reductions in inequality when they occur.

While some people grant social transformations linked to fiscal policies (taxation, redistribution, etc.) or political checks and balances the capacity to reduce inequalities, Scheidel considers on the contrary that **inequalities can only decrease in exceptional moments, and always under pressure, under the effective influence of violence, under the threat of violence or, what amounts to roughly the same thing, following a period of extreme violence**. This violence comes in four forms (the "*four horsemen of levelling*"): **collapses of state and social structures, pandemics, wars and revolutions.**

Scheidel's work shows that the reduction of inequalities often comes from a levelling to the bottom which, proportionally, affects the better-off sections of society more, those who, in fact, have the most to lose. This is particularly the case with the outright collapse of social structures at the end of the Roman Empire, or in the periods following wars or revolutions. These most often lead to expropriation, redistribution, or even collectivisation (of land in particular), which obviously reduces inequalities. The engine of these changes is violence, and without the threat of violence or direct violence, such reforms may never have been enacted.

As for wars, we can only note, for example, that Japan, one of the most unequal societies in the world at the end of the 1930s, becomes one of the most egalitarian, as a result of the destruction, state control of the war economy and inflation. In addition, the low level of inequality was maintained in the post-war decades by the American occupier, who implemented reforms, (financial, agrarian and institutional reforms) in order to limit the accumulation of wealth and break any imperial rebirth. Periods of war are also conducive to reductions in inequality, due to the need for exceptional measures, such as the adoption of progressive and very high taxes to "prepare" for conflicts.

As with wars, the great epidemics in pre-modern and modern societies lead to a change in the relative prices of factors of production: they reduce the quantity of labour, they increase its value and therefore tend to lower income inequalities. ... Subject to workers' bargaining capacity, and efficient price adjustment mechanisms.

Violent and massive shocks would therefore be necessary to get the elites to accept social changes likely to (lasting) reduce inequalities.

However, Scheidel's conclusions should be qualified, particularly on the role of violence in reducing inequalities. Indeed, the relationship is not so systematic: **all forms of violence have not necessarily reduced inequalities**: before modern times, wars did not really mobilise societies (except a limited number of citizens), and if pre-modern revolts most often ended in a bloodbath, it was not generally that of the richest, but rather that of the rebels. Likewise, the conquest of an empire could often lead to a simple replacement, or even a superposition, of the old elites by new ones ... Therefore, "*in many cases, violence made it possible to increase inequalities, not to reduce them*" (Kesztenbaum (2019)).

III. Globalisation and inequality

Globalisation is often singled out for growing inequalities. Two introductory remarks:

- First of all, it is necessary to define what exactly we are talking about. There have been several phases of globalisation, and there are different forms and kinds of globalisation. Not all have had (and do not have) the same impact on jobs, growth, development and inequality;
- Next, it is necessary to be careful when equating too hastily the coincidence of facts, correlation of data, and causality of factors.

III.1. Globalisation(s): a planetary network, a superpower, a dominant doctrine, a predatory behaviour

In French, there are two kinds of globalisation:

- The first, which does not create a complete system, is called "mondialisation", and features multiple links and interconnections between states, companies, people, and events, with decisions occurring in one place affecting individuals and communities living elsewhere.
- The second is the kind known as "globalisation" in most countries when trends become globalised and form a complete system governed by written and unwritten global rules. This concept has a meaning close to that of the English "globalisation" without however having the nuance of supranationality that the latter has (their meaning may vary according to the authors). It is a question of degree and it represents a different reality.

All phases of globalisation are based on at least **four basic characteristics**, at the very root of the resulting inequalities:

- **1st characteristic**: It is always **an integrated planetary commercial network**, including, willingly or sometimes by force, almost all of humanity;
- **2nd characteristic**: A **superpower** imposes the rules;
- **3rd characteristic**: There is always some form of **predation** on resources, whether it is natural resources, or the enslavement of populations themselves.
- **4th characteristic**: The dominant theoretical corpus on **economics thought** coincides with the interests of the dominant power.

In the economic sense, globalisation is the process of internationalisation of industrial, commercial and financial transactions. This process is linked to the liberalisation of trade and its intensification. A phenomenon of economic integration, globalisation contributes to making countries interdependent in particular because of the free movement of goods and services, capital, people, ideas and technology. Economic globalisation results in a gradual erasure of national borders and an increase in the exchange of goods and services, in movements of capital, in the role of multinational companies, and in international migration.

History is filled with empires (in the sense of power), such as the Empire of Alexander the Great, the Western Roman Empire, the Persian Sassanid Empire, the Carolingian Empire, the Mongolian empire, the Aztec Empire, the Napoleonic Empire, the Ottoman Empire, the Austro-Hungarian Empire, the Russian Empire, the Chinese Empire... Some were ephemeral (a few years for Alexander the Great or Napoleon), others longer (three centuries for the Spanish Empire, four centuries for the Arab-Muslim Empire, five centuries for Rome, eight centuries for the Holy Roman Empire, etc.), and finally others were exceptionally long (1000 years for the Byzantine Empire, 2200 years for the Chinese Empire). However, the empires being "*all doomed to death*" (Tulard (1997)), none survived ... Even at peak, only a few were really able to dominate the world and contribute to the emergence of true globalisation. It is usual to distinguish **three major globalisations: the "Spanish" globalisation, the "British" globalisation, and the "American" globalisation[2].**

III.1.1. The "Spanish" globalisation

At the end of the 15th century and in the first half of the 16th century, Europeans, blocked by the Ottoman Empire in the Mediterranean area, were looking for new routes to trade with Asia and form new alliances.

- The **Portuguese** (Fernão de Magalhães aka Fernand de Magellan, Juan Sebastian Elcano...) bypassed Africa by sea from the south and reach Asia. They become masters of trade, especially spices, in the Indian Ocean.
- The **Spaniards** - and some Portuguese - took the western route and «discovered» America (Christopher Columbus, Vasco Nunez de Balboa, F. Hernandez de Cordoba, Hernan Cortes, Francisco Pizzaro, Francisco de Montejo...). They settled there, took possession of existing empires and exploited the resources of those territories. In 1565, the Basque Miguel Lopez de Legazpi, who left «New Spain», conquered the Philippines and established a trade route between Asia and Spanish America. **It is the first time in human history that there has been an integrated network of trade routes circling the globe.**

[2] *Some historians have detected very old phases of globalisation (in the third millennium BC, if we rely on the work of A. G. Frank (1998)), but which do not however obey the few basic characteristics mentioned above. The Silk Roads, for example, are more a form of Eurasianisation than a global interconnection. We really have to wait for the great Spanish and Portuguese navigations to enter into true globalisation.*

The historical expression "*Great Exchange*" designates the numerous exchanges of agricultural goods, livestock, human populations from 1492 onwards between Africa, Asia, Europe and America. It was therefore really necessary to wait for the great Spanish and Portuguese voyages to enter into true globalisation, often called "proto-globalisation" (Hopkins (2002)).

The **predation** was strong. The kingdoms of Spain plunder the "New World": 180 tons of gold, 16,000 tons of silver between 1500 and 1650. China is the main buyer, and New Spain provides 80% of world production. History refers to the Spanish "golden age". Millions of slaves are deported from New Spain or Africa. The death toll runs into the millions: scores of indigenous people die in the mining and smelting of precious metals, while others perish in the crossing of the Atlantic that led them to slavery (see Guenolé (2020) for an estimate of deaths linked to different globalisations).

A **dominant doctrine of thought** is imposed, and that is **mercantilism** (a term popularised by Adam Smith in 1776 (and probably created by the French physiocrat Victor Mirabeau)). It can be considered as the first true economic doctrine[3], and the major school of economic thought between the 16th century and the middle of the 18th century. According to this doctrine, international trade and in particular the acquisition of gold and silver are the engines of prosperity. The State (or the Kingdom) is invested with the responsibility of developing national wealth, by adopting relevant policies of a defensive nature (protectionism) but also offensive (promoting export and industrialisation), in order to generate a surplus in the trade balance[4]. All in all, this doctrine is well in line with the interests of the Kingdom of Spain, the dominant power. Among the mercantilist politicians, merchants and economists, one can mention G. Botero, J. Baudin, Colbert, Von Hornick, Misselden, Steuart, Mun ...

III.1.2. The "British" globalisation

Spain's decline as a dominant power stems from the empire's over-expansion and the influx of gold and silver, the main motivation behind Bullionism. Not only is the long-term strategy limited, but this build-up has generated long phases of high inflation, which has reduced the purchasing power of the metal annuity. Spain's role is gradually declining, as rival powers, mainly England and the Netherlands, but also France, take over.

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[3] *In fact, mercantilism had several variants, adapted to the specificities of the countries: colbertism in France (the State promoting trade and industry), bullionism in Spain (prosperity depends on the accumulation of precious metals), commercialism in England and Holland (foreign trade as the main source of wealth), cameralism in Germany (the State promoting collective prosperity in the broad sense).*

[4] *It is however useful to remember that mercantilsm is not always considered as a real doctrine of thought. Not only were there several variants, but certain historians of economic thought, such as Joseph Schumpeter for example, assert that mercantilism as a school of thought was created ex-post in the 19th century. As a complete new theoretical system is best conceived when confronted with another system, mercantilism was created to rationalise and justify the birth of the classical theory based on free trade, diminishing returns and general equilibrium.*

England's rise to power

These countries had already innovated by creating chartered companies, ancestors of multinationals. Created by private investors to compete with businesses from rival nations, these companies had a written concession (charter) from their government giving them the right to trade with certain privileges. Clearly, they obtained a monopoly to explore, colonise and profit from overseas territories. The most famous is undoubtedly the British East India Company (founded in 1600 but dominant in India from 1750) which in the middle of the 18th century became a genuine private colonial power, closely affiliated with the British crown. The 17th and 18th centuries saw an increase in the number of chartered companies, on behalf of England, Holland (Dutch East India Company, Dutch West India Company ...), France (Compagnie de Chine, French East India Company, French West India Company...), but also from Germany (German East Africa Company, German West African Company...), Scandinavia, Spain, Portugal...

Arguably, it was the victory over Napoleon at Waterloo on June 18, 1815 that paved the way for the **world supremacy of the British Empire**. Britain will now turn its efforts not to Europe, but to the rest of the world. The construction of the British Empire, which had already started in the previous century, was confirmed throughout the 19th century (until 1914) to contribute to the second globalisation. Naval and military power, the British Empire consolidated its expansion in Asia (India and Malaysia in particular), and gradually became a financial power, an industrial power and a commercial power. The British exported mainly manufactured products (it was at this time "the workshop of the world') and they imported raw materials and foodstuffs.

Almost the entire African continent is gradually becoming the "hunting ground" for French, British and Dutch governments and companies. France seizes Laos, Tonkin, Cambodia, Annam, Cochinchina, to form a territory which will be called Indochina in 1887. In the middle of the 19th century, England is nevertheless - and by far - the dominant superpower of this new world order: its fleet is equivalent to half of the world tonnage. It also controls the trade of countries not forming part of its empire such as China or Argentina ... **At its peak, in the early 1920s, the British Empire also had a quarter of the world's population, its territory represented more than 20 % of land surface. It is therefore a question of "British" globalisation**.

Free trade, the dominant doctrine

Free trade was imposed from the end of the 18th century. **The idea of economic liberalism and the freedom dear to the Physiocrats prevails**, as does the critique of mercantilism. John Locke and David Hume argue that trading is not a zero-sum game, as the mercantilists pretended, but a positive-sum game **Adam Smith** rejects the idea that wealth comes from the accumulation of precious metals, because there are too many losers. The **absolute advantage theory** turns out to be preferable, and it involves specialising each country in selling what it is best for abroad. But this is not generalisable either, as some countries have no absolute advantage. **David Ricardo**'s approach, called **comparative advantage**, is to specialise in producing the goods for which the country is either the best or one of the least bad. The well-known example of the exchange of cloth (English) for wine (Portuguese) cannot hide the relative weight - at that time - of England (the dominant) over Portugal (the dominated). **John Stuart Mill** questions the **distribution of the wealth created** and completes the approach. According to him, the poorest countries (the dominated) benefit more from open trade and free trade because they consume less than the rich countries. World prices having to obey the law of supply of demand, would therefore not be to the detriment of the "dominated". In reality, free trade greatly serves the British Kingdom, which has the largest fleet and holds the richest territories.

Predation continues, through slavery (nonetheless abolished in the British Empire with the exception of a few territories by the Slavery Abolition Act of 1833), colonies, protectorates, dominions, and "unequal treaties" (in particular those which punctuate the "opium wars" and which systematically favour England by the creation of numerous seaports).

III.1.3. The "American" globalisation

The rise of Germany and the United States will erode British economic domination towards the end of the 19th century. The economic and military tensions between Great Britain and Germany were undoubtedly one of the causes of the First World War, which ruined the country. Its economy was left behind and despite its size, the Empire no longer had the same undisputed power.

The hyperpowered United States

The starting point of the third globalisation is debated, but we can reasonably consider that it really started with the disintegration of the communist bloc of the USSR (December 26, 1991) and the "conversion" of communist China to the market economy. The constitution of Bolshevik Russia and then of the Soviet Union had introduced a break in the thread of globalisation: an imperfectly integrated trade network, two powers, two doctrines ...

The United States has been able to foster an environment favourable to its expansion. We can, for example, mention i) the Bretton Woods agreements (1944) which enshrined the dominant role of the dollar and allowed the United States, the predator, to accelerate their economic expansion in target countries without damage (a strategy in practice financed by these same targets); ii) their weight in the different international organisations, iii) the different phases of financial regulation / deregulation over the last decades ...

American domination was unchallenged for long: it combines economic domination, financial domination, commercial domination, military domination, regulatory domination, judicial domination ... in the case of American globalisation, we no longer speak of dominant power, but of "*hyper-power*" (a concept coined in 1998 by H. Vedrine (French President Mitterrand's diplomatic advisor 1981-1988 and Secretary-General of the French presidency (1991-1995)), or "*first and unique power*" (Z. Brzeziński (counselor to President Lyndon B. Johnson 1966-1968) and President Jimmy Carter's National Security Advisor 1977-1981)) or "*new middle empire*". The ability to create a favourable environment is one of the characteristic of the powers. All in all, **the third globalisation is even more global than the previous ones. It really affects the whole planet.**

Free Trade, a dominant doctrine Revisited: From the Hecksher-Ohlin Model to the "New" New Theory of (International) Trade

The annual reports of the G20, the WTO (World Trade Organization) and many other international organisations have perfectly demonstrated, for many years, the positive role of the doctrine of free trade and globalisation, insisting on the necessary competition and on world trade as engines of growth and jobs, but also as essential factors for improving living standards. **To accompany this American hyper-power, free trade is still the dominant doctrine, but in a form however revisited**. In particular, it revisits Ricardo's approach and highlights the necessary specialisation according to the factors of production (Hecksher-Ohlin Model model). Then came approaches highlighting the type of competition or the heterogeneity of countries or companies, such as New Trade Theory and New New Trade Theory (see section III.2.2. for a detailed analysis and impact on inequality).

III.2. Globalisation, international trade and inequality

Is globalisation an essential cause of the rise in inequalities? How and through which transmission channels does it impact inequalities? What do the theories of international exchange teach us?

II.2.1. Globalisation and income inequality: what relation?[5]

Since the beginning of the 19th century, the volume of world trade has increased considerably and, during the last decades, during the last phase of globalisation, a number of companies have globalised their production processes by way of offshoring or outsourcing. At the same time, income inequality has grown significantly in many countries. We are therefore tempted to deduce that the first trend (globalisation) is responsible for the second (inequality). The correlation is very disturbing. But are these trends also clearly linked? In other words, beyond this correlation, can we really speak of causality? And what inequalities are we talking about exactly?

- **First observation**: globalisation is not correlated with all inequalities. **The great «paradox» of globalisation is that during the trade opening phases, inequalities between countries are reduced** (more and more countries participate in world

[5] *The theoretical and empirical literature on the relationship between globalisation and income inequality is rich. There are also good surveys. Let us mention in particular the work of Burtless (1995), Ravallion (2003), Winters, McCulloch and McKay ((2004), Anderson (2005), Demirguc-Kunt and Levine (2009), Mills (2009), Nissanke and Thorbecke (2010), Harrison, McLaren and McMillan (2011), de Haan and Sturm (2017), Heimberger (2020). See references at the end of the Discussion Paper.*

growth and international trade) **while inequalities in the world are significantly deepened within nations.**

- **Second observation: we notice that during the globalisation phase, it is clearly the highest incomes which have increased the most. Even if this result is indisputable, it is not enough to deduce from it that it is due to globalisation**. Indeed, in Asia, the two most unequal countries are Nepal (a country almost completely closed) and China (now very open) ... And among the least unequal, we find South Korea (open and highly developed country) and Pakistan (whose economy is not very open and very poorly developed). **In other words, there is an infinite number of situations which prohibit either concluding that globalisation reduces inequalities, which is the liberal thesis, or that it increases them in a linear and inevitable manner (which comforts the anti-liberal thesis)**.

All in all, the rise of globalisation and growing income inequality are indisputably two strong trends in our contemporary world, but **correlation does not necessarily mean causality**. It's obviously a bit more complicated than that.

How is globalisation likely to increase inequalities?

Globalisation can increase inequalities within countries in at least three ways:

- First, **globalisation can increase inequalities through the effects of increased specialisation and increased trade**. In advanced countries, the sectors concerned become open to competition, and wage growth becomes all the more difficult as companies in these sectors can be relocated close to consumer markets. Employees in protected sectors are not subject to such competition and the wage gap between open and protected sectors is widening. These are horizontal inequalities. In lower-cost countries (so-called emerging countries), the exposed sector is favoured, and it is in globalised sectors that the most significant wage increases will ultimately occur. Sectors not subject to globalisation tend to stagnate more. This is how inequalities are also widening.
- **Globalisation can also increase inequalities since it generally leads to higher profits for multinational companies participating in this trend**: the possibility of trading more, of producing at lower prices... all this translates into more generous compensation for senior executives and increased dividends for shareholders. Recall that multinational companies generate 10% of the world's annual GDP and contribute more than 50% of the value of world trade.
- Finally, **globalisation can increase inequalities if it involves increasing the demand for and returns to more skilled labour and reducing the expected incomes of those in relatively low-skilled and low-knowledge jobs**.

In short, economic globalisation would not really have a different impact in developing countries and in advanced countries: as in advanced countries, we find in developing countries an increase in inequalities within the same country, from one social group to another, but also even within the same social group.

This applies to China where inequalities are first and foremost regional inequalities. This also applies to other countries, whether for industry, commerce or agriculture. Those who can easily export their products will be able to benefit from opening up to international markets, while those who live in a landlocked region will not be able to benefit from this opportunity (and export similar products), while paying more and more for imported products. This is one of the reasons why it is very difficult to believe that liberalisation of trade - and especially agricultural trade - benefits everyone. In other words, *"globalisation separates those who can adapt to the world and those who cannot"* (Fitoussi (1997)).

As for the advanced countries, the share of the ultra-rich increased very strongly in the developing countries during the last phase of globalisation. In Brazil, the richest 1% hold 25% of national income. In Russia, the share of the richest 1% in national income increased from 4% in 1980 to 20% in 2015. In India, it increased from 6% in 1982 to 22% in 2013. In China, it is increased from 6% in 1978 to 14% in 2015. The results are similar for the richest 10%.

III.2.2. Trade theory and inequalities: from the Hecksher-Ohlin model to the "new" new international trade theory

The trade theory has been greatly enriched over the past century and it has gained in sophistication. It is wrong to believe that the theory dwells only on the benefits of trade. It also looked at the impacts in terms of inequalities. We will briefly present some (the most important) approaches and their implications in this area:

- The HOS model (Heckscher - Ohlin - Samuelson) (1933)
- The theorem of Stolper - Samuelson (1941)
- The Rybczynski's theorem (1955)
- The product life cycle theory of R. Vernon (1966)
- A. Emmanuel 's theory of unequal exchange (1969)
- The New Trade Theory (NTT) (1970s - 1980s)
- The «New» New Trade Theory (NNTT) (2000s)

III.2.2.1. The HOS model (Heckscher - Ohlin - Samuelson) revisits Ricardo's approach and highlights the necessary specialisation according to the factors of production. Initially Ohlin's PhD thesis under the supervision of Heckscher in 1933, and also known as the law of the proportions of factors, this model stipulates that **each country tends to specialise in the production and export of goods incorporating intensively the factor of production relatively abundant in the territory, and to import products requiring the use of factors relatively scarce in the country**. In practice, this means that capital-rich countries must specialise in the production of capital-intensive goods, and labour-rich countries in the production of labour-intensive goods. Trade does not benefit all parties equally. By creating first class and second class countries, but also first-class and second-class companies, free trade will also lead to inequalities between countries (rich countries vs. poor countries, dominant countries vs. dominated countries), but also within rich countries. It is in this sense that **increasing inequality is a consequence of free trade, and not a problem that free trade can solve.**

According to the HOS model, free trade creates inequalities: on the one hand, some countries will have to produce goods with high added value, while others will produce goods for which the profit will depend on the ability to compress wages. This conclusion was the subject of controversy following the work of W. Leontieff who showed that the United States exports relatively labour-intensive products even though they have one of the highest capital per capita rates in the world. This has been called the **Leontieff Paradox**. The contribution of Gary Becker's theory of human capital is a way to reconciliate HOS ad Leontieff: skilled labour should be seen as capital. As labour incorporates capital in human form, Leontief's study therefore does not call into question the HOS model.

One of the drawbacks of Ricardian theory and the Heckscher-Ohlin approach, however, is that they only explain intersectoral trade flows. However, a good part of international trade comes under intra-industry trade (half of trade in the 1970s, according to Grubel and Lloyd (1975)). In other words, countries tend to exchange the same products with each other. Today, in industrialised countries, **two-thirds of international trade is intra-industry**. Another empirical observation also calls into question the intersectoral view of trade: **trade takes place between countries at the same level of development, that is, countries which differ very little from each other. The HOS model is therefore not generalisable**.

III.2.2.2. The Stolper - Samuelson (1941) theorem goes further, and is specifically interested in inequalities related to trade and specialisation. The authors show that there will be an increase in inequalities in the country that has a comparative advantage in producing high-tech goods (which require skilled labour) and a decrease in inequalities in the one that has a comparative advantage in producing goods that require labour (that happens to be in abundance). It is also believed that the opening of the borders will induce a loss in absolute terms of income for the unskilled workers of the country which has a comparative advantage in producing high-tech goods and a loss in absolute terms for the skilled workers of the country which has a comparative advantage in producing goods with low capital intensity.

III.2.2.3. The theorem of Rybczynski (1955) extends the HOS theorem: increasing the endowment of a country in a given factor of production, more than proportionally increases the production of goods using this factor intensely, and reduces the production of other goods. In other words, if the increase in factor endowment relates to the most abundant factor of production, then there will be an increase in the relative specialisation of the country. Conversely, there will be a decrease in specialisation if the increase relates to the rarer factor. This explains why a fast-growing country may see its specialisation slide from labour-intensive products to capital-intensive products. **Inequalities are therefore not fixed.** This is a crucial result for the doctrine of free trade, and all the more so since it could be verified in the case of Japan or the New Industrialized Countries (NICs) such as the "baby Tigers" (Indonesia Malaysia, Philippines, Thailand

and Vietnam), the "jaguars" (Argentina, Chile, Colombia and Mexico) and the BRICS (Brazil, Russia, India, China and South Africa. The same goes for the old NICs, i.e. the "Asian dragons" (South Korea, Hong Kong, Taiwan and Singapore).

III.2.2.4. R. Vernon's (1966) product life-cycle theory fits well with the logic of modern globalisations. In the beginning is the innovation in a rich country (capital intensive) and the development of a new product, first sold in the country at a high price. Domestic and foreign competitors enter the market, worldwide sales increase, production costs are crushed, and price competition drives prices down. The innovative company has no other choice but to innovate again, to relocate or to disappear (with the impact on jobs, wages ad inequality). We recognize in this diagram the history of companies like Philips in Hi-Fi or more recently Iphone "made in USA". Product life cycle theory sheds a modern and dynamic - and cruel - light on specialisation.

III.2.2.5. A. Emmanuel 's theory of unequal exchange (1969) explicitly highlights the imbalance due to trade between advanced and developing countries. Arghiri Emmanuel, a Greek economist, applies Marx's theory of exploitation to international trade. According to him, international trade would be assimilated to a process of exploitation of poor countries by rich countries. As exports from developed countries to developing countries incorporate fewer hours of labour than imports from these same countries (due to higher productivity), trade is inherently unequal, and leads to a transfer of value and a surplus of profits for the firms of the developed nations. This surplus profit is partly paid to workers in rich countries, who then contribute to the exploitation of developing countries. **This approach is therefore a refutation of the classical and neoclassical theory of the gains from international trade**.

The dependence of developing countries is not a cause of underdevelopment, but rather one of its consequences. **The independence of these countries can therefore only be effective when they have the technologies of the developed countries. Technology transfers will depend on the attitude of international firms.**

Like any theory, the theory of unequal exchange - especially its underlying assumptions - has been the subject of much criticism: the perfect mobility of capital is never verified; the international immobility of work has not been verified, as evidenced by the flow of migrants; trade, even unequal, is not necessarily an obstacle to development and progress; the rates of profit are not the same in all advanced and developing countries; the inequality of trade is not only motivated by wage differentials between countries (it is actually the result of a multiplicity of economic, social, technical and institutional factors); unequal trade does not exist only between developed countries and less developed countries (it also exists between developing countries, at similar wage levels).... Despite all these criticisms, the theory of unequal exchange remains an interesting normative approach.

III.2.2.6. The "New Theory" and the "new new theory" of (international) trade. The assumptions on which "traditional" theoretical models are based are considered to be too restrictive. It is therefore no surprise that a theoretical corpus has developed that breaks free from these constraints. The relocation of companies has thus been integrated into models of the Heckscher - Ohlin - Samuelson type, which leads to different conclusions from the initial model. Arndt and Kierzkowski (2001)) show for example that the fragmentation of production raises competitiveness, creates jobs, and enhances economic welfare. Deardorff and Stern's book (1994) bring together **many articles on extensions of the Stolper-Samuelson theorem, a theorem that has been widely used in the econometric literature on the globalisation-inequality relationship, both for advanced countries and for developing countries**. Thus, for example, according to Bigsten and Munshi (2014), estimates from a dynamic model for 15 OECD countries spanning the period 1983–2003 suggest that increased trade openness increases occupational wage inequality in poorer OECD countries as predicted by the Heckscher – Ohlin – Samuelson model. For the more advanced OECD countries, they do not find any significant effect: it can be explained by the rapid increase in the supply of skilled labour, the outsourcing of skilled jobs or because changes in the trade flows are too small to have any significant effect in those countries.

Globalisation was also expected to help the less skilled workers who are presumed to be the locally relatively abundant factor in developing countries. However, there is evidence that these workers are generally not better off, at least not relative to higher skilled or higher education levels employees. Goldberg and Pavncik (2007) wanted to explain this apparent paradox. They found that "*the effect of globalisation on inequality depends on many factors, several of which are country- and time-specific*", including: a country's trade protection pattern prior to liberalisation; the particular form of liberalisation and sectors it affected; the flexibility of domestic markets in adjusting to changes in the economic environment, in particular the degree of within-country labour and capital mobility; and the existence of other concurrent trends (e.g., skill-biased technological change) that may have interacted with or even partially been induced by globalisation. "*Given that different countries experienced globalisation in different ways and at different times, it is hardly surprising that the relevant mechanisms through which inequality was affected are case- specific*"

In sum, according to numerous research papers, **the theory underlying the conventional wisdom (the link between globalisation and inequality) is too stylized to capture the reality of the world, and there are other forces at work that override the effects of globalisation**.

It was for this raison that **a new approach emerged in the late 1970s - early 1980s** (E. Helpman K. Lancaster, P. Krugman, V. Norman in particular), **called the New Trade Theory (NTT)**. This approach goes much further than simple amendments to existing theorems. In particular, it proposes the abandonment of the hypothesis of perfect competition and its replacement by the hypothesis of imperfect competition. This is generally associated with taking into account increasing returns to scale and the differentiation of goods (product differentiation, quality differentiation, variety differentiation, etc.). Another novelty: the NTT also integrates network effects: industrial planning and tariffs can play a major role in the creation of large industries, and they cannot be ignored.

In the 2000s, another approach emerged, emphasizing the importance of companies rather than sectors. This helps to better understand the difficulties and opportunities encountered in the era of globalisation. **While the new trade theory NTT emphasised the growing trend of intermediate goods, the "new" new trade theory NNTT instead highlighted the differences among companies in the same industry in the same country**.

NTT and NNTT have several ambitions:

- To explain international trade between similar countries;
- To explain international trade in similar products;
- To supplement traditional theories based on the heterogeneity of countries with theories highlighting the homogeneity of countries;
- To supplement traditional theories with theories highlighting the heterogeneity of companies;
- Integrate firms into the theory of specialisation, i.e. **propose a microeconomics of globalisation** (Bernard - Jensen (2001), Das - Roberts - Tybout (2001), Melitz (2003), Melitz - Ottaviano (2008), Melitz - Redding (2012) ...).

The integration of monopolistic competition and the recognition of the heterogeneity of firms over the past three decades really represent two revolutions for international trade theories. According to these approaches, it is therefore **market structures** (economies of scale and differentiation of goods) that **influence the conditions for specialisation and can be the source of trade gains**. And it is the heterogeneity of companies that explains the contribution to international trade. Helpman, Melitz and Yeaple (2004) and Antràs and Helpman (2004) indeed observe the **link between productivity and participation in international trade**: the least productive companies serve only the domestic market, the most productive serve foreign markets via their subsidiaries, and companies with intermediate productivity levels opt for exporting. In a study covering over 30 countries, Beaulieu, Bennaroch and Gaisford (2011) also show that **skilled workers, almost everywhere, are more likely to support free trade**.

Studies show that the sectors are experiencing deep reallocations in response to trade liberalisation: on the one hand, the least productive companies tend to leave the sector; on the other hand, market shares are reallocated from the least productive companies to the most productive ones.

Like models using the HOS or Stolper Samulelson approaches, **monopolistic competition models incorporating firm heterogeneity shed light on the impact of international trade on income inequality**. In general, in a given sector, only a tiny fraction of companies will export. **Exporters are larger and more productive than non-exporting firms, and they pay higher wages than non-exporters**. For Helpman, Itskhoki and Redding (2010), the most productive firms are larger, and not only do they employ better workers, but they also pay higher wages than the least productive firms. And among them, only the most productive export. When no company exports, a reduction in trade costs pushes some companies to export, so that the latter will increase their wages compared to non-exporting companies: inequalities will then increase. Conversely, when all firms export, an increase in trade costs causes firms to stop exporting and this reduces the wages they paid, so that inequalities tend to increase relative to exporting firms. The authors therefore find the **existence of an inverted U-shaped relationship between the degree of openness and wage inequality**.

To sum up, **the vision of trade has evolved considerably over the centuries**. Considered a zero-sum game by mercantilist theory (about 300 years ago), trade has become, with Adam Smith and David Ricardo, an activity intended to benefit all partner countries, assuming that each puts forward its comparative advantages. But this approach does not allow us to address the question of the evolution of the distribution of income within a country, before and after the exchange. The Heckscher-Ohlin-and Stolper-Samuelson models have filled this important gap, because they precisely distinguish between workers and owners of physical capital, whether financial or human. According to these approaches, in vogue throughout the 1950s to 1980s, international trade was to benefit the abundant factor of production and was to harm the scarce factor of production. In other words, in rich countries, it had to benefit the owners of capital and hurt low- or unskilled labour. At the same time, it was to benefit low-skilled and unskilled workers in developing countries. This was not verified in reality, especially in developing countries.

NTT and NNTT revisited drastically the traditional approaches. **The review of the theories of Heckscher-Ohlin and Stolper-Samuelson does not lead to the conclusion that these theories are irrelevant, but rather that the origin of current trends in inequality is clearly not limited to trade**. "***Inequality is clearly a serious problem that merits political attention. But focusing on trade is not the way to resolve it***" (Frankel (2018)).

Table 4: Trade theories and inequality: a synthesis

Theory	Trade theory / theorem and inequality
The mercantilist theory (16^{th} - middle of the 18^{th} century)	Trade is a zero-sum game according to the **mercantilist theory**. There are winners and losers. International trade and in particular the acquisition of gold and silver are the engines of prosperity. The State (or the Kingdom) is invested with the responsibility of developing national wealth, by adopting relevant policies of a defensive nature (protectionism) but also offensive (promoting export and industrialisation), in order to generate a surplus in the trade balance.

Theory	Trade theory / theorem and inequality
The absolute advantage theory (Adam Smith (1723-1790))	Trade is an activity intended to benefit all partner countries, assuming that each puts forward its advantages. Wealth cannot come from the accumulation of precious metals, because there are too many losers. **The absolute advantage theory** turns out to be preferable, as it involves specialising each country in selling what it is best for abroad. But this is not generalisable either, as some countries have no absolute advantage.
The comparative advantage theory (David Ricardo (1772-1823))	Trade is an activity intended to benefit all partner countries, assuming that each puts forward its advantages. David Ricardo's approach, called **the comparative advantage theory**, is to specialise in producing the goods for which the country is either the best or one of the least bad.
John Stuart Mill (1806-1873)	**John Stuart Mill questions the distribution of the wealth created**. The poorest countries (the dominated) are expected to benefit more from open trade and free trade because they consume less than the rich countries. World prices having to obey the law of supply of demand, would therefore not be to the detriment of the "dominated".
The Hecksher – Ohlin – Samuelson model (HOS model (1933))	According to **the Hecksher – Ohlin – Samuelson model**, each country tends to specialise in the production and export of goods incorporating intensively the factor of production relatively abundant in the territory, and to import products requiring the use of factors relatively scarce in the country (**factors of production endowment theory**). Free trade creates inequalities: some countries will produce goods with high added value, while others will produce goods for which the profit will depend on the ability to compress wages
The Stolper Samuelson theorem (1941)	With **the Stolper – Samuelson theorem**, there should be an increase in inequalities in the country that has a comparative advantage in producing high-tech goods (which require skilled labour) and a decrease in inequalities in the one that has a comparative advantage in producing goods that require labour (that happens to be in abundance).

Theory	Trade theory / theorem and inequality
The Rybczinski theorem (1955)	**The Rybczinski theorem** implies that specialisation and inequalities are not fixed forever. If the increase in factor endowment relates to the most abundant factor of production, then there will be an increase in the relative specialisation of the country. Conversely, there will be a decrease in specialisation if the increase relates to the rarer factor. A fast-growing country may see its specialisation slide from labour-intensive products to capital-intensive products. A crucial result for the doctrine of free trade, and it can be verified in the case of Japan or the New Industrialised Countries (NICs) such as the "baby Tigers", the "Jaguars", the BRICS, and the forer "Asian dragons".
The product life-cycle theory (Raymond Vernon (1966))	In the beginning is the innovation in a rich country (capital intensive) and the development of a new product, first sold in the country at a high price. Domestic and foreign competitors enter the market, worldwide sales increase, production costs are crushed, and price competition drives prices down. The innovative company has no other choice but to innovate again, to relocate or to disappear ... with the impact on jobs, wages ad inequality. These are the main conclusions of **the product life-cycle theory.**
The unequal exchange theory (Arghiri Emmanuel (1969))	**The unequal exchange theory** states that international trade must be assimilated to a process of exploitation of poor countries by rich countries. As exports from developed countries to developing countries incorporate fewer hours of labour than imports from these same countries (due to higher productivity), trade is inherently unequal, and leads to a transfer of value and a surplus of profits for the firms of the developed nations. The dependence of developing countries is not a cause of underdevelopment, but rather one of its consequences. Technology transfers are crucial to alleviate this dependency.

Theory	Trade theory / theorem and inequality
The new trade theory (NTT – from end 1970s to early 1980s) & The "new" new trade theory (NNTT – 2000s)	The integration of monopolistic competition (**the new trade theory** - NTT) and the recognition of the heterogeneity of firms (**the "new" new trade theory** - NNTT) over the past three decades really represent two revolutions for international trade theories. According to these approaches, market structures (economies of scale and differentiation of goods) are the driving forces that influence the conditions for specialisation and can be the source of trade gains. And the heterogeneity of companies explains the contribution to international trade. The most productive firms are larger, they employ better workers, and they also pay higher wages than the least productive firms. And among them, only the most productive export. These theories propose a microeconomics of globalisation, and they explain that the origin of current trends in inequality is clearly not limited to trade.

III.3. Financial globalisation, financial liberalisation and inequalities

The quality of institutions, financial development, trade and financial liberalisation are the transmission channels of financial globalisation on inequalities.

III.3.1. The quality of institutions and inequalities

The quality of institutions (political, judicial, etc.) can strongly condition the relationship between finance and income inequality.

Thus, in weak political institutions, legislative power and political representation are such that it allows vested interests to influence access to finance so that they benefit more from financial development than the poor (Rajan and Zingales (2003)). De Haan and Sturm (2017), however, do not find these results in their study: according to them, financial development on income inequality is not conditioned by democratic accountability: the framework of high-quality institutions (as well as financial development) do not necessarily reduce inequalities. With poor quality institutions, financial development (or financial liberalisation) may not affect inequalities due to the lack of legal protection for the poor (Chong and Gradstein, 2007).

In the presence of strong institutions, financial development can reduce inequalities, enabling the poor to invest in human and physical capital (Law - Tan - Azman-Saini (2014)). A similar argument can be made for financial liberalisation (Delis, Hasan and Kazakis (2014)).

Overall, the quality of institutions can strengthen the impact of regulations on income distribution, and help reduce inequalities, while weaker institutions undermine such an outcome.

III.3.2. Economic globalisation, financial globalisation, trade globalisation and inequalities

Economic globalisation is a multifaceted concept. Trade openness and financial openness indeed capture different dimensions of economic globalisation (Gräbner - Tamesberger - Heimberger - Kapelari - Kapeller (2018), Gygli - Haelg - Potrafke - Sturm (2019)), and the diversity of this globalisation is such that the research is clear: globalisation of trade and financial globalisation may not have the same impact on income inequalities (Feenstra and Hanson, 1997; Figini and Görg, 2011; Gozgor and Ranjan, 2017). Heimberger (2020) thus shows that the globalisation of trade affects income inequalities to a lesser extent than financial globalisation. He even finds that the overall effect of trade globalisation is relatively small: "*in other words, economic globalisation is an important determinant of income inequality, but mainly through financial globalisation rather than through the globalisation of income. trades*".

So, to fully understand the impact of globalisation on inequalities, it is necessary to look at financial globalisation... And to fully understand the impact of financial globalisation on inequalities, it is important to look closely at two dimensions of the finance, namely financial development and financial liberalisation. And we must also focus on the evolution of income inequalities within countries.

III.3.3. Financial development and inequalities

There is an abundant literature on the relationship between financial development and income inequality. Many studies highlight the fact that it is not easy for the poorest people to access sometimes basic financial services. Information and transaction costs are burdensome for those who lack collateral and credit history. Relaxing these credit constraints can only benefit the less advantaged classes (Aghion and Bolton (1997), Beck - Demirgüc-Kunt - Levine (2007)). Technology is now a good way to ease these frictions (and even to compensate for the size of financial sectors (Demirgüç-Kunt and Levine (2009)), and electronic money (especially in Africa) is a good example. A good point while Greenwood and Jovanovic (1990) had shown in the past that improving the quality and range of financial services does not tend to increase access to financial services; rather it improves the quality of financial services already enjoyed by those who already purchase financial services.

Most of the recent empirical research focuses on the size of the financial sector (with the exception of Naceur and Zhang (2016)), which does not seem to make sense. The results of De Haan - Sturm (2017) suggest, as Greenwood and Jovanovic (1990), that financial development increases inequalities, but they point out their results do not imply that financial development (as well as financial liberalisation) is necessarily bad for the poorest.

There is an abundant literature showing that finance plays a positive role in promoting economic development (at least to some extent), which will benefit the poor. However, overall, and as Demirgüç-Kunt and Levine (2009) point out, **the empirical literature on the relationship between financial development and income inequality provides very mixed results**. It is impossible to say with certainty whether financial development will increase or decrease income inequality. **A positive impact on poverty, but mixed impacts on inequality: here lies again the differences between poverty (an absolute concept), and inequality (a relative concept).**

Some results are presented in Table 5.

Most studies cover a large number of countries (advanced and developing) and periods of 50 to 60 years. Some of them indicate that countries with higher levels of financial development have less income inequality (Li - Squire - Zou (1998), Clarke - Xu - Zou (2006)), Beck - Demirgüc Kunt - Levine (2007), Kappel (2010), Hamori and Hashiguchi (126 countries, (2012)), Agnello and Sousa (2012), Kunieda - Okada - Shibata (2014 (2014), and Naceur and Zhang (2016)). Other studies report a nonlinear relationship due to threshold or conditionality effects. Thus, Kim and Lin (2011) find that the benefits of financial development on income distribution only occur when the country has reached a threshold level of financial development. Delis - Hasan - Kazakis (2014), as well as Law - Tan - Azman-Saini (2014) conclude that financial development tends to reduce income inequalities only after a certain threshold of institutional quality has been reached. The results are sometimes very mixed, for example Bahmani-Oskooee and Zhang (2015) who indicate that the positive effects may only be temporary. Finally, several more recent studies indicate that financial development can even increase income equality. This is the case for the studies by Jauch and Watzka (138 countries (2012)), Jaumotte - Lall - Papageorgiou (2013), Li and Yu (2014), Denk and Cournede (33 OECD countries, (2015)) and Dabla Norris - Kochhar - Ricka - Suphaphiphat - Tsounta (2015)).

Table 5: Studies on the impact of financial development on inequality

Study	LHS variable	Conclusion
Li, Squire and Zou (1998)	Gross and net Gini	Increase in financial development reduces inequality
Clarke, Xu and Zou (2006)	Log Gini	Negative relationship
Beck, Demirgüc-Kunt and Levine (2007)	Growth of Gini	Negative relationship
Kappel (2010)	Gini (poverty)	Financial development reduces inequality, also via capital market but weak link in less developed countries

Study	LHS variable	Conclusion
Kim and Lin (2011)	Growth of Gini	Only above threshold of financial development does financial development decrease inequality
Gimet and Lagoarde-Segot (2011)	Estimated household income inequality	More credit increases inequality
Jauch and Watzka (2012)	Gross and net Gini	More development leads to more inequality when controlling for country and time fixed effect
Hamori and Hashiguchi (2012)	Estimated household income inequality	Financial development reduces inequality
Jaumotte, Lall and Papageorgiou (2013)	Gini	More development leads to more inequality
Law, Tan and Azman-Saini (2014)	Log Gini	Conditional relationship: with high institutional quality, financial development reduces income inequality but under low quality no effect
Kunieda, Okada and Shibata (2014)	Net Gini	Financial development reduces inequality in financially closed economies
Bahmani-Oskooee and Zhang (2015)	Log Gini	Only in three countries lasting equalising effect
Denk and Cournede (2015)	Gini of disposable income	Financial development leads to more inequality (but not for value added). Banking crises not significant
Naceur and Zhang (2016)	Gini and poverty gap	Financial development reduces income inequality while Financial liberalisation increases income inequality
De Haan and Sturm (2017)	Gross Gini	Financial development increases inequalities, but their results do not imply that it is necessarily bad for the poorest

Source: adapted from de Haan and Sturm (2017)

III.3.4. Financial liberalisation, financial regulation and inequalities

Among the three dimensions of finance that have been the subject of studies on inequalities, financial liberalisation has a prominent place. This is supposed to reduce inequalities by reducing imperfections in the credit market, by giving access to financial services to all households, including the less fortunate…. This is what supports financial liberalisation and explains why, in recent decades, there has been a global push to liberalise the financial sector.

In 1991, Banerjee and Newman showed that imperfections in the credit market effectively prevent the poorest from making productive investments, for example in education. It is a problem as human capital can be a direct factor in reducing inequalities. As financial liberalisation reduces these imperfections, it is therefore likely to reduce income inequalities. Moreover, according to Abiad - Oomes - Ueda (2008), financial reforms most often result in improving the efficiency of the national financial system, which leads to better (and more general) access to credit. Beck - Levine - Levkov (2010) found that the deregulation of American banks from the 1970s to the 1990s significantly reduced inequalities: it allowed income to increase at the bottom of the income distribution, and it has little impact on incomes above the median.

Table 6 provides a summary of recent studies. **Most of these studies conclude that financial liberalisation reduces income inequalities** (Agnello - Mallick - Sousa (2012), Delis - Hasan - Kazakis (2014), Li - Yu (2014)). **But discordant voices have arisen more recently**. Thus, Jaumotte - Osuorio Buitron (2015), Naceur - Zhang (2016) and Phillippon - Reshef (2013) conclude that financial liberalisation increases inequalities. They find, for example, that financial deregulation has increased the demand for skills in the financial sector and that relative wages in the financial sector are linked to skill intensity.

For others, the positive effect of financial liberalisation is not certain, either because it is only temporary, or because it is conditioned, or because liberalisation creates dangerous fraglities. Bumann and Lensink (2016), for example, suggest that the impact of financial liberalisation on inequalities is conditioned by financial development. According to them, financial liberalisation will improve income distribution in countries with high financial depth. In essence, they consider that financial liberalisation only tends to lower income inequality if private credit over GDP exceeds 25%. According to de Haan - Sturm (2017), the impact of financial liberalisation on inequalities also seems to be conditioned by the level of financial development (as well as by the quality of political institutions). But for Rancière - Tornell - Westermann (2008), the danger for inequalities comes from the possibility of financial liberalisation coinciding with too rapid and excessive expansion of credit, which creates financial vulnerabilities and risks of crisis. Clearly, **if the expansion of credit is a necessary condition for reducing inequalities, it can also increase them if the expansion is too steep**.

Regarding the methodology used, it can also be shown that **the choice of the indicator used to measure liberalisation is not neutral**. Most studies on the impact of financial liberalisation on income inequalities use the Abiad - Detragiache - Tressel index (2010). The database used covers 91 economies and the index is based on banking regulatory practices: there are therefore several sub-indices. The study of Delis - Hasan - Kazakis (2014) is interesting because it uses the global index and its sub-indices. The authors show that the liberalisation policies carried out from the 1970s to the beginning of the 2000s contributed to containing income inequalities. However, this conclusion may vary depending on i) the type of regulatory policy, (ii) the level of economic and institutional development of the country, and (iii) membership in a market economy or in an economy dominated by the banking system. Their results are very enlightening, because not only did they dissociate the policies carried out, but they also studied the sustainability of the impacts, as well as the implications in terms of economic policy. They thus show several things:

- **The abolition of credit controls significantly reduces income inequalities**, and this effect is long lasting;
- **Interest rate controls and tighter banking supervision reduce income inequalities**; however, these effects wear off over the long term;
- **Banking supervision has a detrimental long-term effect on inequalities**: stricter capital requirements tend to reduce the availability of credit, mainly for the less well-off, the most vulnerable and the most fragile categories;
- **Removing barriers to entry and strengthening privatisation laws appear to reduce income inequality only in developed countries**;
- In contrast, **the liberalisation of securities markets increases income inequalities**.

What are the **political implications** of these results? There would be mainly three:

- First, it should be noted that although banking regulations can reasonably be seen as **stricter market discipline requirements reduce banks' appetite for risk taking and improve stability** (Barth - Caprio - Levine (2008)), the empirical results of Delis - Hasan - Kazakis (2014) therefore suggest that these effects are asymmetrical and that **certain liberalisation policies (the liberalisation of securities markets) or regulatory policies (higher capital requirements) in fact increase income inequalities**. In other words, banks pass the increased costs of higher risks (resulting from the liberalisation of securities markets) and higher capital requirements onto the relatively low-income population lacking good loans and collateral. In other words, according to these authors, «***there is probably a trade-off between banking stability and inequalities***». A result to be taken into account before pushing further any regulatory reform or modifying the structure of existing banking regulations.
- Then, **while the literature struggles to define a net impact (positive or negative) of financial liberalisation on inequalities, the authors show that some of its components have a positive impact**: this is notably the case of the abolition of

credit in particular, which effectively allows the poorest to access credit more easily. A positive point to get around the poverty trap or to be able to invest (in capital, including human capital) and be able to increase income over time.

- Finally, **before seeing a positive effect of financial liberalisation on inequalities, economies must have reached a certain level of economic and institutional development**, which does not allow socio-economic elites to directly influence the decisions of politicians and supervisors.

Some other studies analyse specifically the impact of capital account liberalisation, which is one of the dimensions of the Abiad - Detragiache - Tressel index (2010), on income inequality. For example, the sub-index "capital account liberalisation " received special attention. While the size of the credit / GDP ratio is important to trigger a positive impact on the reduction of inequalities (Bumann and Lensink (2016)), many studies make a harsh observation on financial liberalisation. For example, using the Abiad - Detragiache - Tressel index (2010) and an alternative indicator of financial liberalisation based on components of the Fraser Institute's index of economic freedom, de Haan - Sturm (2017) show, in contrast to Bumann and Lensink (2016), that with high levels of financial development, financial liberalisation increases income inequalities. They also find that the quality of political institutions (with greater democratic accountability) conditions the impact of financial liberalisation on the reduction of income inequalities. Comparing three income brackets, before and after capital account liberalisation, and in 11 countries that undertook major reforms between 1986 and 1995, Das and Mohapatra (2003) find that capital account liberalisation benefits the top quintile of the distribution of income to the detriment of the "middle class"; in addition, the bottom quintile (the one with the lowest incomes) is, on average, very little impacted. Furceri and Loungani (2015) find that on average, **capital account liberalisation increases inequalities, especially as countries have weak financial institutions and reforms are followed by episodes of financial crises**. In a study covering the period from 1975 to 2005 and on 20 mainly European economies, Lorrain (2015) shows that the liberalisation of the capital account increases the relative wages between workers with higher education and those with higher education went to high school. In other words, **the opening of the capital account is more favourable to skilled workers than to unskilled workers**.

By relying on the hypothesis that greater financial openness will support economic development and increase the incomes of the poorest households, international institutions have continuously pushed all countries (advanced countries and then developing countries) to the liberalisation of the capital account (Chang (2002), Rodrik (2007)). Unfortunately, **we have to admit that it is not easy, empirically, to highlight the positive effects of financial globalisation (as a whole) on the reduction of income inequality. In other words, the dominant doctrine that links financial openness and the reduction of inequalities is questionable.**

Table 6: Studies on the impact of financial liberalisation on inequality

Study	LHS variable	Conclusion
Das and Mohapatra (2003)	Share of income owned by the jth quintile	The mean share held by the top quintile rose by 1.3 percentage points, while there is no discernible change in the mean income share of the lowest quintile; Financial liberalisation insignificant
Agnello, Mallick and Sousa (2012)	Net income Gini	Reform (i.e. increase in Financial liberalisation) reduces inequality
Delis, Hasan and Kazakis (2014)	Gini coefficient; Theil index	Financial liberalisation reduces inequality
Li and Yu (2014)	Gross Gini	Significant interaction with schooling. Private credit has negative impact on equality
Jaumotte and Osuorio Buitron (2015)	Gross and net Gini	Financial liberalisation increases inequality
Furceri and Loungani (2015)	Gross Gini	Financial liberalisation increases inequality
Bumann and Lensink (2016)	Gross Gini	Financial liberalisation only tends to lower income inequality if private credit over GDP exceeds 25%
Christopoulos and McAdam (2016)	Gross and net Gini	Net Gini stabilised
De Haan and Sturm (2017)	Gross Gini	Financial liberalisation increases inequalities, but their results do not imply that it is necessarily bad for the poorest

Source: adapted from de Haan et Sturm (2017)

III.4. Digital globalisation: from the digital divide to the digital inequality

The digital divide is the economic and social inequality as regard the access to (first level of digital divide), the use of (second level), or the impact (third level) of information and communication technologies. The divide between industrialised and developing countries refer commonly to what we call the “global divide” while the divide between socioeconomic groups within a country reflects to the “social divide”.

Van Duersen and Helsper (2015) have identified eight categories of benefits from the use of ICTs (Information and Communication Technologies):

- Economic use related to commerce,
- Economic use related to labour,
- Social uses,
- Educational uses,
- Political uses,
- Use of government institutions,
- Use of health institutions.

The gaps in terms of access and use of ICTs reinforce social inequalities through a persisting information or knowledge gap amid those people with access to and using the new media. One can identify with Warschauer (2002) the "haves" (those who have access to information and knowledge) and the "have-nots" (those who do not have access to information and knowledge), which defines the digital inequality. Van Dijk (2012) suggests that "*digital inequality is increasingly important in a network society and may lead to structural inequalities, excluding a majority of the population from active participation in that network society, not to speak of the most vulnerable groups*". To sum up, research supports the link between social inequalities and the digital divide on many different levels. And generally speaking, highly educated individuals get more economic commerce, institutional government, and educational benefits from the Internet than those less educated.

Where do we stand exactly as regards the digital divide? **Internet access varies greatly from continent to continent, from country to country**. According to the latest data available (Internet World Stats, Q1 2021), only **43% of Africans have internet access** (68% in Morocco and Tunisia, 57% in Algeria, 60% in Gabon and Mali, 56.7% in Senegal, 45.3% in Ivory Coast, 14.7% in Congo, 11.9% in Togo, 6.9% in Eritrea ...), against **63% in Asia** (53.8% in India, 68.5% in China, 89% in Malaysia , 87.7% in Singapore, 81.5% in Thailand, 96% in South Korea, 18.4% in Afghanistan, 0% in North Korea), **87.7% in Europe** (98.5% in Norway, 92.5% in Italy, 92.3% in France, 96% in Germany, 94.9% in the United Kingdom, 87.7% in the Czech Republic, 66.7% in Bulgaria, 78.2% in Poland, 89% in Hungary...) and **95% in North America** (95.6% in the United States and 89.9 % in Canada), around **72% in Latin America** (67.6% in Peru, 70.7% in Brazil, 63.2% in Colombia, 42% in Guatemala, 18% in Haiti ...) and **70.8% in Middle East** (98% in Kuwait, 100% in Quatar, 59.6% in Iraq, 35.9% in Iran...). **64% of the planet's inhabitants have internet access** in 2021Q1 (Table 7)).

In each country, there are also strong disparities between large cities and less urbanised regions. In addition, disparities are identified between income brackets, between age groups and within age groups (by no surprise, older adults with higher socioeconomic status are more likely to benefit from the diversity of Internet use (Hargittai - Dobransky, 2017)), **between socio-economic classes**, i.e. between the richest ("haves") and the poorest ("not haves"). But that's not all: Fairlie (2017) concludes that “*the “digital divide” based on ethnicity and race has not been bridged in the US and remains as large as it was two decades ago*.” **This situation confirms the magnitude and the complexity of digital inequalities.**

Table 7: World internet usage and population statistics (2021 Year-Q1 Estimates)

World Regions	Population (2021 Est.)	Population % of World	Internet Users (31 Dec 2020)	Internet Penetration Rate (% Pop.)	Growth 2000-2021	Internet World %
Africa	1,373,486,514	17.4 %	590,296,163	**43.0 %**	**12,975 %**	11.7 %
Asia	4,327,333,821	54.9 %	2,707,088,121	**62.6 %**	**2,268 %**	53.6 %
Europe	835,817,917	10.6 %	728,321,919	**87.1 %**	**593 %**	14.4 %
Latam & Carribean	659,743,522	8.4 %	477,869,138	**72.4 %**	**2,544 %**	9.4 %
Middle East	265,587,661	3.4 %	188,132,198	**70.8 %**	**5,627 %**	3.7 %
North America	370,322,393	4.7 %	332,919,495	**89.9 %**	**208 %**	6.6 %
Oceania & Australia	43,473,756	0.6 %	29,284,688	**67.4 %**	**284 %**	0.6 %
WORLD Total	7,875,765,584	100.0 %	5,053,911,722	**64.2 %**	**1,300 %**	100.0 %

Source: www.internetworldstats.com

NOTES:

(1) Internet Usage and World Population Statistics estimates are for December 31, 2020.

(2) Demographic (Population) numbers are based on data from the United Nations Population Division.

(3) Internet usage information comes from data published by Nielsen Online, by the International Telecommunications Union, by GfK, by local ICT Regulators and other reliable sources.

Even more interesting is the **rate of progression over 20 years: + 13% in Africa only, but + 600% in Europe, + 2300% in Asia, and + 1300% in the world**. Looking at the percentages of Facebook users shows similar results (see Tables 8, 9 and 10). These figures clearly show the extent of the digital divide and the inequalities that exist between countries in terms of access and use of ICTs.

Table 8: Europe Internet Usage (2021 Population Stats and Facebook Subscribers)						
	Population (2021 Est.)	Pop. % of World	Internet Users (31 Dec. 2020)	Internet Penetration rate (% Pop.)	Internet (% World)	Facebook (31 Dec. 2020)
Europe	829,173,007	10.7 %	727,559,682	**87.7 %**	16.0 %	**340,891,620**
Rest of world	6,887,050,202	89.3 %	3,808,689,126	**55.3 %**	84.0 %	**1,858,536,950**
WORLD Total	7,716,223,209	100.0 %	4,536,248,808	**58.8 %**	100.0 %	**2,199,428,570**

Source: www.internetworldstats.com.

Table 9: Asia Internet Usage (2021 Population Stats and Facebook Subscribers)						
	Population (2021 Est.)	Pop. % World	Internet Users (31 Dec. 2020)	Internet Penetration rate (% Pop.)	Internet % Users	Facebook (31 Dec. 2020)
Asia	4,327,333,821	54.9 %	2,707,088,121	**62.6 %**	53.1 %	**1,096,713,600**
Rest of world	3,548,431,763	45.1 %	2,346,823,601	**66.1 %**	46.4 %	**1,632,814,141**
WORLD Total	7,875,765,584	100.0 %	5,053,911,722	**64.2 %**	100.0 %	**2,729,527,741**

Source: www.internetworldstats.com.

Table 10: Africa Internet Usage (2021 Population Stats and Facebook Subscribers)					
	Population (2021 Est.)	Pop. % World	Internet Users (31 Dec. 2020)	Internet Penetration rate (% Pop.)	Facebook (31 Dec. 2020)
Africa	1,373,486,514	17.4 %	590,296,163	**43.0 %**	**255,412,900**
Rest of world	6,502,279,070	82.6 %	4,463,594,959	**68.6 %**	**2,475,026,941**
WORLD Total	7,875,765,584	100.0 %	5,053,891,122	**64.2 %**	**2,730,439,841**

Source: www.internetworldstats.com.

In September 2015, the Member States of the United Nations agreed on "Sustainable Development Goals" (SDGs) and defined a global development program based on "*economic prosperity, social inclusion and environmental sustainability*", known as name of "2030 Agenda for Sustainable Development". Since that date, the UN program has identified ways in which ICTs can be applied to the 17 Sustainable Development

Goals and 167 indicators to measure their progress. These efforts have been motivated by the emergence and proliferation of academic research highlighting the correlation between ICTs and economic growth, and finding their potential for poverty reduction. Flor (2001), for example, identified an "*indisputable link*" between a high human poverty index and a lower penetration rate of ICTs (telephone lines, personal computers and televisions) in Southeast Asia. A study by Obayelu and Ogunlade (2006) described how the use of ICTs could increase women's empowerment and reduce poverty in Nigeria, even considering that poverty reduction could not be achieved without greater and more effective use of ICTs. **With a little more hindsight, one can state that access to ICTs is not enough to reduce poverty**, and by comparing countries, **it is very difficult to show that digital investment and the diffusion of digital technologies progress is strongly associated with the reduction of income inequalities** (see on this point the work of Pepper and Garrity (2015).

To conclude on the impact of ICTs on inequality, one must wonder about a classification of the digital divide. Sassi (2005) provides interesting answers, thanks to the identification of four different approaches. All of them have direct implications for inequality.

- **The technocratic approach of digital divide**: the diffusion of digital technologies creates an information society, and in an optimal world, the differences in use are supposed to be occasional and / or temporary. As Sassi pointed out, "*i) it is generally admitted that there still are considerable differences in internet use, even in the most advanced countries, and ii) it is argued that the public sector should level out the differences by making opportunities available to everyone, notwithstanding differences in social, educational or economic backgrounds. Iii) The discourse expresses confidence in the ability of the new technology to overcome social inequality*".
- **The social structure approach of digital divide**: digital inequalities are structural and depend on social gaps. These differences are supposed to disappear with the removal of social inequalities. However, the problem is to diffuse social relations, not technology. According to Norris (2000), even if the basic digital divide shrinks gradually over time, "*it is naive to believe that the virtual world can overturn the fundamental inequalities of social stratification which are endemic throughout post-industrial societies, any more than it is likely to overcome world poverty*".
- **The information structure and exclusion approach of digital divide**: information and communication technologies strengthen structural inequalities and also create new ones, such as exclusion, marginalisation and self-exclusion.
- **The modernisation and capitalism approach of digital divide**: according to this approach, there is a connection between modernisation and ICT, with ICT assisting in controlling and managing very complex modern societies. Moreover, "*the industrial system is increasingly dependent on ICTs as a means of managing the flow of production, distribution and consumption*" (Sassi (2005)). Digital technology and the social economic system are interdependent structures. We

have presented, in a previous section, the role of the heterogeneity of firms, and we know that **income inequality is partly due to inequalities between firms, which then translate into inequalities between people who work for them. In the digital age, the technological gap between innovative companies and others is widening**, which is also supported by R&D spending, which is concentrated in a few companies. Those who work for such companies enjoy better financial conditions, that is a fact. They are better paid, whatever the level. In addition, it is in these companies that the wage differentials between employees and managers are also the highest. In other words, it contributes to inter-firm and intra-firm income inequality.

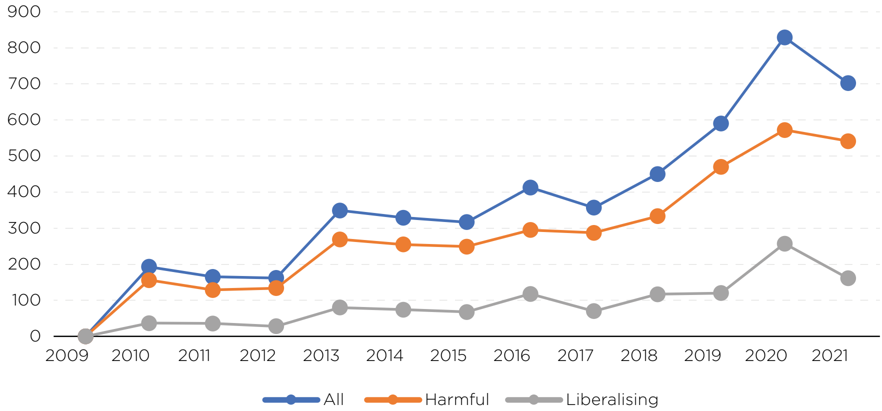
III.5. Deglobalisation, protectionism and inequality

Inequality and globalisation are inevitably linked to a third concept, protectionism. It has been observed in recent years that, even if **attitudes to trade are shaped by a complex set of determinants, both economic and non-economic ones, countries with higher levels of inequality are those which are under increasing protectionist pressures** (Mayda - Rodrik (2005)), **as well as those under the influence of populism** (Evenett - Fritz (2019)). This is especially true since the 2008 financial crisis, and the COVID pandemic has not really changed this trend. In fact, we have witnessed a veritable and continuous proliferation of protectionist measures for a little over 10 years. 2018 is also - and without question - considered a landmark year, with the emergence of the Trump protectionist policy, and rising fears of a full-scale trade war (See Ithurbide (2018) for a detailed analysis of trade war history and impacts).

While tariffs continued to decline, non-tariff measures (NTMs) have been rising since 2012. NTMs include all measures that restrict or distort trade flows, such as export subsidies, national clauses in public contracts and restrictions on granting licenses, technology transfer or FDIs. The financial crisis and the period known as the "great recession" (2008-2010) had major consequences on trade. It can easily be demonstrated that countries implement more restrictive trade policies during recessions or during periods when they are less competitive. Over recent years, it has been the G20 countries (with the US and Russia leading the way) which have introduced NTMs on a massive scale. The role of NTMs should not be overestimated because overall, their impact on the volume of world trade has been relatively modest, with average estimated tariff equivalents of all measures remaining low. There is, however, a clear trend (see Ithurbide (2017)): Germany, the United Kingdom, China and France, for example had around 50 NTMs in 2009, Russia and the US less than less than 100 each. The US imposed close to 2350 discriminatory interventions since 2009, vs. 1850 in Germany, 950 in Russia, 260 in South Korea, 500 in Turkey, 920 in UK, 900 in Canada, 790 in France, 700 in Japan … China imposed 3000 discriminatory measured, but has also implemented 2000 liberalising measures (around 360 in the US, UK, Germany, Russia, and France, 50 in Japan, 90 in South Korea, 160 in Turkey).

In total, according to the Global Trade Alert website (Chart 10), several thousands of harmful measures have been implemented in the world since 2009: 32% contingent –trade protective measures, 26% subsidies (excluding export subsidies), 14% export-related measures, 11% tariff measures, 3% trade-related investment measures (14% other measures).

Chart 10: G20 new protectionist measures per year (Updated April 2021)

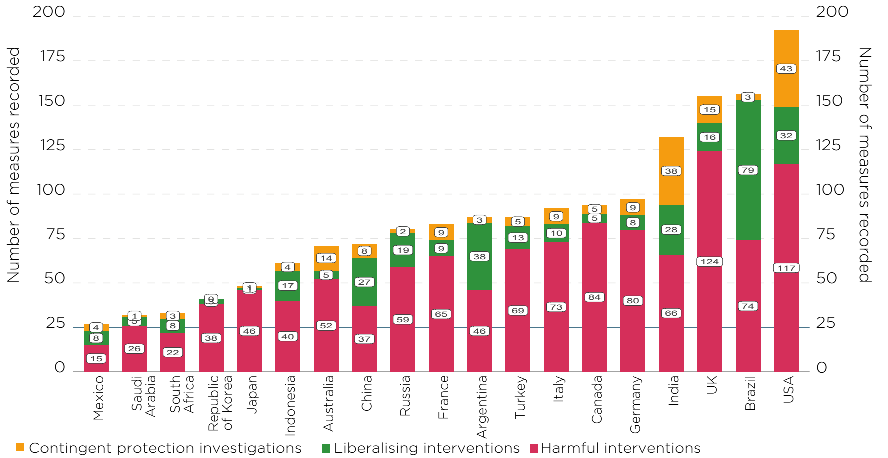


Source: WorldTradeAlert.com

The COVID-19 pandemic has not dampened protectionist tendencies. From January to 31 October 2020, a total of 2,031 policy interventions affecting international commerce were imposed by governments around the world (cose to 1/8th of this amount by the US). That total is up 74% over the same period in 2019 and 147% higher than the average for 2015-2017, the years before the United States-China trade war really kicked in (World Trade review 2020). Only 27% (or 554) of those 2,031 policy interventions benefited trading partners. Due to the COVID pandemic, 106 nations implemented a total of 240 reforms to ease the importation of medical goods and medicines, though.

In the first 10 months of 2020, together the G20 members undertook 1,371 policy interventions—1,067 of which harmed trading partners (Chart 11). The harmful total is up 24% on 2019 and 117% higher than the years before the 2018-2019 trade war, i.e. 2015-2017 (Evenett - Fritz (2020)).

Chart 11: G20 trade-related policy response in 2020



Source: Evenett - Fritz (2020)

The will to eradicate inequalities and the desire for a better sharing of added value are new realities. Addressing financial stability, inflation, banking systems solvency, wealth effects (through support to equities and real estate) is not sufficient, especially to reduce inequality. That is the reason why the IMF "slammed" globalisation and why the BIS also "slammed" central banks for merely boosting capital markets as a reaction to what is now clearly the failure of globalisation. **This does not mean, however, that protectionism is a solution to rising inequalities. Usually, tariffs (and especially trade wars) lower growth, and raise inequality levels**.

All in all, **the rise of inequalities and precariousness, the rise of populism, the loss of confidence in institutions and in politics... are all factors which link globalisation, inequalities and protectionism**. Even if trade does not appear to be the worst component of globalisation, the protectionist response has been visible since 2009. And the least that can be said is that it has not prevented the widening of inequalities. These are influenced, as we have seen above, by multiple factors that protectionism cannot mitigate. If educational protectionism (which consists in protecting a nascent industry so that it grows, becomes prosperous, and becomes part of international competition - F. List (1841)) can be welcome under certain conditions, if full free trade carries with it a part of naivety, and if the relocation of strategic companies and the regaining of a certain sovereignty may appear unavoidable (as the COVID pandemic brutally shows), **the persistence of open, unprotected, less profitable and more fragile sectors guarantees that gross inequalities will remain strong. As autarky has never been an option, only effective redistribution policies can correct gross inequalities**. And to ensure that a country generates less gross inequalities, the emphasis must be on inclusive policies: only effective redistribution policies can correct gross inequalities, while structural policies can improve fairness and equal opportunities. It is always preferable to reduce primary inequalities, in order to be able to better target redistribution policies and make them more effective ... and limit public expenditures.

III.6. Globalisation and inequality: a synthesis

Globalisation concerns many areas such as finance, environment, trade, politics, culture, legal, social issues ... As regards economics, we are used to paying particular attention to different forms of globalisation, its relationship with inequalities are multifaceted.

Industrial globalisation is the tendency for multinational companies to strategise on a global scale. Theoretical research (the new trade theory and especially the new new trade theory) has been interested for the last twenty years in the heterogeneity of companies as an explanatory factor for participation in trade and the impact on inequalities.

Commercial globalisation corresponds to the development of trade within an integrated world market. We have extensive data on world trade and income distribution. The danger is to see the correlations as explanatory factors. Low causality and methodological biases should not hide the underlying factors of inequalities. Research shows, however, that if economic globalisation has an impact on inequalities, it is more through financial globalisation than through commercial globalisation.

Financial globalisation manifests itself in the establishment of a unified global money market and an increase in capital movements. The concept of financial globalisation refers to the process of integrating different capital markets and opening up all national markets internationally to achieve a single global capital market. It is the result of the development of financial innovations and new technologies in a general context of deregulation. It is characterised by the explosion of banking and financial activities and institutions that are sometimes referred to by the general term of financial markets to show the importance of their role in certain monetary, stock market or banking developments. **The financial globalisation has more impact on inequalities than the globalisation of trade, which explains why much of the literature focuses on it as a priority, and in particular because its excesses are also the cause of financial crises and economic damages**. Financial development seems less important in the impact on inequalities than financial liberalisation. In the wake of academic research, it is the latter that creates the most damage. A fact to be compared with the dominant doctrine which, for several decades, advocated, including for developing countries, for greater financial liberalisation. Let's be honest: **while the impacts in terms of inequalities are obvious, the advantages of such a policy for development and poverty reduction are immense. Finance and capitalism (when it is not about colluding capitalism) are not always and everywhere enemies of the fight against inequalities and poverty**. We have also shown that the quality of institutions is also an important criterion highlighted by numerous studies.

It doesn't end there. A new form of globalisation started in the 2000s. It is digital globalisation (the digitisation of the world), which is, in short, the fourth dimension of globalisation, after industrial globalisation, trade liberalisation (since the end of the Second World War) and the financialisation of the world (the acceleration of which dates from the 1980s). On this point, it is clear that the inequalities are strong and that the gap between the countries is significant. This situation even enshrined a concept: the digital divide, i.e. the economic and social inequality as regard the access to, the use of, or the impact of information and communication technologies. For an analysis of the transformations generated by Entrepreneurial iconomics, with an "i" for intelligence, IT, internet, innovation, integration, see our Discussion Paper on the subject (Ithurbide (2021)).

IV. Factors underlying the rise of inequality: a synthesis

In developed countries, **high income inequalities are often seen as one of the drivers of major problems** such as economic stagnation, concentration of wealth, lack of social mobility, erosion of trust, lack of solidarity and weak social cohesion, rising populism, disinterest in politics, lower quality health services ... in the other way, what are the driving forces for rising inequality?

There are different forms of inequality: between countries, and within countries ... income inequalities, wealth inequalities, consumption inequalities. The literature unanimously concludes that inequalities between countries have been reduced for several decades, with sometimes impressive results. The case of China is exemplary. But it also almost unanimously concludes that there is an increase in inequalities within a good number of countries, with in particular - everywhere - a capture of wealth on the part of a small number of households, on the one hand, and - especially in advanced countries - an impoverishment of the middle classes on the other hand. Redistribution policies make it possible in part to correct the excesses suffered by the most disadvantaged households.

There is an abundant literature on the factors of inequality, and it is often very divided as regards empirical results. The explanatory factors of income inequality which figure prominently in the academic literature are the structure of the political system (Reuveny and Li (2003)), the institutions of the labour market and in particular the relations between workers and managers of corporates (Checchi et Garcia-Penalosa (2008)), the heterogeneity of companies (New Trade Theory), disparities between sectors of activity and between companies**, the** survival and growth of companies, access to education (Abdullah – Doucouliagos - Manning (2015), Heimberger (2020)), technological changes and the consequences on the relative skills between types of workers (Card and diNardo (2002), Heimberger (2020)), the allocation of public expenditure, the role and efficiency of redistributive policies (in other words the specificities of the Welfare State (Rudra (2004)), purely macroeconomic factors such as inflation, growth or the distribution of national income Li et Zou (2002)). As we presented in this Discussion Paper, growth (under conditions) and some forms of globalisation may foster inequality.

Apart from all these factors, one can also identify a good number of societal developments (the list is not exhaustive):

- **The change in forms of work and working conditions**, such as the increase in the number of part-time, fixed term, low skilled, less stable and less well-paid jobs filled mostly by young people. One-third of OECD jobs meet this description. Furthermore, this form of employment makes up nearly 60% of jobs created since the mid-1990s.
- **The change in the technological environment** that favours skilled workers and widens the wage gap with the unskilled. Technological revolutions also generate more income in some sectors than others, contributing to wage disparities.
- **The transfer of manpower from industry to services**, which are more heterogeneous in terms of occupations and skills, and less well organised than industry to press wage demands.
- **Innovation and the efficiency of the education system**, which reduces average income disparities but increase extreme inequality (which we may have to accept during the technological revolution).
- **The weakening of wealth redistribution policies due to budgetary restraint and austerity or unfavourable tax and social policies**, such as lower marginal tax rates on high income and capital.
- **Increased trade integration and financial openness** which impact wages and thus inequality through a sharp rise in the labour supply, especially for the least skilled.
- **Automation of repetitive jobs** facilitated by the falling cost of machines, another consequence of globalisation.
- **Labour market reforms** in several OECD countries to lessen employment protection, not only for temporary employment, but also for full-time employees on open-ended contracts. It has increased wage dispersion.
- **The rise in the level of education**, which has led to a reduction in inequality in some countries but exacerbated it in those with inappropriate or inadequate job training or educational systems.
- **The increased proportion of women in the workforce**, which has reduced inequality.
- **The rise in single person or childless households**, which has increased inequality. It is important not to overestimate the impact this factor has on overall figures, but the growing number of single-person/childless households (15% of working-age households in the late 1980s, 20% in the mid-2000s) contributes to the rise of inequality. The smallest households do not benefit from the pooling of resources and sharing of expenditures.

- **Another particularly important factor is social mobility**. "Social ladders" do not function as well as they once did. Social determinism is a factor that, in some countries, has become a real obstacle in the fight against inequality. France is a good example.
- **Size of families might be a factor aggravating inequality**. The Australian economists Geoffrey Brennan, Gordon Menzies, and Michael Munger consider that inheritance of human capital is bound to exacerbate inequality indicators because "*for the first time in human history richer parents are having fewer children [...]. Even if the increased opulence continues, it will be concentrated in fewer and fewer hands*" (Brennan – Menzies - Munger, 2014).
- **The weakness of education systems (or the access to these systems)** in some countries,
- **The increasing concentration of high capital incomes and labour income in the hands of the same people** (Atkinson and Lakner (2014)).
- **The tendency of the richest and the most qualified to marry together**.
- **The growing importance of money in politics**, which allows the richest to vote for rules that favour them and which therefore have the consequence of maintaining inequalities (Gilens (2012)).
- **...**

In sum, there are plenty of factors driving inequality, macro-factors and micro-factors. At the very beginning the trade theory was a pure macro approach, unable to take into account intra-country impacts and micro-factors. It is not the case anymore.

Conclusion: Growth, globalisation and inequalities

This discussion paper has explored the relationships between growth and inequality on one hand, and between globalisation and inequality on the other hand. Economic theory, history, academic literature and empirical studies have been present throughout this article.

Question # 1. Does inequality harm economic growth?

Although it is generally accepted that inequalities negatively impact growth, the relationship is much more complex when it comes to quantifying the impacts. On the link between growth and inequalities, we can find in the literature many a priori clear-cut results, in one sense as in the other. And taken as a whole, they are contradictory and even antinomic. For example, we find the following results:

- Growth inevitably generates inequalities;
- Inequalities "destroy" growth;
- In times of weak growth, inequalities continue to rise;
- Countries that struggle against inequalities face a loss of growth;
- The (negative) impact of inequalities on growth is more pronounced for developing countries than for rich countries.

The relationship is unstable in time and space, and much research has statistical biases. In addition, it is a question of clearly defining the inequality that we analyse (inequalities between the hyper-rich and the rest of the population, gross or net inequalities, absolute or relative inequalities, etc.) and the indicators that we will use or analyse: the results obtained depend on it. This instability strongly blurs the general message. In total, there is a big gap between intuition or theory and empirical verification:

- **Income inequality can on the one hand be detrimental to growth**, if the feeling that inequality is increasing becomes intolerable, if the share of value-added is one-way and hurts wage earners, if primary income inequality is not corrected by the redistribution system, if opportunities fade away, and if social determinism lowers the prospects of the disadvantaged classes. As we have seen above, the link between inequalities and growth operates through different channels: they can reduce aggregate demand, fuel financial instability, hamper middle-class investment and risk-taking; they can hamper the improvement of skills and education, and thus reduce productivity; they can promote crime and corruption, hinder socio-economic mobility ...
- **On the other hand, inequalities can have a positive impact on economic activity and production** to the extent that income gaps provide incentives and rewards for self-effort, risk-taking and innovation (as long as wage differentials do not affect employee morale and productivity). These effects may only be temporary.

It should therefore be borne in mind that **it is not easy to show the empirical relationship between growth and net inequality. Although there is a considerable part of the literature that considers inequality detrimental to growth, more recent studies have challenged this result and even found a positive effect of inequality on growth**.

Question # 2. Does globalisation increase inequality?

The dominant doctrine (free trade) has long highlighted the positive effect of globalisation on the reduction of inequalities (especially in developing countries), which in particular justified financial liberalisation, world trade, etc. However, globalisation can work in two directions opposites: financial globalisation increases inequalities between profits and wages while economic globalisation increases wage (and employment) inequalities between skilled and unskilled people.

The rise in inequalities over the past thirty years has prompted us to look for the causes, and globalisation has rapidly emerged as one of the major drivers. In 1997, J.P. Fitoussi already stated that "*the real problem is that the surplus generated by globalization is acquired only at the cost of a considerable, perhaps unsustainable growth of inequalities. The holders of non-wage income (even if a very great inequality occurs between companies), rents and profits, see their income increase (...). The distribution of income is significantly distorted to the detriment of labour income. Structural inequalities are deepening*".

Even if there were already interesting empirical works on income inequalities from the end of the 19th century (H. George (1879) and C. Spahr (1896) in particular), comprehensive studies on the relationship between globalisation and inequality, both theoretical and empirical, have been carried out very recently. Economists, statisticians, and also historians have all contributed to research on this topic. Several results can be pointed out:

- To explain the rise in inequality that began in the 1980s and has accelerated since the turn of the century, many have pointed out that indicators of globalisation, such as the trade-to-GDP ratio, have also risen since 1980. **But correlation does not imply a causal link between trade and inequality.**
- The existing literature does not make it possible to establish conclusively and widely (in space and time) whether globalisation has a net positive, negative or no effect on income inequality. On average, according to a lot of studies, if globalisation has an effect of increasing inequalities, it is most often low to moderate.
- However, **globalisation is a too vast concept**. It is helpful to enter into the details.
- It is now accepted that **the globalisation of trade has a limited impact effect on income inequalities, a more limited impact than financial globalisation (financial liberalisation, financial development, quality of institutions)**. In other words, **if economic globalisation is a determinant of income inequality, it is mainly through financial globalisation and not through the globalisation of trade**. As Frankel (2018) noticed, "*inequality is clearly a serious problem that merits political attention. But focusing on trade is not the way to resolve it*".
- When financial globalisation has an impact on inequality, **financial liberalisation has larger impacts than financial development or quality of institutions**. A fact to be put in parallel with the dominant doctrine which, for several decades, advocated financial liberalisation for developing countries. Even if **the negative impact may exist on inequality, the advantages of financial liberalisation on economic development and poverty reduction are immense. Finance and capitalism (when it is not about collusion capitalism) are not always and everywhere enemies of the fight against poverty (an absolute concept) and inequalities (a relative concept)**.
- There is also **no compelling evidence that globalisation has, on average, contributed to lowering income inequalities in developing countries**.
- **The increase in inequality in developing countries - even when it is small or moderate - is generally similar to that seen in advanced countries, a finding that also contradicts mainstream «doctrine».**
- **Globalisation is not very inclusive**: it often benefits some, and not others ...
- **Globalisation was expected to help the less skilled workers who are presumed to be the locally relatively abundant factor in developing countries. It is not the case**: there is evidence that these workers are generally not better off, at

least not relative to higher skilled or higher education levels employees. What explains this apparent paradox? Is the theory underlying the conventional wisdom too stylised to capture the reality of the developing world? Or were there other forces at work that may have overridden the effects of globalisation? Both arguments are at play.

- **A new form of globalisation started in the 2000s. the digital globalisation (the digitisation of the world) is, in short, the fourth dimension of globalisation**, after industrial globalisation, trade liberalisation (since the end of the Second World War) and the financialisation of the world (the acceleration of which dates from the 1980s). It is evident that the digital inequalities are strong and that the digital gap between the countries is largely significant. This situation even enshrined a concept: the digital divide, i.e. the economic and social inequality as regard the access to, the use of, or the impact of information and communication technologies.

In his book "*Globalisation and Inequalities*" (2018), Elhanan Helpman (one of the most eminent specialists in globalisation) considers that "*while globalisation may have exacerbated inequalities in various ways, the major finding emerging from all recent research is that the root cause of the rise in inequality must be found elsewhere***".**

Question # 3. Where does inequality come from?

While globalisation may have exacerbated inequalities in various ways, the major finding emerging from all recent research is that **the root cause of the rise in inequality must be found elsewhere**.

The explanatory factors of income inequality which figure prominently in the academic literature are the structure of the political system, the institutions of the labour market and in particular the relations between workers and managers, the heterogeneity of companies, the survival and growth of companies, access to education, technological changes and the consequences on the relative skills between types of workers, the allocation of public expenditure, the role and efficiency of redistributive policies (in other words the specificities of the Welfare State), purely macroeconomic factors such as inflation, growth or the distribution of national income

Societal factors are also prominent : the change in forms of work and working conditions, the change in the technological environment, the transfer of manpower from industry to services, innovation and the efficiency of the education system, the weakening of wealth redistribution policies due to budgetary restraint and austerity or unfavourable tax and social policies, increased trade integration and financial openness, automation of repetitive jobs , labour market reforms, the potential decline in the level of education, the proportion of women in the workforce, the rise in single person or childless households, social mobility, the size of families, the concentration of high capital incomes and labour income in the hands of the same people, the tendency of the richest and the most qualified to marry together, the growing importance of money in politics ....

In other words, **alongside macroeconomic factors, one can identify lots effective microeconomic factors of inequalities. Most of them do not depend on trade or globalisation.** However, the myth of "happy globalisation" has fizzled out: the impact on the climate, the deterioration of the situation of the middle classes in developed countries, forced human migrations in developing countries, the relocation of companies, the precariousness and the loss of sovereignty are, along with the rise in inequalities, among the consequences most often mentioned.

The will to eradicate inequalities and the desire for a better sharing of added value are new realities. Protectionism, at work since 2009, is not the solution to rising inequalities. Usually, tariffs (and especially trade wars) lower growth, and raise inequality levels. The persistence of open, unprotected, less profitable and more fragile sectors raise inequality. **As autarky has never been an option, only effective redistribution policies can correct gross inequalities**. To ensure that a country generates less gross inequalities, the emphasis must be on inclusive policies: only effective redistribution policies can correct gross inequalities, while structural policies can improve fairness and equal opportunities. It is always preferable to reduce primary inequalities, in order to be able to better target redistribution policies and make them more effective ... and limit public expenditures.

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