

Intergenerational inequality in four large EU countries: Does one model fit all?

[Francesco Vona](#)

The extent to which social mobility differ across countries is subject of much debate in political and academic circles. The two poles of the relatively egalitarian Scandinavian countries and the relatively unequal Anglo-Saxon ones have been taken as key examples to corroborate a simple human capital-based explanation of cross-country differences in social mobility. In fact, stark differences in educational systems (e.g. private vs. public financing) and returns to skills well account for the gap in social mobility between Scandinavian and Anglo-Saxon countries. However, in a recent paper using comparable individual data for these four countries (*i.e.* EUSILC), I show that this explanation does not suffice in accounting for differences in social mobility across the four largest EU economies: Germany, France, Italy and Spain.[\[1\]](#)

To gauge insight on the validity of the human capital story, we observe that worker's skills on which earnings depend are the result of two inputs: family background (including genetic transmission of intelligence if any) and individual abilities independent on family background. Our working hypothesis is that these two inputs are complements and thus that coming from a good family pays especially for talented individuals who not only don't face any spatial and financial constraint to access best schools but are also exposed to a more stimulating cultural environment (Cunha and Heckman, 2007). We test this hypothesis using regression techniques that allow to estimate returns to family background conditional on individual abilities (Firpo *et al.*, 2009). The figure below shows the effect of family background in correspondence of

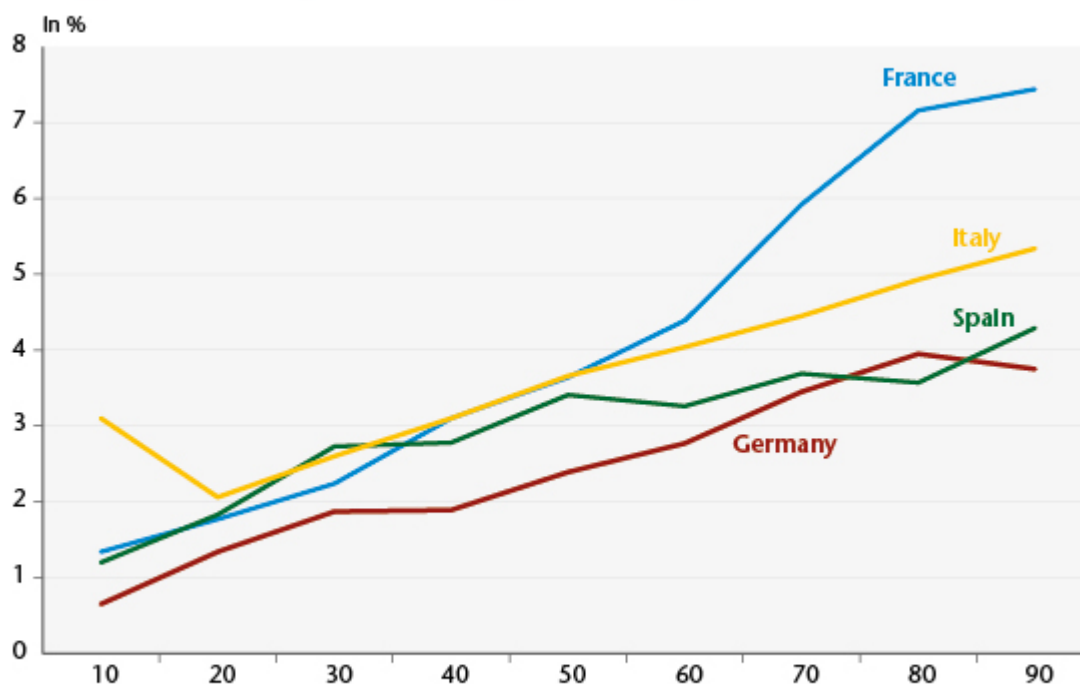
each decile of the son's earnings distribution, with a higher decile corresponding to higher individual abilities. The parental background coefficient should be interpreted as the percentage increase in earnings following a one-decile increase in the relative social position of the parents.[\[2\]](#)

At a first glance, our results lend to support to the hypothesis of a widespread background-ability complementarity. Returns to family background are higher at the top of the distribution not only in Germany and France, where parental influence on education is particularly important because of, respectively, the early tracking and the *grandes écoles* system, but also in the two Mediterranean countries, where usually non-meritocratic mechanisms are stronger.[\[3\]](#) However, one model does not fully fit all. First, the curve of returns to background is significantly steeper in the two central European countries than in the two Mediterranean countries, consistent with the idea that in Mediterranean countries family background affects children career prospects through social networks and nepotism.[\[4\]](#) Second, the effects of family background are significantly larger in France compared to the other three countries. While the extremely large effect in the top decile is broadly consistent with the parental influence on the probability of entering *grandes écoles* in France, large returns in the 7th and 8th decile indicate an increasingly polarized distribution of opportunities depending on family origins.[\[5\]](#)

This increasingly high social immobility correlated with children abilities questions the foundation of the French school system and cannot be accounted for by a simple private vs. public school argument. A possible explanation is residential segregation and thus a radical rethinking of school admission policy based on neighborhood of residence is needed. Targeted policies promoting the mixing of students from different socio-economic background in the same school appear in high need to allow the talented but disadvantaged

children to benefit from the positive peer effect from the well-off ones. Recent policy experiments carried out in the US show that these policies are particularly effective in increasing the career prospective of disadvantaged students (see Chetty *et al.* 2015).

Figure: Effects of parental background along the income distribution



Note: in France, for children in the last decile of income, an increase of one decile of parental background increases children's income by 7,5%.

Source: EUSILC, 2011.

[1] See [Raitano, M., Vittori, C., Vona, F., 2015, 'The effect of parental background along the sons' earnings distribution: does one model fit for all?', OFCE working paper, n° 2015-18 and Applied Economic Letters, forthcoming.](#) We use the information provided by the 2011 EU-SILC wave that includes a specific section with information on family characteristics when the interviewed was around 14 years old.

[2] We build a comprehensive measure of family background combining various family characteristics (mainly educational and occupational attainments of the parents) to obtain a distribution of parental social positions and associate each child to a given social position ranked from one to ten for

convenience.

[3] Note that the parental background coefficient is always statistically different from zero, apart from in the first decile in Germany and Spain.

[4] Raitano, M., Vona, F., (2015). "[Measuring the link between intergenerational occupational mobility and earnings: evidence from eight European countries](#)", *Journal of Economic Inequality*, vol. 13(1), 83-102.

[5] Note that in the previous wave of the EU-SILC survey on intergenerational mobility, France displayed lower intergenerational inequality than Italy, Spain and the UK.

The promotion of renewable energy innovation: when State intervention and competition go hand in hand

by [Lionel Nesta](#) and [Francesco Vona](#)[1]

In contrast with the common belief that competition demands no State intervention, innovation policy and competition complement each other. This is the main conclusion of our investigation concerning innovation in the realm of renewable energy (RE)[2], summarized in the [OFCE Briefing Paper, n°8, October 6, 2014](#).

By and large, innovation is the only answer to both sustaining

current life standards and overcoming severe environmental concerns. This is especially true in the case of energy, where increasing resource scarcity calls for the rapid development of renewable energy sources, such as biomass, solar and wind.

The issue is: despite this considerable increase, renewable energy can still not compete with fossil fuel, the production of the latter being cheaper and its distribution more efficient. Hence without a long-term perspective, the development of renewable energy cannot take place. Public support, it is well-known, is better equipped than private parties to take such a stance. And to understand which policy design may best spur innovations in renewable energy is a key question.

Public policies aim to spur investments in green capacity and technical change and to reduce the cost of RE generation. The adoption of the Kyoto agreement on climate change mitigation too has created a consensus about certain environmental policies (i.e. emission trading schemes). Over the past 20 years, OECD countries have increasingly supported innovation in RE by diversifying the range of RE policies (see Figure 1 for selected countries).

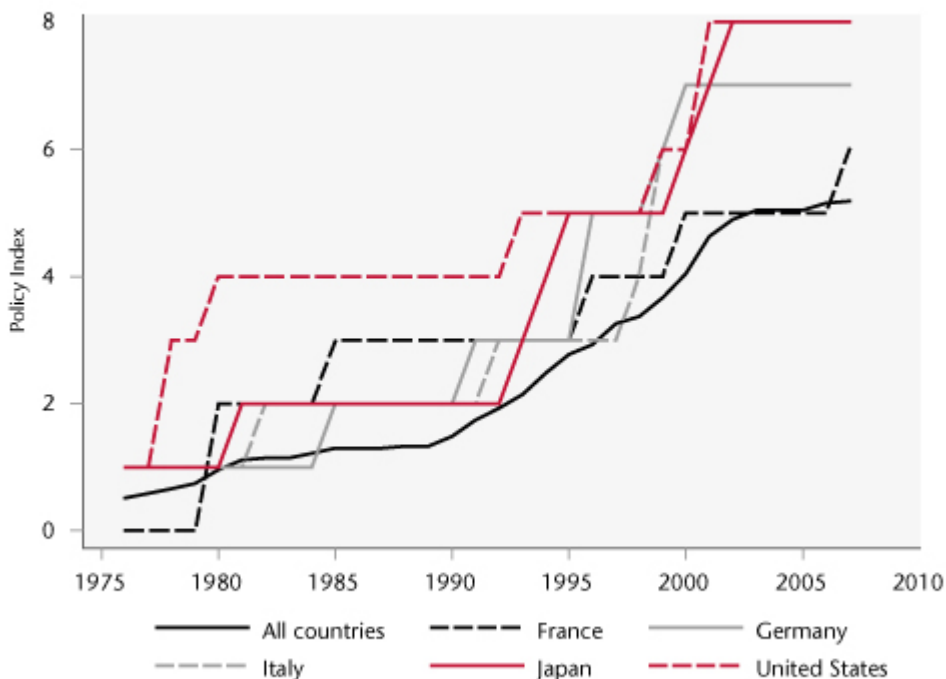
Meanwhile, liberalization has changed the working of energy markets in most OECD countries. It has increased market competition by lowering entry barriers and privatizing energy producers. We view liberalization of the energy market as positive for innovation. Radical innovation is mainly developed by newcomers. And large incumbents have little incentive to fully develop new technologies that would question their past investments in large-scale energy production.

In a context of amplified public support to RE innovation and increased liberalization of energy markets, it is important to test how the interplay between the two affects innovation in renewable energy.

We find that renewable energy policies are more effective in fostering green innovation in liberalized energy markets. We find that such policies are three times as effective in highly deregulated energy markets than in more regulated ones. In general, this complementary effect is one of the largest drivers of innovation, especially for frontier patents. This result is summarized in Figure 2 where we depict the estimated effect of RE policies on innovation as a function of the degree of market deregulation. This effect is positive only for countries with a level of regulation below average, as is the case for Germany and the United States.

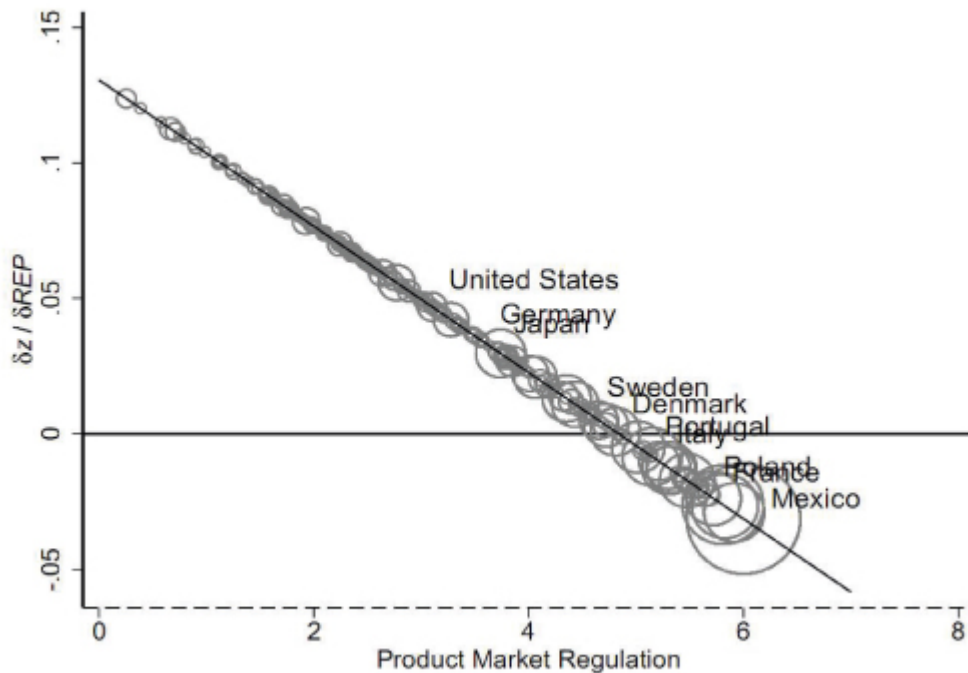
Our conclusion is that the effect of RE policies on innovation is crucially mediated by the degree of competition in the energy market. Therefore, and again, in the energy sector, in contrast with the common belief that competition demands no State intervention, innovation policy and competition complement each other.

Figure 1. Evolution of the Policy Index (REP) for 5 countries and for all countries (1976-2007)



Source: See Nesta et al. (2014).

Figure 2. Estimated marginal effect of RE policies on RE innovation



Source: Nesta et al. (2014).

[1] This research project benefited from funding from the European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement n°320278 (RASTANEWS).

[2] See: Nesta, L., Vona, F., Nicolli, F., 2014. "Environmental Policies, Competition and Innovation in Renewable Energy," *Journal of Environmental Economics and Management*, vol. 67(3), 396-411.

Better abilities or stronger social ties? Drivers of

social immobility across EU countries

par [Francesco Vona](#)

A high level of income inequality is commonly regarded to be more acceptable when associated with high social mobility. Empirical evidence has however shown that unequal countries are rarely able to ensure high social mobility to their citizens. On the contrary, countries that rank high in the level of inequality are also the worst in term of social mobility[\[i\]](#). The simple reason is that a given level of social immobility is amplified when rewards to individual characteristics, which are transmitted from parents to child, are larger. For instance, when the earning advantage for the high skilled is large, intergenerational inequality (that is: the correlation between parent and child incomes) increases because, on average, high skilled workers come from better family backgrounds.

Economists tend to attribute cross-country differences in social mobility to the working of the educational system and its influence on the effective skills possessed by individuals coming from different family backgrounds. In particular, several empirical studies using standardized test scores show that there exist substantial background-related differences in competences and skills at a given level of educational attainment[\[ii\]](#). Among OECD countries[\[iii\]](#), the influence of family background on test scores achievements is particularly strong in France (the second worst country after the USA in terms of intergenerational educational inequality), Germany and the UK, while it is relatively weaker in Italy and Spain. Whereas background-related differences in the effective level of skills certainly play a major role in creating persistency in socio-economic statuses, the working of labour markets is also an important, yet neglected, source of social immobility.

On the one hand, labour market institutions reduce the observed level of intergenerational inequality whereby institutions compressing wages (i.e. centralized wage bargaining, high unionization or minimum wage) are present. On the other hand, family ties constitute a labour market network that can help well-off individuals in finding good jobs and obtaining promotions.

In a recent paper (Raitano and Vona, 2014a)[\[iv\]](#), we assess the role played by labour market networks and individual skills in the transmission of socio-economic inequalities. We argue that high levels of intergenerational inequality can be due to: 1. formal educational attainment; 2. other (empirically unobservable) dimensions of human capital affected by family background, i.e. soft skills or better quality of education; 3. family and social ties affecting labour market outcomes and occupational sorting. Our main idea is to use intergenerational occupational mobility to distinguish between two types of association between family background and child earnings. A standard type emerges because, especially in top occupations, the well-off child should have a higher level of human capital (a glass ceiling effect) due to the fact that he attended top schools or inherited better soft skills. In contrast, the second type is associated with insurance for the children of the well-off ending up in bottom occupations (a parachute effect), who clearly display a low level of skills for a given level of education. To implement this idea, we use the 2005 module on intergenerational mobility of the EUSILC dataset and examine these two effects in eight EU countries characterized by different levels of intergenerational inequality and belonging to different welfare regimes. Our empirical analysis is motivated by the claim that returns to upward and downward social mobility could arguably stem from different sources. A glass ceiling of upward mobility is likely to depend on both network effects and unobservable skills that are positively correlated with family background. Conversely, it is hard to believe that the parachute effect

can be associated with better unobservable skills; hence, in this case, family networks should be of paramount importance.

By way of an example, imagine that a child is in the first tercile group (low social position) of its distribution but that his father was in the third tercile group (high social position). This individual clearly has a good background, but his relative position signals that he has a low ability. In this case, a positive association between family background and earnings (i.e., a parachute effect) would depend on the family network rather than on unobservable skills related to the child's background. Conversely, it is not easy to infer the true unobservable skills of individuals who maintain their positions and earn more than others while sharing the same occupation but coming from a worse background. Hence, the identification of the glass ceiling effect is more problematic.

We find that family ties can create a considerable earning advantage for Spanish and Italian workers [\[v\]](#). In these two countries, the high observed intergenerational inequality is mainly explained by a parachute effect for the well-off worsening their social position. In Italy, this parachute effect is particularly high: all else equal, the child of the well-off who worsens its social position earns annually 12% more than the child of the worse-off who stays in the same position. This result is consistent with a sociological view of social mobility where families play a key role both in the allocation of workers to jobs and in determining earning increases within a job [\[vi\]](#). Interestingly, this result does not hold for other immobile European countries, such as the UK and to a lesser extent France. In these cases, the earning advantage of the well-off is fully driven by a penalty for those climbing the social scale, i.e. glass ceiling effect. While this result seems consistent with the classical human capital view of intergenerational inequality (where access to elite educational institutions is highly dependent on family

background), our study cannot discriminate between the two explanations because a glass ceiling at the top could also be engendered by social networks. However, since the glass ceiling effect is widespread across all countries, including more equal ones (i.e. Germany, Finland, Ireland and Denmark), this effect is most likely due to unavoidable features either of the educational system or of the cumulative process of skill formation, at least in countries where students with similar socio-economic backgrounds are sorted into the same school.[\[vii\]](#)

Overall, our study suggests that intergenerational transmission of inequality strongly depends on the features of the country's labour market, especially in Mediterranean countries where family ties are extremely important in finding good jobs. Further research is required to understand which part of intergenerational inequality emerges during the educational period and which part emerges during the working career, accounting for the learning advantage possessed by high skilled individuals and thus for their steeper earning profiles. In future research[\[viii\]](#), we aim at decomposing the two effects in a more precise way for a cohort of Italian workers that we observe during their entire careers.

[\[i\]](#) See: Corak, M., 2012. How to Slide Down the 'Great Gatsby Curve': Inequality, Life Chances, and Public Policy in the United States. Center for American Progress, December. Available at <https://mileskorak.files.wordpress.com/2012/12/corakmiddleclasses.pdf>.

[\[ii\]](#) See: Fuchs T., Wößmann, L., 2007. [What accounts for international differences in student performance? A re-examination using PISA data](#), [Empirical Economics](#) 32.

[\[iii\]](#) See:
<http://www.oecd.org/centrodemexico/medios/44582910.pdf>.

[\[iv\]](#) Raitano, M., Vona, F., 2014a. [Measuring the link between intergenerational occupational mobility and earnings: evidence from eight European countries](#), Journal of Economic Inequality forthcoming.

[\[v\]](#) The results are obtained running regressions for samples of representative individuals for each country.

[\[vi\]](#) See: Ganzeboom, H., Treiman, D., 2007. Ascription and achievement in comparative perspective, Russell-Sage University Working Group on Social Inequality, University of California-Los Angeles.

[\[vii\]](#) Mixing students from different background in the same schools tends to reduce the influence of family background on individual student achievement without having negative effects for the average student achievement in the school. See: Raitano, M., Vona, F., 2013. [Peer heterogeneity, school tracking and students' performances: evidence from PISA 2006](#), [Applied Economics](#) 45.

[\[viii\]](#) Raitano, M., Vona, F., 2014b. From the Cradle to the Grave: the impact of family background on carrier path of Italian males, mimeo.

Inequality and Global

Imbalances: reconsidering old ideas to address new problems

by [Jean-Luc Gaffard](#) and [Francesco Vona](#)

The main challenge of the Bretton Woods agreements was to reconcile social justice and full employment to be achieved through domestic policies with an international discipline and progress toward trade liberalization (Rodrick 2011). After more than six decades, such division of objectives between international and domestic policies has been questioned by the current economic crisis, characterized by high debt levels, remarkable global imbalances and low global demand. It can hence be useful to reopen an old debate by reconsidering ideas that were discarded in the past, such as the proposal of Keynes to create global demand stabilizers. Our suggestion is that a global stabilizer that prescribes surplus countries to gradually increase their wages can have both a direct positive effect on global demand, without increasing public debts, and an indirect one by favouring a reduction in income disparities.

The structural lack of global demand represents unquestionably the key constraint to exit from the great recession. Worldwide, sluggish demand appears as the resultant of two quite independent factors, a *constraint* and a *political choice*. The choice is of those countries, especially emerging ones plus Germany, that build up their wealth on export-lead growth using a mix of wage moderation and clever firms' industrial strategies. The public debt constraint, instead, impacts upon the possibility to expand demand of the majority of developed countries. As these countries should enforce restrictive fiscal policies to prevent default, their only chance to expand demand impinges on redistribution in favour of poorer households who consume a larger fraction of their incomes.

The current debate on this matter is misleadingly at best, oscillating between the usual Scylla and Charybdis of more or less state intervention. From a standard Keynesian viewpoint, the bottleneck in global demand is the consequence of neo-liberal policies, which in Europe are worsened by the opposition of Nordic countries against large scale public funded EU programs, possibly financed with EU bonds. From an orthodox viewpoint, which relies upon the belief in a trickle-down mechanism (increase the wealth of the rich eventually benefit all), the crisis represents an opportunity to remove the last barriers to a full liberalization of labor and goods markets. These barriers would prevent EU economies to raise their competitiveness with respect to their new emerging competitors, the BRICS (Brazil- Russia- India-China- South Africa). While Keynesians are overoptimistic in their belief that more public expenditures will succeed in ensuring a fresh start to our feeble economies, orthodox economics neglects by assumption the problem of global demand. In particular, it ignores that a race for competitiveness based on further wage moderation and welfare state cuts would only amplify the global demand constraint.

It is well documented that, in last thirty years, living conditions and real wages of both low and middle skilled workers decreased substantially while profits and, in general, earnings of top 1% earners increased impressively, especially since the 2000s (Piketty and Saez 2006, Eckstein and Nagypál 2004, OECD 2011). The widening in incomes has been especially large in the US and Anglo-Saxon countries where deregulated labour markets allow wage to adjust downward, but also affected European economies in other forms such as structurally higher unemployment rates and higher profit shares (Krugman 1994). The excessive decrease of the median wage with respect to the average productivity created a fundamental wedge between demand, which is more sensible to wage changes than to changes in profit opportunities, and supply, for which the opposite holds. Globalization plays a

key role in increasing inequality between profits and wages as increases in capital mobility were not accompanied in parallel increases in international labour mobility (Stiglitz 2012). Only the joint working of increasing debt (both private and public) and of productivity improvements related to new information & communication technologies prevented the demand deficit to emerge earlier together with the dysfunctional role of excessive inequality (see Stiglitz 2012, Fitoussi and Saraceno 2011, and on the role of technical change Patriarca and Vona 2013). Global imbalances played a key role in maintaining high the level of global demand as long as savings of countries with commercial surpluses (e.g. China) were borrowed to households and governments in countries with commercial deficits (e.g. the US). By mitigating the consequence of on excessive inequality, they keep also under control the political pressure for redistribution. But, as we have seen, they are a source of macroeconomic instability. In fact, the saving glut in export-led economies creates a mass of liquidity in search of investment opportunities that increases the likelihood of asset price bubbles, especially in presence of an inadequate and oversized financial sector (Corden 2011).

Leaving ethical considerations aside, the concern for rising inequality in western economies would have been irrelevant for overall growth provided the lower demand there was compensated by a growing demand in emerging and export-led countries, such as China. Unfortunately, the compensation did not and is not expected to take place soon for at least two reasons.

First, oligarchies in emerging economies (especially China) found it convenient to sustain global demand indirectly, rather than through wage increases proportional to productivity, by investing large current-account surpluses in the US financial market and so financing US consumers. The indirect empirical support for this argument is that inequality increased in China too since the market friendly

reform started. Especially inequality in factor shares, i.e. between profits and wages, increased substantially since the 1995 with the labour share falling by between 7.2% and 12.5% depending on the accounting definitions used (Bai and Qian 2010).

Secondly, a historical comparison of catching-up episodes can help shed light on the origin of the global demand glut. Between the second half of the 19th century and the beginning of the 20th century, the economic catching-up of both Germany and the US with the UK was soon followed by convergence in living standards and wages (Williamson 1998). Nowadays, the economic catching-up of China is much slower in terms of convergence of wages and living conditions. By way of example, China's GDP per capita increased from 5.7% to 17.2% of US GDP per capita from 1995 to 2010 (source: World Penn Tables), while the hourly labour compensation cost is also increasing but reached only 4.2% of the US labour compensation cost in 2008 (source: Bureau of Labor Statistics Data). This gap between GDP per capita and unit labour cost in China clearly shows that the catching-up in terms of workers' living conditions is far slower than the economic catching-up.

The reasons for this slow wage convergence deserve further investigations and have probably to do with factors affecting institutional changes that support redistribution from profits to wages, including culture and tax progressivity (Piketty and Qian 2009), in the catching up country. Certainly, the size of Chinese population relative to the world population did not help in fastening these institutional changes. By simple assumptions of standard bargaining theory, bargaining power depends on the outside option that, for workers, is limited by existence of a large 'reserve army' willing to work for extremely low wages. One can then argue that the larger the reserve army, the longer it takes to reduce the downward pressure on the workers' wages in the advanced part of the economy. De facto, the wage convergence has been much faster

in previous catching-up episodes since the labour constraint becomes stringent sooner due to the smaller size of the population, allowing workers to fight for better conditions and higher wages. In a nutshell, an excessively large reserve army in the countryside prevents both wages to increase and democratic reforms to take off in China, thus creating a wedge between the timing of economic growth and the one of political reforms, required to rebalance demand and supply.

Not only the slow wage convergence of catching-up country causes persistent global imbalances between demand and supply, it is also the essential reason of the obstacles faced to reduce inequality in western countries. First, implementing redistributive policies and increases in real wages are likely to further reduce competitiveness and to bring about a substantial investment outflows. Second, the trend of delocalizing production abroad can have forced workers to accept lower wages; an effect that is difficult to correlate empirically with observable proxies of globalization such as trade or investment outflows.. While empirical analyses looking at the last 30 years of the 20st century concur that globalization was not the main driver of inequality increases, recent evidence shows that: (i) Outsourcing had a negative impact on middle and low skill wages and employment levels in developed countries, especially in the last decade (Firpo, Fortin and Lemieux 2011); (ii) The effect of trade on inequality can be underestimated due to production fragmentation (Krugman 2008).

Global imbalances are also likely to create political obstacles to policies aimed at reducing inequality. An oversized financial sector contributed to increase earnings of the top 1% of the population and so their lobbying power. This allowed these super-rich to heavily influence political decisions making their rents higher, especially through a massive reduction of tax progressivity (Fitoussi and Saraceno 2012) and other opaque channels (e.g. fiscal loopholes,

Stiglitz 2012). Now, this lobby of super-rich makes it exceedingly difficult to limit the power of finance and restore fairer tax rates for financial rents and top incomes.

How to avoid the stalemate generated by global imbalances and global pressure for wage moderation? Are there in the system as it is endogenous forces that will eventually reduce global imbalances and inequality?

The first option is to wait for reforms in China. Politicians in western countries can hope in a speeding up of this process that will lead to a parallel increase in real wages and hence global demand. This will be the ideal market solution, but it is unlikely to occur in the short- and medium-run. A second possibility will consist in a large scale devaluation of western economies' currencies: Dollar, Euro and Yen. However, such a policy is likely to create a devaluation spiral, also increasing investment uncertainty. Moral suasion is unlikely to convince Chinese politicians to not devalue the Yuan as their assets in dollars and euro will depreciate substantially. A third protectionist solution is not convincing at all as it is likely to trigger a retaliation spiral paving the way for global wars. Indirect and global political interactions are an issue at stake here: nationalistic political parties and the associated protectionist policies are more likely to become popular if the timing of Chinese reforms is too slow and so the adjustment process too painful in the medium-run. A fourth solution is to resort to an old idea of John Maynard Keynes on 'global automatic stabilizers'. In the post-WWII context, Keynes proposed an international institution, the so-called International Clearing Union' (ICU), to reabsorb both commercial surpluses and deficit, seen as equally worrisome (see also the article in Italian of A. Bramucci 2012). In particular, persistent commercial surpluses were seen as a potential source of long-term shortages of global demand. The main idea was to coordinate thorough the ICU both re-

evaluations and demand expansions for the countries in surplus, and de-evaluation and control of capital movements for countries in deficit. Such an institution would go in the right direction to help reabsorbing global imbalances, but lack enforcement power to ensure that the necessary adjustments are effectively put in place.

Combining a global rule for wage adjustment with WTO sanctions can represent a more clever and reliable way to revive global demand. The first part of the proposal would consist in linking real wage growth not only to productivity growth, as proposed by A. Watt (2011), but also to commercial surplus. Conditioned to the country's level of development (so the prescribed adjustments should take into account of initial level of GDP per capita and obviously adjusted for PPPs), countries experiencing medium-term growths both in productivity and in the commercial surplus have to increase real wages. Otherwise, other countries could raise tariffs on the products exported by the country that does not follow the rule. The effective capacity to implement of the rule can be reinforced by giving to Unions, either global or local, and NGOs the power to control for specific situations where the rule is not respected, i.e. special export-oriented zone in China where labour standards are particularly low. In the case of commercial deficits, the country could be asked to follow (real) wage moderation and to put under control public deficit. In such a context, these restrictive policies would have limited harmful effects on growth for the increase in external demand that follows the wage increase in the export-oriented countries. The proposal would have also positive effect in reducing the overall level of functional inequality worldwide, restoring a more balanced distribution between wages and profits.

Overall, the coordination of global demand and supply would be restored using a simple automatic stabilizer that will neutralize the protectionist treat and, at the same time, will

relax the constraints that prevent inequality-reducing policies to be approved in western countries.

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Human capital policies and inequality in recessions' times

By [Francesco Vona](#)

Not only economic crises reduce citizens' current welfare, but might as well hinder the long-run economic potential leading to an excessive destruction of physical and human capital. This long-run effect is definitely the big risk European economies are facing in this prolonged phase of recession.

Economists often take a different standpoint for investments in human capital: recessions are claimed to have a positive rather than a negative effect on skill formation because higher unemployment frees up time for schooling. What they take for granted is that the choice of staying longer in school is not constrained by the increased difficulty in affording tuition fees, living expenditures and the opportunity cost of not working, particularly for less wealthy households. If this is taken into account, the likelihood that the positive effect prevails depends on public policies as public expenditures in education are needed to offset for the reduced spending capacity of households. The austerity measures imposed to countries at greater risk of default by the European institutions make it more difficult to maintain an appropriate flow of public expenditures in education.

So far, however, the standard view of a positive effect of recessions on skill formation is in line with data (Oecd, *Education at Glance 2012*). In the majority of European countries, including the most financially exposed ones, both enrollment rates at all levels of education and public expenditures in education as a proportion of public expenditures are held unchanged (or increased) one year after the crisis. Unfortunately, updated data until 2012 are not available to evaluate long-term country responses^[1]. However, a reversal of this trend is likely to occur in next years if further budget cuts are carried out in indebted states. Signals in this direction have already emerged in budget cuts just implemented in Italy and Spain, two of the countries already with a relatively low level of subsidies for less advantaged students compared to the EU average (Usher and Cervanen, 2005). Poor households are likely to bear the costs of these cuts the most as they heavily rely on public support to overcome stringent liquidity constraints. Equity considerations in access to education are of paramount importance as students from good family backgrounds have a significantly higher probability to acquire higher degrees and

to enter elite institutions in virtually all European countries (see Raitano and Vona, 2010). Even leaving aside equity considerations, it would be exceedingly difficult in this context to pursue the target of the Lisbon agenda, 'making Europe the most competitive knowledge-based economy in the world', without interventions aimed at improving the quality of European educational systems from which long-run growth crucially depends.

To make hands meet and reconcile equity with improving quality, market-based solutions have been proposed. The main goal is to drain fresh, mainly private, resources into slack educational systems and, at the same time, to increase competition as a discipline device for improving quality. *The Economist*, for instance, recently supported a voucher system that would enable students to choose between public and private institutions [\[2\]](#). For university education, another proposal under consideration in many countries (see Ichino and Terlizze 2012, for Italy) and already adopted in many others (see Dearden *et al.* 2008) is to combine higher tuition fees, that would reduce the burden on the public budget, and a system of contingent student loans to be repaid depending on future incomes. It is claimed that such a system would increase fairness. While educational systems in Europe certainly need substantial interventions to increase quality, it is not warranted that these reforms would go in the right direction.

On the voucher system, it should be observed that the existing quality of private schools in EU countries is not higher than the one of public schools. Considering PISA (Program for International Student Assessment) test scores as a standardized measure of quality, We estimate the impact of private schools on average test at the school level controlling for confounding factors at the school and the country level (family background, country-level policies, class size, school location, see for details Raitano and Vona,

2010). From this analysis, it emerges clearly that public schools outperform private ones in reading, science and math scores. Therefore, a simple reallocation of resources towards the private sector would lead to a decrease in overall quality. Put it differently, the private sector is not ready to take the lead for reforming the educational system in EU countries, hence creating a larger market for private schools might even be inefficient. It is also questionable whether a voucher system would really succeed in increasing the students' choices in presence of limited slots for best schools and priority given to those residents in the school neighborhood.

On the income-contingent scheme, it certainly improves loan-based schemes that tend to select out students with both low propensity to risk and self-esteem, such as typically those from marginal ethnic groups or poor family background.

Indeed, conditioning loan repayments to future income reduces the uncertainty of human capital investments and so should work particularly well for disadvantaged students. However, the perception of the risks involved might not be reduced enough to induce people to invest, particularly when the loan taken is relatively large (as it would be for the increase in the fees) and when other lifelong loans such as mortgages are expected to be undertaken in the future. In addition, since disadvantaged students make the choice of starting university in an unfavorable position in terms of existing skills and competencies, their expectations on future earnings might be so low to not justify the risk, though partial, of paying for university education. Even if these problems of income-contingent schemes can be somehow corrected, for instance in the UK they are complemented by a grant for disadvantaged students (Dearden *et al.*, 2008), they can hardly favour an effective equalization of educational opportunities.

These critiques do not imply that human capital policies and the European educational system are well designed and dynamic

enough. Particularly for university education, increasing competition for scarce resources and decentralization in decision-making can help in creating highly innovative institutions, but not to increase equal access for all. In particular for the issue of equality of opportunity, it is well known that it is better achieved intervening early in the educational stream (Cunha and Heckman 2007, Heckman and Bas 2010). According to this view, policies imposing the share of less well-off students in elite universities, as it has been recently proposed for France and experimented in Brazil, seem to perform poorly both for equity and efficiency.

In times of crisis, an alternative way to make the European system more dynamic, to prevent an excessive destruction of human capital and to increase equality of opportunity is (obviously as it might be) to target the issue at the European level. However, 'inclusive' interventions to enhance the competences of less rich pupils are not at zero cost, but typically require large scale public investments in the crucial phase of pre-primary education and, later on, targeted interventions in marginal schools of poor neighborhoods. A large scale public intervention can be done launching EU bonds conditioned to certain strategic goal such as the finance kindergarten for all European kids or targeted interventions in marginal schools. Incidentally, these 'conditioned bonds' would probably appear far more acceptable for skeptic citizens of Nordic countries. EU resources for these goals can also be drained by gradually phasing out the expensive Community Agricultural Policy, which absorbs more than 1/3 of the EU budget, and by devoting a fraction of structural funds for targeted interventions in marginal primary and secondary schools. Clearly, targeted EU policies for skill formation, especially of the less well-off, would also have a positive effect on growth by increasing the share of students with good basic skills and so the effectiveness of lifelong training policies, which crucially depends on the level of basic skills.

With these policies for increasing equality of opportunity in place, the effect of reforms aimed at increasing competition among universities using a combination of loans, higher tuition fees and premia depending on academic records can not only be fairer, but also remarkably more effective by enlarging the pool of potential candidates for good universities and enhancing the lifelong learning potential of EU citizens.

Further readings:

Raitano, M. and Vona, F., 2010. Peer Heterogeneity, Parental Background and Tracking: Evidence from PISA 2006. *Documents de travail de l'OFCE* 23-2010.

Dearden, L., Fitzsimons, E., Goodman, A., Kaplan, G., 2008. [Higher Education Funding Reforms in England: The Distributional Effects and the Shifting Balance of Costs.](#) *Economic Journal* vol. 118(526).

Cunha, F., and Heckman, J., 2007. [The Technology of Skill Formation.](#) *American Economic Review* 97(2).

Heckman, J., and Bas, J., 2009. Policies to Create and Destroy Human Capital in Europe. *IZA Discussion Papers* 4680, Institute for the Study of Labor.

Usher, P., and Cervanen, A., 2005. *Global higher education rankings: Affordability and accessibility in comparative perspective.* Washington, Toronto: Educational Policy Institute.

[1] Eurostat has data updated to 2010, see <http://appsso.eurostat.ec.europa.eu/nui/setupModifyTableLayout.do>. As it is evident looking at the percentage of public expenditures in education as a percentage of GDP, only in

Italy one can observe a timid -0.1% decline between 2007 and 2010.

[2] <http://www.economist.com/node/21564556>