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# Welfare economics, welfare state and the real economy

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## Abstract

Welfare economics, although a fundamental branch of the economy, is not present in the discussions of today's economists who are dealing with the political economy. They are mainly focusing their attention on, for instance, statistics and other economic issues like GDP growth or fiscal policies. Welfare economics is presented here, including the ethical dilemma of the economy, as a critical topic to be examined. After discussing the social and private costs in the framework of welfare economics, this paper focuses on the modern welfare state and its connection to the real economy. The problem of the social cost as discussed by Arthur Pigou and Ronald Coase is also described. Two new corollaries to the Coase theorem are presented and described in light of the heavy public debt burdened by advanced economies. It is also demonstrated that public debt is not due to the costs of the state of modern welfare, which in the framework of this paper, is described in accordance with four major economic pillars: health, unemployment, pensions and education. Demography, on the one hand, and income inequality on the other, are discussed as being two critical elements both in macro and microeconomics, which are also supposed to change many of the traditional businesses such as banking and finance, healthcare and retail distribution.

## Keywords:

Welfare economics, Welfare state, The problem of social costs, Income inequalities, Economic demography, Sovereign debt, Financial crisis, Coase theorem.

## *JEL classification:*

G28, H53, H62, I38, K23

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# La economía del bienestar, el estado del bienestar **y la economía real**

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**Resumen**

La economía del bienestar es una rama fundamental de la economía que hoy no se encuentra entre las discusiones de los economistas que tratan de política económica, que están más enfocados a discusiones de corte estadístico relacionadas con el crecimiento del PIB o la política fiscal. La economía del bienestar se presenta aquí incluyendo además el problema ético en economía como uno de los aspectos críticos a discutir. Después de discutir los costes públicos y privados en el contexto de la economía del bienestar, este artículo se centra en el estado del bienestar moderno y su conexión con la economía real. El problema del coste social discutido por Arthur Pigou y Ronald Coase se describe igualmente. Dos nuevos corolarios del Teorema de Coase son descritos y presentados en relación con la enorme deuda pública soportada por las economías avanzadas. Se demuestra también que la deuda pública no se debe a los costes del moderno estado del bienestar que, en el contexto del presente artículo, se describe de acuerdo a cuatro importantes pilares económicos: salud, desempleo, pensiones y educación. La demografía, por un lado, y las desigualdades en los ingresos, por otro, se discuten como dos de los elementos críticos de la micro y de la macroeconomía, que se suponen igualmente como la causa del cambio de muchas actividades económicas relacionadas con la banca y los servicios financieros, los servicios de salud y la distribución minorista.

**Palabras clave:**

Economía del bienestar, estado del bienestar, el problema de los costes sociales, desigualdades en los ingresos, demografía económica, deuda soberana, crisis financiera, teorema de Coase.

## 1. Introduction

During recent decades the political economy has been geared far from its original concepts. Today many of the basic economic elements in this field are understood to belong to classical or neoclassical economists who are sorted into a group of old minded philosophers whose economic proposals have no real value in today's modern economics.

This is because modern macroeconomics has been converted into some kind of macro statistics and, accordingly, present microeconomics has shifted to basic finances. Nonetheless, economics is still a social science whose final subject of study should not only be how to manage the GDP, deal with monetary policies, or keep inflation down, but also how to first create and then distribute wealth among people in the best way possible. People who today are by all means considered mere taxpayers.

And here is where classical economics comes in, with issues such as whether free and open markets will be the best option to optimize the allocation of resources among citizens, or whether the State, whatever it might be, will better organize the economy. Or even if Lionel Robbins' definition of economics as 'the science which studies human behavior as a relationship between given ends and scarce means which have alternative uses' (Robbins, 1945), is still accepted or simply considered "words". A discussion somehow darkened these days, yet still crucial for understanding the nature and significance of economic science. This is something that confronts contemporary economists with the old concept stated by Adam Smith on the labor theory of value and the subsequent contributions provided by Malthus, Say, Nassau Senior, Stuart Mill, Ricardo and even Marx; old theories indeed, but still valued in placing the political economy in the center of economics. A traditional economic approach that is still the fundamental background to better understand econometrics or statistics. Otherwise these two fields will result in graphics with no connection to the real life of people.

This preamble paves the way to the core focus of this paper: the crisis of the welfare state in advanced economies around the world - a problem difficult to solve using only modern statistical techniques because it is in the kernel of today's political economy and requires some previous analytical thinking. It is a problem found also in the center of the huge sovereign debt accrued by most of the democratic Governments on both sides of the Atlantic. Both the US and the EU see how their economies are heavily indebted, with no obvious solution in the near future other than the hope that a more prosperous, unknown forthcoming will present a possible solution. A sort of anti-economic way of thinking, for the future will never bring any solution that has not been previously applied in the present. Grossly indebted nations

whose debt is accumulated in a sort of dangerous carry trade mechanism closing the natural credit flow to small and medium sized enterprises, thus creating a vicious economic circle.

Many will think it nonsense to look back at the concept of marginal utility, for instance; few people dealing with political economy in advanced democracies today will assume the value of it. However, from the point of view of the economics of welfare, the former idea of the marginal revolution helps us in two ways. First, it moves the analysis of welfare from the physical level, as stated by the original classical economists, to a more subjective one, according to neoclassical economists. Second, it offers an alternative to the classical labor theory of value. In other words, it sheds some light on how to better understand the economic problem of scarcity, which sooner or later during the business cycle every economy will be confronted with, even more so these days considering the ample financialization of the world economy.

Without going deeply into this discussion, the theory of Pareto's efficiency (see Brownstein, 1980, and McLure, 2013) tells us that it is impossible to make any individual better off without making at least one individual, worse off. Something found in the core of the welfare state: the more a government pays to keep public services high, the less it will have to cope with other matters, whether that be developing urgent infrastructure or investing in defense, just a couple of examples. In other words: the income of the poor will follow and depend on the changes of the aggregate national taxable income.

However, although Pareto's reflection established the limits of the scientific economics of welfare, it is also known that this theory taken alone is merely an economic statement with no adequacy to real economic problems. This is why the marginal theory provided a new way to better understand this concept.

The marginal theory stated by neoclassical economists is basically sustained under three main principles:

**1)** It puts the economics of welfare on satisfying the needs of consumers instead of a more materialistic view as used by classical economists. Economists, like Carl Menger or Léon Walrás, for instance, followed this tendency of thought.

**2)** On the production side, the classical theory was based on the assumption that the wealth of society was a function of available resources. Thus, it was interested mainly in increasing productivity. Neoclassical ideas however, focused on the marginal utility, then concentrating on the problem of distributing the existing resources according to their alternative, following Robbins' definition.

**3)** If for classical economists competition means free economic activity with no interaction by the state, marginal utility economists defended the concept of a perfect competition, thus the economic system always tends to bring equilibrium under certain conditions.

However, following the approach given by Alfred Marshall (Marshall, 1997), men have to be in the center of the economic problem, either in the kernel of production or of consumption. Something almost no economist today is adhered to. Although Marshall's approach still has validity, as the need a person has to cover is twofold: either he or she tries to increase his or her standard of living or he or she looks to increase his or her level of comfort. The former, entering into the category of meeting his or her biological or natural needs; the latter, directed towards satisfying his or her arbitrary needs like, for example, whimsy or sensual desires with no permanent value; something strongly linked to our consumer societies or, in the words of Kenneth Galbraith, affluent societies (Galbraith, 1998).

Arthur Cecil Pigou, apart from his economic contradictions, is the first economist to structure welfare economics in a comprehensive view. His book entitled *The Economics of Welfare* looked to methodize all previous analyses on the subject (Pigou, 2005, is a recent edition). Our aim however is far from trying to rewrite Pigou's work and adapting it to our time. We do not even have that aptitude. It is our intention to put into perspective the difficulties advanced economies will have in bearing the present level of welfare on the shoulders of their states in the future, as none of these economies will have the ability to publicly sustain its costs. Numerous circumstances demonstrate this impossibility, three of the most critical ones being demographics, growth of sovereign debt, and income inequality. These are issues that will also, one way or another, impact the real economy; an economy that will suffer significant changes in traditional industries such as banking and finance, retail distribution, and healthcare, among others. All of these will be discussed in the following paragraphs.

## 2. Arthur Pigou's Economics of Welfare

*The Economics of Welfare* by Arthur Pigou, published almost one hundred years ago, is perhaps the apogee of the neoclassical approach to political economy. The start of the book is highly eloquent: 'The main motive of economic study is to help social improvement'. Social improvement is closely related to the concept of welfare, which is different from economic welfare, as both things, according to Pigou, are not equal, and not even correlated, in the sense that a change in economic welfare will not necessarily yield an equal change in welfare. Evidence many economists and economic government officials generally forget this days: an increase of the GDP does not

automatically increase people's income, as Joseph Stiglitz states by saying that 'the GDP per capita miss measures the value of goods and services produced in several sectors, including health and public sectors'. And even more: 'spending more money, does not get, for instance, better health outcomes, in terms of longevity, or any other measure of health performance', which Stiglitz closes by saying 'inefficiency helps inflate America's GDP'(Stiglitz, 2012).

The economics of welfare is therefore the study of how the allocation of resources affects economic well being. It is not only related to the economic action of governments, but also with the benefits buyers and sellers receive from their activities in the market place. This is why achieving market supply and demand equilibrium maximizes both benefits, those of the sellers and of the buyers. Governmental influence though, tends to unbalance that equilibrium.

For Alfred Pigou, welfare economics mainly relates to those social changes coming from three main economic movements (Pigou, 2005): an increase in the size of the national dividend; an increase of the percentage the poor get from the national dividend; and a reduction of the variability of the national income, particularly the part affecting the poor. Changes that, as of today, refer to getting macroeconomic stability, improving the efficiency in distributing wealth among people, and obtaining fairness in economic wealth within society. Economic elements, again, which raise the issue of income inequality in advanced economies, a fact particularly evident after having seen the effects of the so-called Great Recession that started in 2008.

Pigou, at the same time, separates himself from the original thoughts of the neoclassical economists. Particularly because his view differs from the one established by Pareto, who supports the idea that the objectives of wealth-efficiency and distribution of fairness are in harmony and, contrary to this, Pigou considers these two concepts to be, normally, in conflict; for there are cases where wealth-efficiency might be achieved against distributive fairness, and vice versa.

Pigou also explains the economics of welfare in terms of quantities of personal satisfaction. Quantities defined as quantities of money, thus linking welfare economics to the national dividend when keeping the capital constant. Two elements are then, for this economist, central in welfare economics: money, being the key indicator, and the national dividend and its equality to the marginal net products. According to Pigou's expression, equality is not generally present due to maladjustments or 'hindrances' against market or industry equilibrium.

The above has been, however, the origin of a number of opposing attitudes, particularly by recognized economists such as Friedrich Hayek or John Hicks. Nevertheless,

in support of Pigou's statement it can be argued that not keeping the national capital constant will sooner or later go against the economics of welfare. It would then be more accurate to measure it in terms of consumption expenditure rather than net productivity; for the economics of welfare depends on the actual national consumption, although it is always true that, in the long term, the level of productivity will impact the level of welfare - a way of thinking also supported by Irvin Fisher, another highly recognized economist (Fisher, 1907).

How then should the economy be managed to assure a sufficient level of wealth for the forthcoming generations? As many western governments may think, keeping sufficient welfare levels today and in the future can only be done through two complementary ways: increasing taxes in the short term in order to wait for better economic weather in the future, or increasing public debt according to the same criteria, namely: the future will clear out all present economic storms. This policy is very similar to the one suggested by Pigou, who talked about creating a special tax on savings to keep current welfare standards of living; not very far from the present policy followed by a number of Western Governments that have already applied, in one way or another, the so-called Tobin tax. Why? Because according to Pigou's suggestion many governments also think today that, generally speaking, people do prefer present satisfaction to a future one, because no one sees with clarity what could happen in the future. Nonetheless, either today or in the past when Pigou worked on his economics of welfare, the objection made by Friedrich Hayek is still the objection that maintains contemporary validity (Hayek, 1958): to compare the present and future economic utility of a good is nonsense; for it is impossible to watch at the same time, something in the present and in the future. In other words: all comparisons one can make on the relative utility of whatever economic element must by necessity be done at a precise moment in time, either now or in the future. Therefore, here arises the proposition by classical economists, arguing that savings have to be increased till the reduction of the marginal productivity by indirect methods, is equal to the marginal productivity, by direct ones.

Another important topic has to be raised, which also has contemporary validity. That is: the distinction Pigou made between the point of view of industry and society, on the price of goods. In the case of industries, the selling price of goods in the market, when production increases, tends to equal the ordinary cost of production per unit. A price which will be the same for society provided the cost of the production factors remains the same despite increasing demand. However, according to Pigou, if the cost of the production factors of goods changes according to demand, the price from the viewpoint of society will be the difference between the cost of production per unit minus those cost elements due to changes in the price of the factors used for manufacturing such goods. This view moved Pigou to consider these two differences in the selling price as a fundamental element in the economics of welfare; for welfare economics might be in-

creased through subsidizing the more efficient industries: that is, those industries who under the same conditions have better economic yields.

In summary, it can be concluded that Pigou's approach to the economics of welfare relies basically on three main subjects:

**1)** Money is the unit to differentiate welfare economics from general welfare.

**2)** The marginal utility of money is the same for every individual, meaning quantities in satisfaction are proportional to quantities of money.

**3)** The economic system is so competitive in itself that the differences between social and private products are rare.

Having said that, there are of course divergences between private and social products. The first divergence starts out from the wastefulness in the property of natural resources. This would be the case —following Pigou's analysis— of a farmer leaseholder that intensifies crops at the expense of soil fertility. The same would apply to concessions of utility services to private owners that have to return the properties after a number of years. A second type of divergence refers to production of goods that create unpaid incidents or services. This is the typical problem associated with pollution originated by plants in the vicinity of urban areas. A well-known economic problem discussed also by Ronald Coase, which relates to the issue of social costs (Coase, 1960). It will later be discussed here. The third group of divergences between private and social products refers to the already highlighted subsidy to the best performing industries. Two circumstances arise here; first, differentiation —again according to Pigou— between social and private prices, second, the concept of an industry in equilibrium.

As has already been established, deriving the selling price from the point of view of the community by deducting the marginal costs of the industry is only valid at the physical level of the analysis. In this analysis the crucial points are the changes of the physical quantity of the factors needed to overcome the technical obstacles in manufacturing an additional unit of a given product. However, at the subjective level, the increase of the production costs, either if they are caused by prices or by added production factors, it is mandatory to account the social opportunity cost. The second circumstance, the business balance, has to do with the selling price by the industry and the equilibrium price of the selling company. For the first price, Pigou considered the reciprocal of the social marginal product, and for the second he suggested the reciprocal of the net private marginal product used by that industry. Therefore, an efficient industry whose selling price is smaller than the adjusted price

of the seller will lead to a social marginal product that will be priced higher than the equivalent private one.

Is there any firm in equilibrium? The Pigouvian approach tells us that an equilibrium firm is always at equilibrium when the industry price equals its marginal and its minimum average cost. A confusing concept though, because as we all know markets are inefficient and do fail. This is why Pigou raised and developed the above-mentioned concept of hindrances. Hindrances operate against industries or market equilibrium, and introduce a distinction between marginal private net products and marginal social net products - something every economist is today aware of. In other words, it highlights the relationship between investment and what is known as economic externalities.

The calculation of the marginal social product is not evident, as it has a couple of problems to resolve. First, proceed to the inventory of the production per marginal unit of investment. Second, convert the inventory into money, as this is how Pigou stated to move from the physical to the subjective level. Something he explained through easy accounting: take the production order article by article, then multiply each of them by their respective market price, and finalize by summing up the resulting money minus the costs, which are considered as negative quantity of money. The resulting number will be the marginal social product due to the marginal unit of investment. And this is the key in Pigou's approach to the economics of welfare: whenever any economic use creates a higher social net product than some other use, resources will flow from the use with a smaller marginal social net product until the uses are balanced. The social net product is in reality the value that accrues to society when a resource is economically moved from one use to another, the value of resources being to society as a whole the national dividend. Something which is in contrast to the marginal private net product and which refers to the value that accrues to some small portion of the economy.

Pigou developed the economics of welfare from a global standpoint. He was convinced that every person has similar utility functions which, translated into monetary quantities, can be compared to others. Therefore, social value can be increased by transferring wealth from affluent people to the poor. Basically, according to this thinking, the marginal value of a unit of money of the former is much higher than that of the latter.

How can this be done? No other possibility exists other than with government intervention. This is the way most governments in advanced economies manage the pillars of welfare economics, namely: pensions, healthcare, education and unemployment – a heavy social cost that sooner or later will force those governments to modify existing welfare schemes and transition them into a more liberal and more competitive scheme.

## 3. The problem of social cost and the Coase theorem

Governments are usually not as efficient as they tend to think. They usually create negative externalities in the economy. Their economic acts are not in any case costless. In some cases they can be extremely costly to society, whether they are democratic or not. Therefore, if according to the basics of the welfare economics stated by Pigou, there is no other option but government intervention to assure a reasonable marginal social net product, it could also be argued why not enough marginal social net product could be derived through economic private intervention alone, or at least an optimal combination of both. This is because it would be a contradiction in economic terms to have, at the same time, both negative economic externalities induced by governmental actions and an increase of economic efficiency coming from the same governmental activity. A further truth is that governmental administrative regulation does not necessarily lead to economic efficiency. The examples are countless and here we now have the problem of social cost.

Ronald Coase tackled this issue in a paper with the same title in October of 1960 (in this section, Coase, 1960, is the main reference) trying to shed light on a typical problem in economics: the actions of business firms that may have harmful effects on others, raising the standard example of a factory whose smoke has harmful effects on its neighborhood. The usual approach led by most economists is threefold: place a tax on the factory owner according to the damage caused, making him liable for that damage; or simply close the factory or force him to move it out of the residential area.

The point made by Coase is that the three are inappropriate and even undesirable. The first —taxing the factory's owner— is for him similar to inflicting harm on the owner of the factory because his plant is harming others. Although the real problem is different: how to avoid harm. According to this, just looking at the economic problem and not other personal or serious environmental damages, the central issue will be whether the cost of contamination will be greater (or not) than the pollution caused. That is, according to Coase, to look at the economic issue in total as well as the margin. To be more precise, Coase brings the problem of straying cattle that destroy crops growing on neighboring land. Maybe it is a very simple example, but highly descriptive in economic terms. The conclusion brought by Coase is the following: 'if damage exceeds the amount the farmer would pay for the use of the land, the value of the additional product of the factors employed would exceed the value of the factors of the total product in this use after damage is taken into account'. The conclusion is that it would be better to stop the cultivation of the land and move the factors employed for production elsewhere. In other words: whether the cattle-raiser pays the farmer for the damage to keep the farm uncultivated or he

himself rents the land compensating the farmer higher than the current rent, the result will be equal, that is: the one which maximizes the value of production.

Another option usually adopted in these cases is governmental regulation. Here we now have the regulatory procedures to prevent or confine certain methods of production, usually applied to factories causing pollution. The government, according to Coase, is a sort of super firm able to avoid market constraints. If a firm has to adapt itself to market conditions, the government may be the one creating those conditions, for it has the power to implement things in the market place even competing with existing private companies.

In the case of restricting industrial activities through regulatory procedures, there is in principle, no reason to suppose that the government will increase the efficiency of the economy. It is then understood that governmental regulations should not lead to improvements in economic terms. Although in some circumstances, for instance, say the costs of regulating the harmful effects of pollution by the government are less than letting the market behave by itself. Where then is the boundary between allowing the market to move freely or through governmental influence? It is difficult to say. However, what seems to be clear is that excessive governmental presence in the economy hampers the increase of economic efficiency.

Coming again to Coase: just taxing the factory for the damage caused would increase the costs to the plant in preventing the said damage. Another option to consider would be to tax, not on the damage, but on the fall in the value of production resulting from the pollution. This is why Ronald Coase suggests a change of approach in the economic problem. Furthermore, carrying out analyses based only on the divergences between private and social products may also conclude in inappropriate approaches; for it focuses the attention on the deficiencies of the economic system and therefore moves to quickly correct them as in the case of taxing directly for the smoke produced.

The economic concept of social product is difficult to tackle because sooner or later welfare economics ends in a study of ethics and morals. Thinking of it just in terms of taxes may lead to inaccurate conclusions. It would then be desirable to use a similar approach as indicated above; that is, compare the total product yielded from one potential option to another. Unfortunately this is often difficult to implement since political economy implemented by governments is full of demands and operates with no real market or industry approach. As Coase states: ‘it is, of course, desirable that the choice among different social arrangements for the solution of economic problems should be carried out in broader terms than this and that the total effect of these arrangements in all spheres of life should be taken into account’ (Coase, 1960).

Governmental regulation usually leads to legal disputes, and here we have the well-known Coase theorem: 'the delimitation of rights is an essential prelude to market transactions, however the ultimate results that maximizes the value of production is independent of the legal decisions'. In other words, according to George Stigler: 'under perfect competition, private and social costs will be equal' (Stigler, 1989). As Coase also described, an interesting corollary can be derived: 'if private costs equal social costs, producers will only be engaged in an activity in the case the value of the product of the factors employed is greater than the value which they would yield in their best alternative use'. In other words: with zero transaction costs, the value of production will be maximized. What Coase translates into: 'when there are zero transaction costs, negotiations will lead to an agreement which maximizes wealth'. Therefore, if property rights are well defined and there are no transaction costs, the economic participants will get economic efficiency no matter who holds the property rights. Does this conclusion keep its validity at political level? Let's see.

The Coase theorem does not imply that the market will solve all externalities, but that it can potentially solve them provided property rights are clearly assigned and negotiations can be carried out. However, the question arises "Does the Coase theorem apply to economic decisions taken by democratic political organizations?" The general perception by economists and social scientists is that government policies, either economic or political will affect economic outputs. However, according to the Coase theorem there should not be any difference whether the participants are political institutions or not; for institutional differences are not, in principle, a major determinant *per se* to modify the economic outputs, because voters will choose the most appropriate institutions.

The issue however, comes from the natural government's attitude to use its power to change market behavior. Something proven daily in democratic societies where governments change the terms of contract conditions by modifying laws and regulatory decrees according to new political necessities. Thus, under certain conditions, the political power is able to modify market efficiency, as Coase highlighted when he compared the government to a super firm, because it is able to modify the use of factors of production with administrative decisions.

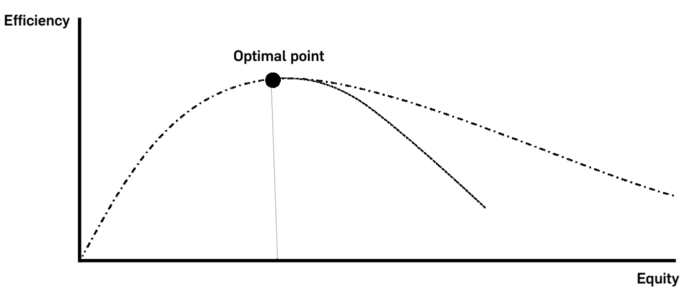
The above problem has been fully studied by Daron Acemoglu who concludes that: 'in general, incentive-compatible promises in particular typically fall short of achieving efficient outcomes' (Acemoglu, 2003). Of course, as Acemoglu said this is not to deny that political forces do not end in more efficient social arrangements, but in this case a sort of corollary to Coase's theorem would be derived, which can be stated as follows: 'political forces, although pushing for getting market efficiency will break, in some cases, perfect competition, thus resulting in higher social costs'.

## 4. Welfare economics from an ethical point of view

In principle, the analysis of welfare does not imply any judgment of value, provided the needs of the individual are defined by a constant, and the study is limited to determining the efficiency of the economic system to satisfy those needs. Therefore, the moment one economic model satisfies the needs better than another, it does not necessarily imply the obligation to adopt such a model. To reach that conclusion it would be necessary that both economic models respond to the same ethical quality, for the economy is not a neutral science but rather a science looking to optimize human needs in a broader sense. This is why a political economy based on extreme liberalism or communism, just to cite a couple of acute examples, create heavy social inequalities. Here is a new perspective in the economics of welfare, efficiency vs. equity binomial.

From the point of view of the economy, the welfare state resides in economic redistribution, which has to combine both concepts: efficiency and equity. This is well understood when considering the need to assist social and economically disadvantaged people; unemployed, the elderly with no financial resources, etc. Usually and according to a sort of social interchange of responsibility, when unemployed people receive gratuitous economic support today, they were or will be the ones paying to support unemployment programs according to a solidarity cycle. The conclusion is that economic redistribution and assuring some kind of extensive social security scheme have to go together to support social welfare. Therefore the welfare state has to be structured as a form of extensive social security mechanism to cope with the needs of disadvantaged people who will be freely supported by the state, acting as trustee of the taxpayers. Moreover, the economics of welfare when analyzed from the viewpoint of the welfare state, introduces the need of an economic optimum to be reached in order to balance the above-mentioned efficiency vs. equity binomial as Figure 1 shows. Where is that singular point located? It is clear that increasing equity from the optimal point will go against economic efficiency getting in some cases to an economic disaster which will work against the solidarity scheme sought. The opposite being also true: no solidarity goes against efficiency.

Figure 1. **Economic efficiency vs. solidarity**



As has been pointed out, many objections can be made to a state of economics looking to be universal: for everyone and for everything, because they will move from the optimal to the suboptimal locations, thus creating economic stiffness which may result in increasing public debt beyond reasonable levels, creating public administrative mammoths or, as a consequence, greater economic inequalities. This is the case Acemoglu (2003) pointed out when comparing welfare economics as part of the theories of the social conflict of two countries, which once were sisters: North and South Korea.

Coming back to the economics of welfare, a number of objections can also be made should it is only directed toward the subjective level, because:

**1)** It is inappropriate to only look to the satisfaction of given and constant needs; for real life is a changing environment where needs are always in movement. The purpose of people is not only to satisfy given needs, but also to continuously and fairly sound out needs that must be covered.

**2)** Being ethically neutral when studying welfare economics is far from being economically sound, because in comparing two different economic situations there is always a judgment to be made to ethically value each of them.

**3)** People's needs are not evaluated in a laboratory. They change with social and institutional movements and therefore measuring them in monetary terms may be misleading; there are important personal needs that do not enter in this category.

It is then necessary to reorient the individual measurements in terms of money by other collective measurements that are also important. This might be something difficult to do at an economic level, but vital at a personal one. Particularly because the economic analysis of welfare just at the physical level is in reality related to the labor theory of value. Here the economy is seen as a fight between man and nature, the success of man being measured in terms of the net physical product obtained. When welfare is considered at subjective level, provided the welfare quantities are proportional to the satisfaction of the needs of the people, the welfare problem relates to scarcity, which sees the economic problem as the distribution of some given resources to get the maximum satisfaction of the given needs.

This subjective level of welfare would be incomplete if no ethical considerations were contemplated. An aspect not strictly related to the economic value but essential as the necessary complement to the study of welfare economics. For economic success should consider not only the quantitative elements but also the ethical quality of the goals to be achieved.

In conclusion, the three analyses of welfare economics are complementary, namely the physical level, the subjective level and the ethical level, because the three of them give a complete perspective of welfare economics. Let us now consider an extension of the corollary to Coase's theorem stated in paragraph 3.

## 5. Adapting Coase's theorem to the welfare state

A corollary to Coase's theorem has been defined as follows: 'political forces, although pushing for getting market efficiency will break perfect competition and sooner or later, end up increasing the social costs'.

An extension of the above corollary can also be given by saying that: 'unbalanced social and private costs beyond industry equilibrium may lead to negative economic externalities, thus loosing economic efficiency and destabilizing and shortening the business cycle'.

One of the first applications of this corollary extension relates to imperfect income redistribution, which has three major effects:

**1)** Poverty relates to the population below a specific poverty line. In general terms, this line is 1.25 dollars per day according to the World Bank. Although there are different considerations such as whether people live in urban areas, live under extreme poverty or poverty is measured in relative terms. A common term in developed countries is to determine the number of people about to enter the poverty line, which can be different from country to country in terms of earnings per month. This threshold indicator in Spain, for a family of two adults and two children, is 15,445 Euros per year.

**2)** A second consideration is given by the Gini coefficient, which measures inequality distribution at country level according to a number of parameters. A Gini coefficient of one implies total inequality among residents in a specific country.

**3)** The third effect relates to welfare concentration at the very top. This is the accumulation of wealth among the richest people. This concept has been well studied by Thomas Piketty and Emmanuel Saez, from UC Berkeley, (Piketty and Saez, 2012) who studied income distribution in several countries, particularly in the US. Their analysis shows how the income share of the top 10 per cent of the wealthiest people has been accruing over the last 55 years. In the US in 1942, for instance, people at the top accumulated some 35 per cent of the total income before taxes, whereas in 2012 the number was above 50 per cent. Something that

has been growing sharply in the last 40 years, for data show a figure below 35 per cent in 1972, before rising to the 50 per cent already mentioned, in 2012.

A second controversial aspect of the corollary refers to the growing, accumulated public and private debt in advanced economies, particularly those of the US and the UE, and more precisely within the Eurozone.

This is controversial because there is no general acceptance among economists on this point. Where some of them refer to public debt as the economic myth people use against the welfare state, others consider welfare economics as the critical element in public debt spending. Reasons for that usually fall into comparing the growth of the GDP and the stake the pillars of the welfare state —health, education, pensions, and unemployment benefits— have on it. It can be verified, however, that welfare expenditures remained steady in OECD countries in terms of percentage of GDP, ranging in the time span 1980-2007 between around 16 to 19 per cent, which is considered manageable. In other words, if the rise in welfare state costs does not move much higher than the economic growth, the welfare state will not go against the economic cycle, or to the efficiency of the economic system.

Paul Krugman is also in line with the above by concluding that greater government spending does not force higher interest rates (Krugman, 2012). By plotting total government spending during the 2009 economic crisis and drawing the same line taking unemployment benefits out, Krugman's result is that the rise was just one per cent of GDP, concluding that this minor effect might be due to a demographic increase and to an increase in sustaining programs such as Medicare in the US, not strictly because of the welfare state itself.

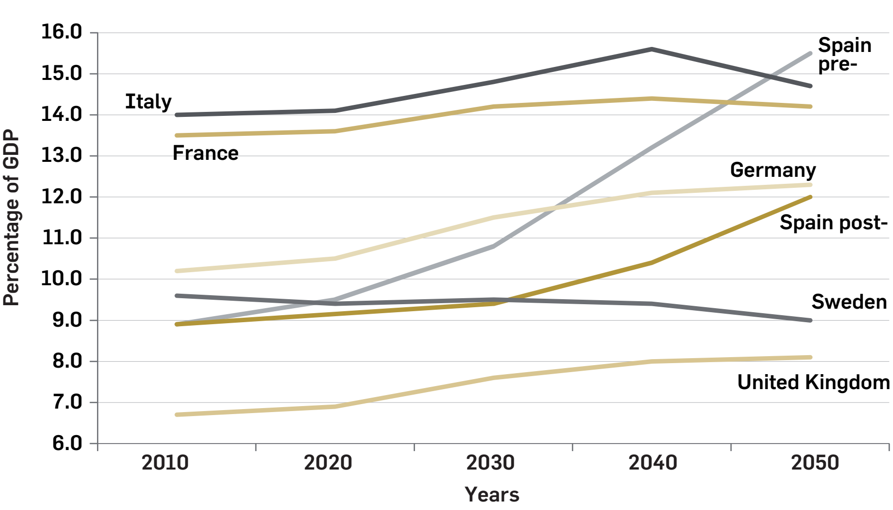
A second argument, which also follows the same line of thinking, is that welfare state costs will be kept steady in the future, an argument that does not fully consider the demographic issue affecting the economy, as we shall see later.

The Spanish economy, although presenting a specific case, may be of interest.

Assuming the above four pillars as main elements of the welfare state, and following the analysis by Pedro Schwartz (2013), the numbers for the Spanish economy in 2013 were approximately, in percentage of GDP, as follows: health care, 6.3 per cent; education, 4.8 per cent; pensions, 11.6 per cent; and unemployment, 2.6 per cent - approximately equaling a total of 25.3 per cent of the GDP that year. Considering that the total government spending was 24.6 per cent it can be concluded that the size of the welfare state in Spain practically equals the size of government spending, being almost twice the consolidated deficit of the country.

On the other side, public debt in Spain has grown from an extremely low 36 per cent of GDP in 2007 (compared with 66 per cent in the Eurozone) to 90.5 per cent at the end of 2013, similar to the European average (93.4 per cent). Is the Spanish welfare state the primary cause of this 64% increase in public debt? Obviously, it is not. Why? Because health care and education costs have been kept more or less steady over that period, and the only substantial growth was in the other two components considered, namely pensions and unemployment. The later, having an impact of around two points in terms of GDP and therefore not high enough to be the main driver for the 64 per cent increase in public debt, even considering the heavy Spanish unemployment figure in 2013 (26 per cent). Also the first, —public spending on pensions — one of the major social and economic issues, has been even growing during recent years due to demographic considerations, yet was also not the primary cause of such an increase in public debt. To this respect, Figure 2 shows the behavior of pension costs in some European countries according to Melguizo (2011) based on OECD estimations (2011). Spain, due to its demographic structure, was supposed to increase sharply from 2020 and beyond. This is why the Spanish Parliament agreed to modify the Constitution and prevent such a dangerous forecast, thus altering the tendency to more reasonable projections (in Figure 2 named as Spain pre- and Spain post-).

Figure 2. **Projected pension costs in a number of European countries**




SOURCE: MELGUIZO (2011)

It can then be concluded that in the extreme case of Spain, public debt growth during the economic crisis (2008-2013) was not directly due to the welfare state as Schwartz stated in his referenced paper (Schwartz, 2013), mainly because both health and education costs have been kept steady and even reduced. Unemployment caused a couple of points in the increase of the ratio Debt/GDP and pension costs were

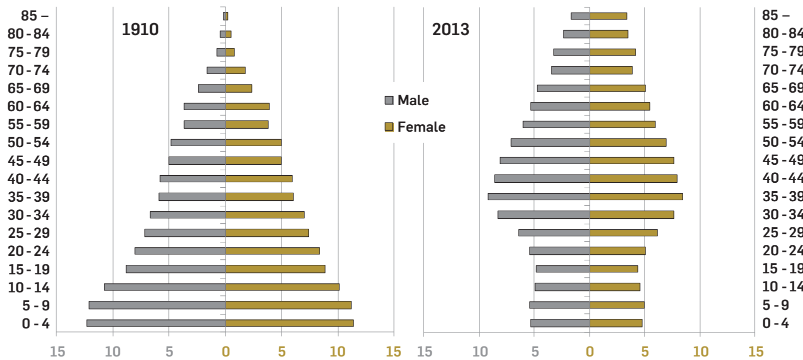
modified in Parliament to avoid economic burden. An analysis that can be also translated to other advanced economies: the welfare state by itself does not destabilize the business cycle. What then about the extended Coase's corollary stated at the beginning of this section? Coase's corollary was defined in terms of industry equilibrium; in the sense that social costs when forcing the equity beyond reasonable (Figure 1) will move efficiency vs. equity from its optimal point, thus causing heavy economic externalities. This is coherent to the above conclusion that the welfare state is not the key driver to increasing public debt, as structural economic measures can be implemented to keep welfare state costs under control, either keeping its costs steady or partially moving social costs out of the welfare state framework through privatizing them, either partially or totally.

It is not the objective of this paper to discuss why the Spanish economy caused such a dramatic increase in public debt in just six years. It can only be said that the main reason came from a number of factors: First, the financial crisis that destroyed the economy, very much supported by real estate activity; second, the impact real estate had in banking, particularly in publicly controlled savings banks, which caused a systematic crash in this sector; and third, the structure of the Spanish state which is heavily decentralized with insufficient economic centralization which produced significant public economic deficits at every level (regions, municipalities and central government). Ultimately, Spain has a lack of centralized political power which induced heavy economic instabilities as Daron Acemoglu and James Robinson comparing similar situations deeply explain in their book Why Nations Fail (Acemoglu and Robinson, 2012).

## 6. Demography, welfare state and the economy

Demography is a key element in welfare economics. It is also fundamental in anticipating changes in macroeconomics and, finally, it is a crucial element that heavily influences business, politics and societies; for the population pyramid and its evolution determine, for instance, consumer behaviors, health structure and its related costs, education systems, etc. Just to give an example: mortalities have exceeded births in Germany by over 4 million since 1972, and the downward trend is accelerating. Russia's case is worse: 13 million more deaths than births between 1991 and 2011. The case of Spain is also a good example of this trend: with current fertility rates, and without new and massive waves of immigrants, the Spanish population will shrink heavily. Figure 3 shows the evolution of the Spanish population pyramid over a hundred years. The reason behind this trend is that the fertility rate dropped from 2.8 to 1.3 children per woman, while the average age of Spaniards increased from 33 to 43 years.

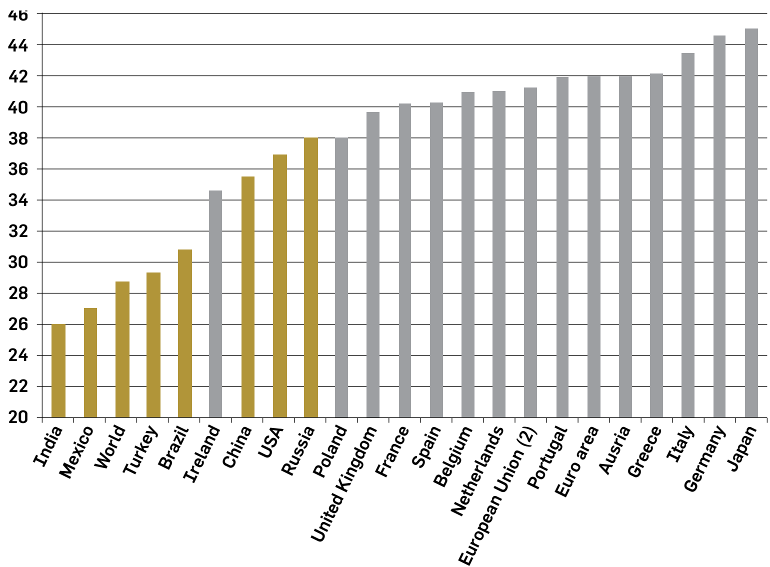
## Figure 3. **Population pyramid, Spain (1910 vs. 2013)**




SOURCE: OWN ELABORATION FROM SPANISH STATISTICAL OFFICE DATA.

Even not all European countries behave the same way. European and Japanese populations are much older than the rest of the world as shown in Figure 4. As can be seen, some Eastern Europe countries are less aged than some Western Europe ones due to lower life expectancy, not to more fertility.

## Figure 4. **Average age, 2011 (years) (age divides the population in two halves)**




SOURCE: OWN ELABORATION FROM EUROSTAT DATA.

In 1910, 11.5 per cent of the world population lived in Germany, France, UK, Italy or Spain, the five biggest countries of Western Europe (not including their colonies). In 2010 only 4.5 per cent of the world population was living there. The same year only 2.5 per cent of all babies in the world were born in one of these countries. In parallel, life expectancy is around 20 per cent higher in these countries than in the rest of the world.

At present, circa 8 per cent of world population is 65 years old or more, 18 per cent in the above mentioned countries and 17 per cent in the European Union as a whole.

The effects of this situation are then twofold: Lower fertility rate of women and higher life expectancy. The second of these has been particularly spectacular, such that, in Spain for example, life expectancy has almost doubled from 1919 till today - moving from 41 to 81 years of age. This change is represented by an increase in the percentage of people reaching 65 years of age from 35 percent in 1919 to 90 per cent presently. As has been pointed out, demography will impact public pensions due to its increasing costs. Life expectancy, apart from other changes, will move retirement to higher ages and private pension programs will be common in order to try to keep social costs steady.

As the population pyramid loses its geometry and transforms into a sort of rectangle, if not an inverted rhomboid, many changes will occur in business and society. In 2012 for instance, Americans aged 30 to 44, started to increase and projections made by the Census Bureau estimate that by 2023 there will be almost 6 million more people of this age than today (United States Census Bureau, 2012). This will have an interesting impact on the economy. On the one side, these groups of people, both in America and in advanced countries, are the ones in which entrepreneurship is concentrated. Secondly, this is the group which buys more cars or homes. These aspects are a minor example of the effects of demography in the structure of the economy because people's economic behavior is obviously not the same at different stages of life. As young people invest in education (and health), middle-aged adults buy cars and homes, as we have already mentioned, and the elderly require retirement income as well as healthcare. This structure affects the life cycle of savings and investments as well as productivity. Implications of demography can then be found at macro and microeconomic levels. The latter also affect issues such as economic growth, inflation and savings, as has already been commented.

An old paper by Robert Solow attempted to demonstrate that population growth reduces economic growth due to capital dilution (Solow, 1956). Although more recent models tend to show that, in general, and relative to per capita output growth, fertility, population growth and mortality tend to be against it, whereas population size and population density move in its favor. Additionally, it has been demonstrated that many aspects of human behavior, as well as the impact on the economy, are age-specific. In consequence, the population pyramid is one of the key consistent factors that influences the economy, either in the past, present or future, as it is one of the key factors related to GDP growth. In this regard, the combined effort of a number of authors (Prskawetz and Lindt, 2007), based on recent Eurostat projections on population, have demonstrated that there is an expectancy of serious decline in GDP growth rates, particularly in those countries with negative workforce rates. Furthermore, many of the macroeco-

Welfare economics, welfare state and the real economy. *Olier, E.*
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nomic scenarios that could be expected will be closely correlated to the future demographic structure. This is an important issue that is not being paid significant attention, and that will also impact the whole structure of welfare economics in advanced countries, as well as in other emerging economies in the future. Furthermore, many businesses will be affected, namely those related to people's behavior. Finance, retail distribution, and many others will not be strangers to these changes.

## 7. Welfare economics and inequality

Income inequality and demography are perhaps two faces of the same economic coin. Both, even with no serious consideration in economics, greatly affect the economics of welfare.

The US and other prosperous countries, particularly in Europe, have per capita incomes ten times higher than the poorest countries of the world. Surprisingly, the US, despite being richer, does not have as high a standard of life as the others. Standard of life is measured in terms of the coverage of the welfare state among the population. Many Americans do not have the type of high quality healthcare many Europeans enjoy. They do not have extended maternity benefits; nor do they have access to as many public services as their European counterparts. As Atkinson *et al.* (2011), have shown income inequality is greater in the US than in Europe, where the top one per cent of the US population accumulate almost 25 per cent of the national income. This number is as low as 5 per cent in countries like Finland or Sweden.

Acemoglu *et al.* (2012) studied the asymmetric growth among a number of countries, arriving at the conclusion that, concerning welfare, a technological leading country may result in having a lower welfare cost than the country that has chosen a cuddly form of capitalism.

Another view of the same is made from a different angle, relating to human capital, a cornerstone in the welfare state as human capital is closely connected to education. However, even though great effort has been taken by many countries to increase the human capital average, there is no direct correlation between this factor and personal income growth.

In this regard, the Human Capital Gini Coefficient has been decreasing in most of the regions of the world during the past 60 years, dividing it in two in South Asia, the same in Sub-Saharan Africa, and even more so in the Middle East and North Africa. Income inequality has remained relatively stable in the same regions, as demonstrated by Castelló and Domènech (2013). Also, the changes in income Gini coefficient are

not correlated with changes in the Gini coefficient for education of the literate population. Therefore it can be demonstrated that increasing literacy is a necessity but is not a sufficient condition to reduce income inequality.

How does the above relate to welfare economics? Welfare economics, as we defined it at the beginning of this paper, is the study of how the allocation of resources affects economic well-being. However, we also pointed out that economic welfare is not welfare in the sense that a change in economic welfare does not imply an equal change of welfare. However, classical and neoclassical economics did not consider the effect technology has on the industrial balance, nor the impact it may have on social costs. A interesting new angle then emerges, which relates to technology and to income inequality. Income inequality is related to the welfare state, as has been identified, through the relationship between education and inequality.

## 8. Concluding remarks

This paper has put the classical and neoclassical economics of welfare in front of today's political economy. Many of the statements developed by Alfred Pigou dozens of years ago still have validity today, for the economics of welfare, as many years ago, tries to explain how to achieve people's satisfaction. There is still a validity of the discussion of the quantity theory of money and its linkage to the national dividend, as they also have contemporary validity on how consumption and productivity impact economic welfare.

The economics of the welfare state, on the other side, is connected to the problem of social cost as discussed by Ronald Coase. Coase's theorem is also applicable in current economics. Additionally, we have also moved forward by extending Coase's theorem through a couple of corollaries of contemporary application. The first pointing to the way political action —in our case strongly defined as political forces— may lead to break perfect competition and increase social costs. A conclusion Daron Acemoglu also highlighted by concluding that political forces do not result in more efficient social arrangements. The examples are many, independent from the way the state is organized, either democratic or not. An example of it is behind the reason why some economies are highly indebted these days. A corollary on the other hand, opens new ways to understand today's economy and explains how unbalancing social and private costs may result in economic externalities, thus shortening the business cycle. A new corollary that can be demonstrated from the way extreme economic financing creates financial bubbles or how extreme social costs may lead to similar economic effects.

Since the welfare state relates to economic redistribution, welfare economics requires an additional element to deal with, namely the ethical point of view. Economics, as de-

fined by Lionel Robbins and other economists, is centered on people, and seeks to balance the equity vs. efficiency binomial. This has been deeply discussed, arriving at the conclusion that the three analyses of welfare economics are complementary, namely the physical, the subjective and the ethical levels; as the three of them provide a complete perspective of it.

The study of whether welfare state costs are the cause of extreme public debt as defended by some economists leads to a negative answer. Neither pension costs nor the other welfare state pillars are the direct cause of public debt growth. Reasons for that are different, namely political organization of the state, effects coming from the financial crisis and the heavy weight of real state in the economy. Nevertheless, the welfare state and its future supporting economically disadvantaged people is strongly related to demography and income inequality which influence the economy as a whole, either at macroeconomic or microeconomic levels.

The seriousness of demography does not have the importance it should as a key element in macroeconomics. The population pyramid is a key influence in the behavior of GDP growth, as well as being a fundamental issue in the evaluation of the future of the welfare state.

Finally, inequality has to be considered as a complementary economic element to demography, being also a key parameter in maintaining welfare economic standards in both advanced and developing countries.

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