The economics of class. A dual approach.

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Contents

The economics of class. A dual approach.

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Abstract

The aim of this paper is to present a novel proposal to define social classes from the economic perspective. This paper draws on a previous working paper (Muñoz de Bustillo and Esteve, 2022) that discusses the demise of the concept of social classes in economic analysis derived from the triumph of Neoclassical Theory, its substitution in recent times by the definition of social classes based on ad-hoc aggregation of deciles of people in the income distribution, and the convenience to explore new ways of defining social classes from an economic perspective. The proposal presented in this paper regarding social classes is based on two different elements. The first one is the participation or exclusion of a given person from the economic surplus. The second one is its position, both in terms of income and consumption, in relation to the necessary consumption, C*, and average income, Y. These concepts allow defining three different social classes: Low, Middle and High, that can be further divided in subclasses up to a total of seven. A second, and less developed part of the paper reviews the role of economic power in explaining the allocation of different people in the above-mentioned social classes.

Keywords: Social classes, Classical political economy, Surplus approach

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1 On the concept of social class from an economic perspective

1.1 Introduction

In a previous working paper (Muñoz de Bustillo and Esteve, 2022), we reviewed the role played by social classes in economic analysis from the birth of Classical Political Economy, highlighting the problems related with the use of the functional distribution of income as a quasi-concept of class, discussing the different shortcomings related to the interpretation of concept in terms of economic classes. Likewise, we argued that its substitution by the identification of classes with *ad-hoc* aggregations of deciles in the income distribution was a relatively practical, although lacking conceptual foundation, way of introducing social classes in economic analysis.

The approach to social classes that we develop in these pages starts also from the idea that social classes in modern market economies show themselves empirically and so they can be inferred from the position of individuals in terms of consumption and income. Income is a direct (monetary) measure of the amount of total social product that is allocated to a specific individual in a given period of time. Consumption is, on the other hand, a direct (monetary) measure of the amount of social product that is used by each specific individual in a given period of time. Both measures have high socio-economic significance. Income not only determines ability to spend and thus life chances to a great extent, but it also reflects the ability of each individual to appropriate part of the social product (at least the monetarized part of it), and in some ways also the value that the economy assigns to each individual. Consumption, on the other hand, is an even more direct measure of living conditions and material well-being, as well as being a key marker of social status in market societies. Although income and consumption are strongly correlated, they differ in ways that are also socio-economically meaningful. When income is higher than consumption (which suggests a comfortable economic position), the individual can save and invest (accumulate capital which can later generate unearned income). When income is lower than consumption (which implies that the individual has a lifestyle that is above the value that society assigns him), the individual needs credit and accumulates debt which will reduce his future income (or alternatively, spends part of the previously accumulated wealth, which also implies a reduction of future income).

The socio-economic significance of the variables of income and consumption and the fact that they will tend to reflect the capacity of different individuals to appropriate part of the social product (and crucially, part of the economic surplus), is what allows us to use these two variables as the basis for an economic approach to defining and measuring social class. Our proposal is complementary rather than alternative to the kind of mechanism-based approaches to class analysis of sociologists (Wright, 1997; Goldthorpe, 1980; Erikson et al. 1979; Oesch, 2006) or classical political economists (Ricardo, Marx).[1] We do not reject the idea that there are socio-economic mechanisms (such as ownership of capital, or qualifications, or type of employment relation) that structure socio-economic opportunity into social classes. Indeed, we believe that is the case, and in a later working paper we will also discuss how those mechanisms of power in markets and organisations generate differential access to economic surplus for different social groups. What our proposal intends to do is to use the empirical distribution of income and consumption, which almost by definition reflects the impact of those mechanisms, as an alternative basis to identify social classes.

This proposal differs from the usual sociological (and classical political economy) approaches to measure social class, and at least superficially it is similar to an approach recently used by many applied economists (e.g., Piketty, 2014, or Atkinson and Brandolini, 2011) for measuring social classes as ordered income groups. Although in practical terms, our proposal is comparable to those economic approaches to classes as ordered income groups, our contribution lies in a clearer and perhaps better

[1] For details see Muñoz de Bustillo and Esteve (2022).

theoretical justification for the construction of those groups, as well as by a more sophisticated analytical foundation (building on the interaction between income and consumption). Hopefully, our approach can provide more solid foundations to the typical economic analysis of classes as income groups, as well as a complementary approximation to mechanism-based class analysis.

It is useful to be more systematic in spelling out the differences between the approach presented in the following pages and the more common approach of sociology and classical political economy for class analysis. First, whereas sociologists tend to focus on identifying the mechanisms determining the capacity to appropriate economic surplus (and build classes on the basis of attributes linked to those mechanisms), our proposal uses the empirical distribution of the two key variables that measure the distribution of economic surplus (income and consumption) to identify classes without having to uncover the underlying mechanisms behind the adscription of different people to different classes, adventuring into more theoretically troublesome waters. However, it should be noted that to the extent that those mechanisms generate differences in the empirical distribution of income and consumption (and they should, to a great extent), both approaches could at least in theory identify similar groups (though not exactly, as we will discuss later). Secondly, whereas classes based on mechanisms are categorical groups (qualitatively different and neatly distinguished), classes based on the distribution of continuous variables such as income and consumption will be ordinal and the boundaries between them will in practice be arbitrary quantitative intervals. Third, many (but not all) sociological approaches to classes are relational (the mechanisms determining class positions imply specific relations between classes, for instance relations of exploitation and subordination in the Marxian approaches), whereas our approach is distributional (the observed values of income and consumption used to identify classes are taken as given and do not imply any specific relation between the different classes). We will discuss later, however, that there is a possible relational interpretation of the different values of surplus appropriation that are the ultimate basis for our proposal, which is in fact similar to the Marxian concept of exploitation. Finally, sociological concepts of class tend to be absolute, and classes are defined by possessing or not a set of attributes or resources, whereas our approach is relative, and classes are defined by being above or below other classes with respect to the variables of income and consumption.

These differences are linked to different advantages and disadvantages of our approach with respect to the mechanism-based class frameworks. Perhaps the main disadvantage of our approach is that we miss the possible qualitative distinctions that can exist within classes depending on how the observed level of income/consumption was attained. Two persons with a similar level of income and consumption (and wealth) can be very different in terms of lifestyles, life chances, identity and political behaviour depending on whether they obtained such a level of income/consumption by hard work or by the rents generated from inherited wealth, for instance. In other words: it could be argued that not only the amount of economic surplus obtained by each person matters for a so-called sociological or mechanism-based class position, but how that economic surplus was obtained (and the *how* is directly linked to the mechanisms discussed by sociological theories of class). In contrast, from the perspective followed in these pages, both persons would be exactly the same as they have the same economic opportunities of choice as they face the same balance restrictions and the same relative prices.[2] Another possible disadvantage of our approach, this time unfortunately shared with the approach based on mechanisms, is that its operationalisation depends on the availability of good measures of income and consumption, which is not always easy to obtain even in developed economies and is always affected by measurement error (for instance, the top and bottom of income

[2] Perhaps, it could be argued that there is an economic difference between these two individuals. Adopting a Beckerian approach to time allocation (Becker, 1965), although both individuals have the same income, the one who gets this income as an earned income has less time to consume than the one who gets his /her money as a non-earned income. So, instead of using the level of monetary income to classify people in economic social classes, a sounder approach would require using the full income (that is, including the monetization of people's time).

distributions are generally not well measured). Finally, there is probably some arbitrariness in our approach because the number of classes and the boundaries between them are discretional, whereas in the mechanism-based approach they are more directly determined by the underlying mechanisms theoretically identified (although there is some arbitrariness there too, of course).

But our approach also has advantages. Perhaps more importantly, it is relatively easy to construct (provided the necessary data is available) and it avoids the complexity of having to identify and measure mechanisms which are often not explicit or ostensible. Whatever the mechanisms determining economic advantage may be, they should have an impact on the distribution of income and consumption, and thus it seems that the latter can be used to heuristically infer at least partly the structure of social classes, because in a pure market society, in which all are prone to be bought and sold, who is an individual depends mostly on the level of his or her income. Money can even buy political power (Gilens, 2012). Thus, using the level of income to classify individuals in economic social classes is empirically relatively easy and theoretically funded. Also, since our approach is based on the observed distribution of income and consumption abstracting from the underlying mechanisms that may determine such distribution, it can provide a useful basis for comparing social classes across time and space, abstracting from changes and discontinuities in those underlying mechanisms. In any case, as we have repeatedly argued, our approach is intended as complementary to the mechanism-based approaches, rather than a complete alternative perspective on the construction on social classes from an economic point of view.

In 1971, the Dutch economist Jan Pen, to *show* in an intuitive and vivid way the inequality of incomes in the US in the 1960s, suggested imagining it as a street parade walking past as one stands on the sidewalk. The parade would last one hour. The heights of the people marching in the parade, the total population, would be proportionate to their incomes, and paraders would march in increasing order of their heights/incomes. As explained by Schutz (2011): "suppose a six-foot-tall marcher represents the mean income level. At the ten-minute mark, marchers are still not up to the spectator's waist in height; at the 30-minute mark, halfway through the parade, the paraders are still not yet five feet tall –the six-foot-tall average-height parade does not even pass until around 45 minutes into the parade. As the parade advances further and marchers' height continue increasing, with six minutes to go to the top decile of income earners march past, 20 feet tall and growing with dizzying rapidity from one to the next into the hundreds of feet tall. In the last few seconds, the spectator can see not much further the parades' knees. At the end is J. Paul Getty, the Bill Gates Jr. of his time. As he strolled past, thousands of feet tall, spectators looking upward to get a glimpse of him could barely see beyond the soles of his shoes" (Shutz, 2011: 6).

Of course, the "Pen parade" is a very efficient[3] way to solve the problem of showing the "real" size of inequality, but –following with the metaphor of the parade- it has however a problem if we try to think/imagine it, because as it may be very difficult to find two people which have exactly the same income at the cents level, the parade must be thought as a very long Indian line, so that people would have to run at a very high speed to finish it over in the one hour it must last. At this high speed the spectators would not have time to appreciate anything. It would be simply impossible to be aware of so many different income levels as there are individuals.

And something so happens in the real world. The seer variety of economic positions among the people precludes obviously taking into account all the individual income differences. From an *empirically* point of view, the obvious and usual way to address this problem is to reduce that diversity and complexity grouping different people with "similar" incomes in "classes"[4]. But the problem now is how

[3] In the sense that it can be a very illustrative and intuitive way of informing about inequality at a low cost

[4] It must be stressed that the approach followed in the text is radically empirical, not theoretical. Obviously, as it is said below, there is another way to address the problem: the so-called mechanism based way, the usual way of, first, constructing a theory of defining economic classes that it is used to classify the individuals, previously to

many of these "groups" or "social classes" would be adequate? Because a high level of aggregation, grouping or classing of different individuals may also be misleading. Here, *numerology* has played the biggest role. Three member societies can bring forth societies with only two types of groupings: as three class societies, each one composed by only one people and as two-class societies with two "classes", one with one individual and the other with two. Leaving aside the peculiar 3-member society with three classes, it seems that only two "social classes" would be the obvious number of groups or classes only for a society with three members, it can be thought that three or more would be a better number of classes than two for societies bigger in size. Of course, three is a number with much more appeal and a long mythical and theological tradition in its favor, so it is not uncommon to see authors who *choose* to stratify societies in three classes. But, as three may seem a low number for the number of social classes in more complex societies, six or (better yet) seven have become the number of "social classes" that have been preferred in academic studies (e.g. Savage *et al.,* 2013, Standing, 2011, Goldthorpe, 1980). So, it has become common in social sciences to divide and group the individuals in any society attending its levels of income in three big social classes: lower class, middle class and upper class. And to get a finer classification these three big classes are often subdivided in six (or even seven) social classes: upper upper and lower upper, upper middle and lower middle, and upper lower and lower lower classes**.**

All this is, clearly, an academic convention, as are also the income boundaries chosen to define when a personal income level has to be classified in one class or another. Of course, it is also a convention when instead of using monetary thresholds as "classificatory criteria", each class is defined as having the same number of members, so in the low class "are" the 1/3 of the population with less income, in the upper class the 1/3 of the population with the biggest incomes, and the middle class is also composed exactly by the remaining 1/3 of the population that does not belong to the upper or lower social class. Perhaps, as a consequence of so much discretion and/or ambiguity and fuzziness, it is not surprising that the use of social classes as a conceptual tool does not have a high predicament amongst economists who study inequality in income distribution, who prefer instead to recourse to precise statistical concepts and measures, with the inconvenient that in many cases they lack an economically significant meaning.

So, the first task in order to use the social class concept, from an admittedly reductionist economic perspective, it is as an *economic* social class, is providing it with a clear and empirical economic sound meaning. That is the objective of the section of this paper.

Now, it must be underlined once more that this conceptualization of social class from an economic point of view follows, evidently, a *descriptive* approach to the problem, in the sense that it defines social classes using a set of criteria that makes sense from an economic perspective useful or valid only for market economies. These criteria allow, **from the outside,** to ascribe each individual to a specific social class looking only at his or her level of income and consumption. In other words, the above-mentioned descriptive concept of an *economic* social class is empirical and places people in different *economic* social classes *ex post facto*, that is, after knowing their level of income and independently of how they have acquired such income or any other economic criteria.

A more complete conceptualization of social classes must also include a mechanism-based approach that would allow to explain and even predict *ex ante*, or beforehand, using a set of characteristics or circumstances, whether one individual would end up, with a certain probability, belonging to a specific economic social class in terms of income and consumption. Such *operational* or mechanism-based conception of the concept of economic social class assumes that the allocation of people to different social classes is not the result of a random process, but the product of different processes, characteristics, or circumstances more or less shared by people that, due to their income level, "fill"

their levels of income, as belonging to some social class, and then use that theory to group the individuals in these theoretically defined classes hoping that people in the same classes will have similar incomes.

or conform each of the social classes empirically described. That is, the aim of this mechanism-based or operational approach is to define and identify the causes, characteristics, or **economic** situations common of or shared by the individuals that constitute each social class.

Such has been the objective shared by countless sociologists, political scientists and economists that, starting from the analysis of characteristics, circumstances and situation common to the individuals of each social class, have tried to find a set of criteria generally agreed to develop a mechanism-based or operational definition of social classes. The results, nevertheless, have been less than optimal for two different reasons. Firstly, because due to the multiplicity of dimensions of the lives of people, it has been common that when deciding which dimensions to include in an operational definition of social class, authors would disagree in which of such dimensions: economic, political, cultural, ethnic, religious, gender, etc., is more relevant

Secondly, because the evolution of economic and social reality inevitable ends up questioning or even invalidating the mechanisms or economic criteria used to define the allocation to one or other social class. To be honest, this criticism is not addressed to the sociological analysis of social classes based on mechanism *per se*, but to the practice of maintaining the same theoretical way of looking to classes through time, especially in modern societies subject to very fast process of change. That is, the characteristics or circumstances that would, for example, allocate one individual to the low-income class the 21st century may no longer be relevant, or as relevant as were, for example, in the 19th century.

In order to face these problems, the dual approach proposed in next section, aims at developing a conceptual framework powerful enough to include the diversity of characteristics and circumstances of economic nature that affect the income received by individuals, allowing thus to develop an operational approach of social classes complementary to the descriptive and empirical approach. After presenting the dual approach to social classes, in section 3 we will briefly introduce the reader to the analysis of the type of power relations behind the allocation of economic surplus. This merely introductory section aims at calling the attention on the importance of power, a concept usually marginated in mainstream economic analysis, in explaining the distribution of economic surplus. Last, section 3 presents the major conclusions of the analysis presented in these pages.

1.2 **The surplus approach: An analytical proposal.**

It is a common opinion among social anthropologists and pre-history scholars that for about as many as 290.00 years of the last 300.00 years our particular human species has been around, humans have been living in small scale hunter-gatherers' groups or societies. These foraging peoples, especially when living in warm climates, organized themselves in highly anti-hierarchical and economically classless societies[5]. Woodburn (1968,1982) defines the economic structure of these societies as an "immediate return economy", in which people are not "inclined to harvest more than they needed to eat that day and never bothered storing food" (Suzman, 2020:151). This kind of short-term economic thinking of hunter-gatherers stands in complete contrast with the long-term economic

[5] This is the standard or general accepted evolutionary approach in economic anthropology (see for instance, Boehm, 1999, and Flannery and Marcus, 2014). Graeber and Wengrow (2021) have tried to offer a radical alternative to this evolutionary approach in which hunter gatherers societies were not ecological, political and economically constrained to be classless but they were, even in prehistoric times and conditions, unconstrained and free to choose to be class or classless.

thinking that informs economic life in the "delayed return economies" of farming and industrial societies[6] in which most labour effort is oriented towards future rewards.

Another way of describing immediate return economies is to think of them as voluntary no-surplus economies, *i.e.*, societies whose individual members ***choose*** not to accumulate goods over the daily requirements of biological and social existence, and so doing they exclude the possibility of generating meaningful material wealth differences between them. These communities are not egalitarian by chance, but because of this choice. As Hayden (1995) remarks, all social groups always have –possibly for genetic reasons– aggressive, ambitious individuals who would like to be leaders and/or relative richer than the rest, and that would actively try to get ahead, individuals that would have to be kept on a short leash if the group wants to preserve an egalitarian economic structure[7].

Of course, this economic equality between the people, not only in opportunities[8] but in outcomes, is not exclusive to these immediate return foraging economies, and some delayed return foraging economies may be found in which there are also no economic differences between individuals in accessing the economic surpluses accumulated in these economies in the annual cycle. They are societies in which the vagaries of the environment, as the last provider of economic subsistence, do impose economic egalitarianism as an efficient and chosen risk adverse policy to most individuals. But though it is not a sufficient condition, it can be said that a necessary condition for the existence of economic inequality in a society and so, for an economically stratified class society, is the existence of an economic surplus[9].

But before continuing, it is necessary to define in a more analytical way this concept of *economic surplus* so well-known to social anthropologists[10] as, despite being a relatively common conceptual tool under different words to physiocrats ("*produit net*"), classical political economists (land rents) and Marxists ("surplus value"), this concept that was abandoned by economists with the arrival of the

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[6] This also applies to other hunter and gatherer groups that live in hard climates or insecure ecological environments that do not allow a reasonable confidence in getting enough food in the future, forcing them to develop ways to accumulate means of subsistence for the harder days.

[7] For instance, among the *Ju/'hoansi* from the Kalahari, envy, jealousy and mockery are the means to ensure that everyone gets their fair share of the economic surplus and that individuals that would have "desires" of having (much) more than the rest and could do it, put them down or repress them (Suzman, 2017)

[8] Sexual/gender differences aside.

[9] An important question that we will not address in these pages is why, how, and when immediate return economies gave way to surplus/delayed return economies and so, sooner or later, became economically stratified class societies. The development of agriculture and war are factors to be considered (see, for instance, the popular accounts of these questions in Diamond,1999, Scott, 2017, and Turchin, 2015)

[10] To be honest, it is necessary to say that all social anthropologists that use the neoclassical economic theory as the conceptual basis to understand the economy do not accept the surplus approach. For an example of a clear rebuttal to the surplus concept from an important author see Pearson (1957), for a counter- rebuttal, see Godelier (1966, Ch. 3)

marginalist revolution, and nowadays it rarely appears in standard mainstream economic models[11], except for some Marxian[12] and Neo-Ricardian/Sraffian economists (Sraffa, 1960)[13].

There is no single accepted definition of economic surplus. Baran (1957) proposes two ways of addressing this ambiguity depending on the objectives. He distinguishes between the real and the potential surplus. The *real* economic surplus in a society would be the difference between the real production and the effective current consumption. It would be equal to the savings/ investment of the period. In contrast, the *potential* economic surplus is the difference between the production that *could* be reached in a given natural, social and technical environment and what can be considered *essential* consumption. In these pages a third definition is proposed based on the abovementioned real and potential concepts that seems more useful to the objectives of this paper. Here, *social economic surplus* (SSp) will be defined as the part of the real product generated in a given period which society can dispose of freely, after keeping aside *all* that it is *strictly* required to produce again the *same* level of product in the next period (Cesaratto, 2020)[14]. This means that even if the SSp would be entirely allocated to the production of consumer goods (to be used by all or just by a part of society, for whatever specific purposes), this would not prevent to reach the same volume of social product in the following year. In other words, the economy would be able to reproduce itself, at the same level, in any situation in which the SSp is "dilapidated"[15]. In contrast, when part of the SSp is invested[16], taking the form of more and new means of production, the economy would expand its capital stock and there would be economic growth[17].

In different societies, the distribution of economic surplus among the people will be done in different forms. Violence, redistribution, reciprocity, and exchange are usual methods societies have used in history to solve the social problem of the determination and allocation of surplus. In modern market societies in which the use of the social device of money is generalized, the access to the economic surplus for each individual in a given period depends on the quantity of money the individual can get from the different productive and non-productive activities (Baumol, 1990) in which he or she participates and the money he or she can borrow.

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[11] Neoclassical economists use the term surplus in two completely unrelated ways to the one social anthropologist consider: the consumer surplus and the producer (economic rent) surplus, referring in the first case to the difference between the actual price paid by the consumer and the price the consumer would be willing to pay in the first case, and to the difference between the price received by the produced and the price at which the producer would be willing to supply a given quantity of a good or service, in the second. To neoclassical economists, the very idea of an economic real surplus is absurd, as the assumption of marginal decreasing returns applied to all production factors in a constant returns production function implies that no product remains after the factors of production get their marginal product as remuneration for their participation in the production process. A surplus can only rise in the particular cases in which the production function presents increasing scale returns.

[12] The so-called Monthly Review School.

[13] See Carter (2011) for a brief but complete account of the surplus approach from an economic perspective.

[14] So, the proposed definition of economic surplus stands between the *real* and *potential* ones. It would be higher than the real one to the extent that the effective consumption a society does is usually higher than the necessary one to reproduce itself, and it is lower than the potential one because the real social output is always less than the potential one, since in all societies there are production factors not fully employed or misused for different social, political or technological reasons (spare capacity, unproductive workers, workers dedicated to compensate negative externalities, etc.).

[15] Obviously, this situation is akin to the "simple reproduction" economy analysed by Marx in the second volume of Capital.

[16] In other words, as the "Baran ratio", or the proportion of the economic surplus used to increase the productive capacity of the economy (Xu, 2019), grows.

[17] That corresponds to the "expanded reproduction" economy in Marx's analysis.

The social product in a market modern economy can be measured by subtracting from the Gross Domestic Product (GDP, or Y)[18] the part of such output that is needed to guarantee the simple reproduction of the economy in the following period. This item includes two elements: the part of production needed to replace the private and public capital stock[19] used in the present production period that is accounted in national accounts as depreciation[20] (D); and the part of public and private consumption that can be considered *essential consumption* (EC). Thus, the social economic surplus (SSp) in a given period would be:

$SSp = GDP – D – EC = Y – D – EC$

But, given that the objective here is the study of the differential share of the economic surplus that people at the individual level can get, it is necessary to take in consideration that there is a part of the SSp that is beyond the reach of individuals, as it is taken by the state. The state takes a part of national income as taxes (T) on individuals' incomes[21], although it gives back this surplus to the individuals as public goods. So, the *private* economic surplus (Sp), that part of the social economic surplus individuals may appropriate, can be defined as[22]:

$Sp = SSp – T = Y – D – T – EC = Y^D – EC = C + S – EC$

(Y^D: *net* disposable income; C: total private consumption; S: total private savings)

But also, alternatively as:

(2') $Sp = SSp – T = Y – D – T – EC = Y^D – EC = W + P – T – EC$

(W: gross labour income; P: gross property income)

Or, alternatively:

(2'') $Sp = SSp – T = Y – D – T – EC = Y^D – EC = C + I + (G-T) + (X-M) – D – EC =$

$= C + NI + (G-T) + (X – M) – EC$

(NI: net investment; G: public expenditure; X: exports; M: imports)

Now, apart from the known measurement problems of many of these variables, there is also a conceptual difficulty related to the meaning of what is *essential* consumption and its measurement. For most economists, followers of methodological individualism approach to economics, this would be an insurmountable problem because, within that approach, utility rankings of individuals are non-

[18] When calculating the economic surplus, a more complete way of proceeding would have to take into account the incomes from property of foreign national in the economy and the incomes from property of nationals in foreign economies, so instead of GDP we should use GNP (Gross National Product) as the product of a society in a given period.
[19] Understood in a wide way, *i.e.,* including in it the residential buildings and other long duration consumer goods
[20] In D there would also be included all the expenses necessary to face, correct or compensate the ecological problems caused by the production processes.
[21] Here, looking for simplicity, the indirect taxes will not be considered.
[22] This way of proceeding, excluding taxes and all public expenditures in calculating the private economic surplus is far away from being an innocent choice. It assumes that all the people profit equally from the public expenditures. But, what's the use of fire and police departments to homeless people? What's the use of roads to people that do not own a car? What's the use of public expenditure in education to people without children? In consequence, a more nuanced analysis would require considering that the public expenditure in consumption and investment benefits differentially to different people depending on its income and wealth level and would have to be considered as an implicit transfer that would have to be imputed as an extra "income" to be added to the private disposable income of the individuals. Correspondently, the depreciation of public capital and an estimation of non-essential public consumption would have to be added to the depreciation of private capital and to the essential private consumption, to correctly estimate the economic surplus.

comparable so what are essential expenses for an individual may be considered completely accessory ones to another. So, in any society, it would be impossible to arrive to a common definition on what ought to be considered essential consumption departing from individual behaviours. For Baran, however, the definition of essential consumption, not only in underdeveloped nations but in advanced ones, "was not a mystery at all". Where the standard of living is low, and the goods people can get are a limited and non-diversified basket of goods, essential consumption can be determined in physical units of calories, quantities of food and clothes, square meters of living space, watts of energy consumption, phone, and internet level of access, etc. Where the standard of living is high and there is a huge variety of goods and services in the consumption baskets of the people, a reasonable approach to the quantity and composition of the income necessary to live would be to rely on what is socially considered as a *decent life* (Baran's words). A decent life should not be confused with subsistence, with the satisfying of the bare necessities to live a biological life. It is a social and even a cultural concept, higher than any measure of subsistence income level[23]. That is, the income required to live a "decent life" varies across societies and times.

Three ways have been suggested to develop an empirically useful way to quantify the economic surplus in a society in a given period. According to Xu (2019), when "labor income is more or less in line with essential consumption, we can approximate economic surplus by the property share of income (rent, profit, interest)"[24] (p. 27). But whereas this may be a reasonable approximation for developing economies, for developed countries it cannot be realistically assumed that "labor income is more or less in line" with a "decent" *social* and not only "minimum" *social* essential consumption.

Three other approaches to the measuring of the EC can be proposed:

(A) Based on statistical approaches. The EC is estimated by means of some statistical measure (*e.g.*, the average or the median income level) as a measure of the income required for any person to reach the essential private consumption to allow him or her to live a *decent social life*. The problem with this approach is that the essential consumption so estimated would grow at the same or similar pace as per capita economic growth[25], so it could be perfectly possible to have a similar economic surplus in economically very different countries. It can be plausibly argued and defended that the essential consumption must grow as a society grows, as development also means the development of new needs, mostly of social type, that must be met to live a *social* decent life, but common sense also suggests that not all these new types of consumption are entirely essential, being in good part discretionary, so EC ought to grow at a lesser rate than per capita economic growth so that it be allowed that the economic surplus grows in the course of economic development, as it happens effectively. An obvious way of overcoming these difficulties is using as a benchmark not a criterion based on income, but one based on consumption (the average or the median consumption level). In

[23] And for this reason, the essential consumption is higher than the subsistence wage that classical and Marxist economists conceived. For Adam Smith, Ricardo and Marx, the subsistence wage must allow the working class to reproduce itself. In the best-known definition, that from Marx, the subsistence wage must allow workers to produce again the commodity the workers sell: their labour force. But the essential consumption here considered would be higher than the social subsistence wage, as it also includes the income necessary to satisfy other needs (cultural, expressive), as well as the consumption required to live a decent life for other people besides workers.

[24] This kind of measure will tend to grossly overestimate the EC when labour incomes exceed essential consumption due to different situations including unions' bargaining power, full employment, pro-labour government policies, …

[25] Using the average income level would also means that the EC would depend on demographic factors. For instance, a higher population with the same level of aggregate income, as it translates in a decrease in the average income, would mean that living a decent life would require less income. Additionally, when the average income is considered the essential consumption, the very notion of an economic surplus disappears.

any case, using these measures rends the EC impervious to changes in income distribution, as the average (or median) consumption or income does not change with them.

The "non-statistical measures" approaches to the EC value consider that only a β-proportion of total private consumption should be considered as essential. The problem now is in deciding on the level of β.

(B) One way for assigning a value for β is by proceeding *as if* the *total income* level of the α-share of the population with the higher disposable incomes were either saved or expended in non-essential services and goods: in positional and "Veblen goods", *i.e.*, goods that would be bought not for their inner qualities as means of satisfying any material and social needs but for signalling social standing, so that such incomes would not be necessary to live a social decent life. In contrast, the assumption would then be that *all* the income of the (1 – α) share of the total population (N) would be spent but only in socially essential consumption[26], and that in consequence, the α-share does not expend any money in essential goods. Under this assumption, the EC is:

$$(3) \quad EC = \beta.C = Y^D - \sum_{N(1-\alpha)}^{N} Yi = (1 - \delta)\, Y^D$$

(where β is the share of total consumption that can be regarded as essential, Yi is a variable representing the net disposable income level of each i-individual, Y_1 being the poorest individual an Y_N the richest. And δ is the share of the disposable income that goes to the α-share income richer population, so that α < δ)

$$(4) \quad \beta = (1 - \delta)\,(Y^D / C),$$

Where (C/Y^D) is the average consumption propensity of disposable income. So, the β coefficient depends on the δ-share, and ultimately on the α-share of the population selected. In this respect, Xu (2019) has proposed using α = 10%, *i.e.*, the income of the tenth decile of the personal income distribution as the benchmark to estimate δ and β[27]. Here, instead, and following a suggestion by Shaikh and Ragab (2007) regarding a related inequality measurement question[28], it is suggested a higher value, α= 20%.

Thus, the average EC or EC per capita is:

$$(4) \quad C^* = EC / N = (1 - \delta)\, Y^* = (\beta/(1 - \delta))\,(C/N)$$

(Y^*: net disposable income per capita, C/N is the per capita private consumption). From (4) and given that (Y^D / C) is always higher than 1, we have:

$$(5) \quad C^* > C/N \text{ as } [\beta/(1 - \delta)] > 1$$

[26] So that the (1- α) part of the people would be assumed that do not save or invest.

[27] "Another approach is to approximate surplus using the top income share. If we assume that, in every society, the essential consumption level is around the medium income level, then the share of the top 10 percent of national income could serve as an estimated measure of the difference between national income and essential consumption—the surplus. This approach also comes with potentially skewing tendencies. For example, if income distribution is extremely unequal, then a top 10 percent income share could overstate the surplus. If income distribution tends to be very equal, then a top 10 percent share will underestimate the size of the surplus. Still, top income shares provide useful information and can serve as a cross-check method" (Su, 2019:23).

[28] Looking for an unique index of income and inequality that can be used to rank countries, Shaikh and Ragab (2007) find that the income per capita of the "vast majority" (VMI) (the 80% of the population) is the best indicator to synthetize in an only number the average income AND the unequal total income distribution after taking into account that incomes are distributed differently depending on their type: an exponential Lorentz distribution for wages and a Pareto distribution for property incomes.

So, with this measure of the surplus, the EC is higher than when using a statistical measure as the per capita consumption level.

As it happens with the other above-mentioned statistical ways of estimating EC, this one also has its drawbacks. If inequality grows heavily in the course of economic growth, then the essential consumption may not grow but it could remain stagnant or even might *decrease* in absolute terms. That would happen when the income going to the α- income richer people grow much more than total consumption (C)[29].

In the same vein, *caeteris paribus*, in a context of low or no growth, if inequality grows and the α-share of the population gets a bigger δ-share of the same net disposable income, the essential average consumption level (C*) must decrease, as the majority of people must share now a lesser chunk of the net disposable income.

As mentioned above, the essential consumption is a social and cultural variable, not a biological one, and as conditions change, the majority of people would adapt to the new situation socially redefining the means of essential consumption.

(C) The third way to calculate the EC is similar to the previous one, but it uses instead of the *income* level, the *consumption* level of the income rich α-share of the population as the completely inessential social consumption. Under this assumption, the EC is:

$$(7) \quad EC = \beta\, C = C - \sum_{N(1-\alpha)}^{N} Ci$$

And the per capita essential consumption would be the per capita level of consumption of the (1-α)-share of the poorest people.

$$(8) \quad C^* = EC / N = (C/N) - (1/N) \sum_{N(1-\alpha)}^{N} Ci = (1/N)\left(\sum_{1}^{N(1-\alpha)} Ci\right)$$

So that, $C^* < C/N$

Obviously, in this third measure, the essential consumption per capita would be lower than in the B option.

Thus, depending on the selected procedure followed, we will have a different measure of the EC per capita, equal, higher or lesser than the average consumption. This opens the possibility to consider that perhaps the level of essential consumption, EC, would change in the course of economic growth. In fact, attending to the prior discussion about the lower growth rate of the EC in comparison with the per capita income, it could be argued than in less developed economies option B would be a better measure and that in a high-income countries option C measure would be more adequate.

1.2.1 Social classes and economic surplus

Allocating, classing, or "packing" different individuals in economic groupings or classes depending on their level of income seems useful as a means to represent the social stratification of a society along an economic dimension, but it always has something of arbitrariness as different individuals usually have different levels of income, so it will be very difficult or impossible to find relevant sized groups of individuals with strictly the same level of income. For this reason, to arrive to at a manageable representation of economic social stratification it has been normal to recourse to a three-class or a three-storey representation of the structure of the economic building of a society, with a *low*, or L-class, a *middle* or M-class and a *high* or H-class. This three-class structure is usually further reshaped,

[29] It is, when the growth rate of δ plus the rate of economic growth of the disposable income is higher than the rate of growth in the total consumption: $(1/\delta)\, d/dt\, (\delta) + (1/Y^D)\, d/dt\, (Y^D) > (1/C)\, d/dt\, (C)$.

in a more storeyed approach distinguishing subclasses in each of the three classes, to get a more nuanced representation of the hierarchical structure of a society.

But this strategy just shifts the problem, as now the problem lies in the selection of the range of values or income levels established to define the different social *economic* classes. For instance, it has been *normal* to say that the L-class is composed by the people who occupy the three first deciles of income distribution, so that 30% of the people are *a priori* of low class. In a similar way, the H-class would be defined by the 30% of people in the three upper deciles. And so, the M-income class would be formed by the 40% of the population between the L and the H- classes. That procedure is completely arbitrary and does not allow knowing much about the relative size of the economic social classes, nor their relative differences in an economic meaningful sense.

In a similar vein, other usual way to define economic classes is by using some arbitrary statistical measures as benchmark: the average income level, the median income level, the poverty level, etc. All these ways, although leading to a more nuanced class structure, also show the ultimate arbitrariness of choosing statistical concepts as foundation to variables that would have to have some conceptual economic base.

Here, in contrast, it is suggested using the differential access to the economic surplus as the economic criterion to define the economic classes. Any society in which there is inequality in the access to the economic surplus generated by the economic activity is an economically stratified class society because, at least, there are two clear-cut defined classes or groups: the class of the privileged, who has access to the economic surplus, and the class of the non-privileged who do not profit from the distribution of the economic surplus.

So, using the surplus approach, it can be said, in a non-arbitrarily and economically sound way, that all people whose incomes are less than the *essential* per capita consumption belong to the L-class, because their income does not include part of the economic surplus of the society. So, an individual i is a member of the L-class if:

$$Yi \leq C^*$$

It is assumed that there is a close correlation between individual income levels and individual consumption levels, so that if individual m has a higher income level than individual n, (Ym < Yn) then his consumption level will also be higher (Cm < Cn). Then, inside the L-class, it is possible to distinguish between two subclasses:

(1) the LL-class, or lower-low class, so that an individual *i* belongs to the LL-class if

$$Yi < Ci < C^* < Y^*$$

(2) the UL-class or upper low class, so that an individual *i* belongs to the UL-class if

$$Ci < Yi \leq C^* < Y^*$$

In consequence, inside de L-class there is an underclass composed by individuals that not only cannot finance the average essential consumption level with their disposable income, but that they cannot even finance their own low real consumption level, and so they must live indebted. Borrowing an expression used by Marx, the people of the LL-class cannot live *without permission*. The income level of the people in the UL-class, although not being high enough to buy or reach the social essential average consumption (or at most barely reach C*), however allows them to pay for their real consumption level and even save some of their income.

People with incomes higher than C*, are people who get a positive share of the economic surplus. Within this group, two other economic social classes can be distinguished. We will say that an individual belongs to the middle class (M-class) if his or her income and his or her consumption satisfy two conditions:

$$C^* < Yi$$

$$Ci < Y^*$$

That is, his or her net disposable income is higher than the per capita essential consumption, but her consumption level is lower than average disposable income. Inside this class, three subclasses can be defined: the low middle class or LM-class, the mid middle class or MM-class and the upper-middle class or UM-class. So that

(3) an individual i is part of the LM-class if:

$$C^* < Y_i < Y^*$$

$$Ci < C^*$$

(4) an individual i belongs to the MM-class if:

$$C^* < Y_i < Y^*$$

$$C^* < Ci < Y^*$$

(5) an individual i belongs to the UM-class if:

$$Y^* < Y_i$$

$$C^* < Ci < Y^*$$

Finally, a high class can be defined including all individuals who get an income so high that it allows them to have a consumption level higher than the average net disposable income. So, an individual i belongs to the H-class if

$$Y^* < Ci$$

As it was done with the other classes, the H-class can be split between two subclasses. The lower high class, or LH-class, and the upper high class, or UH-class.

(6) an individual i belongs to the LH-class if his income level

$$Y_i < C_N$$

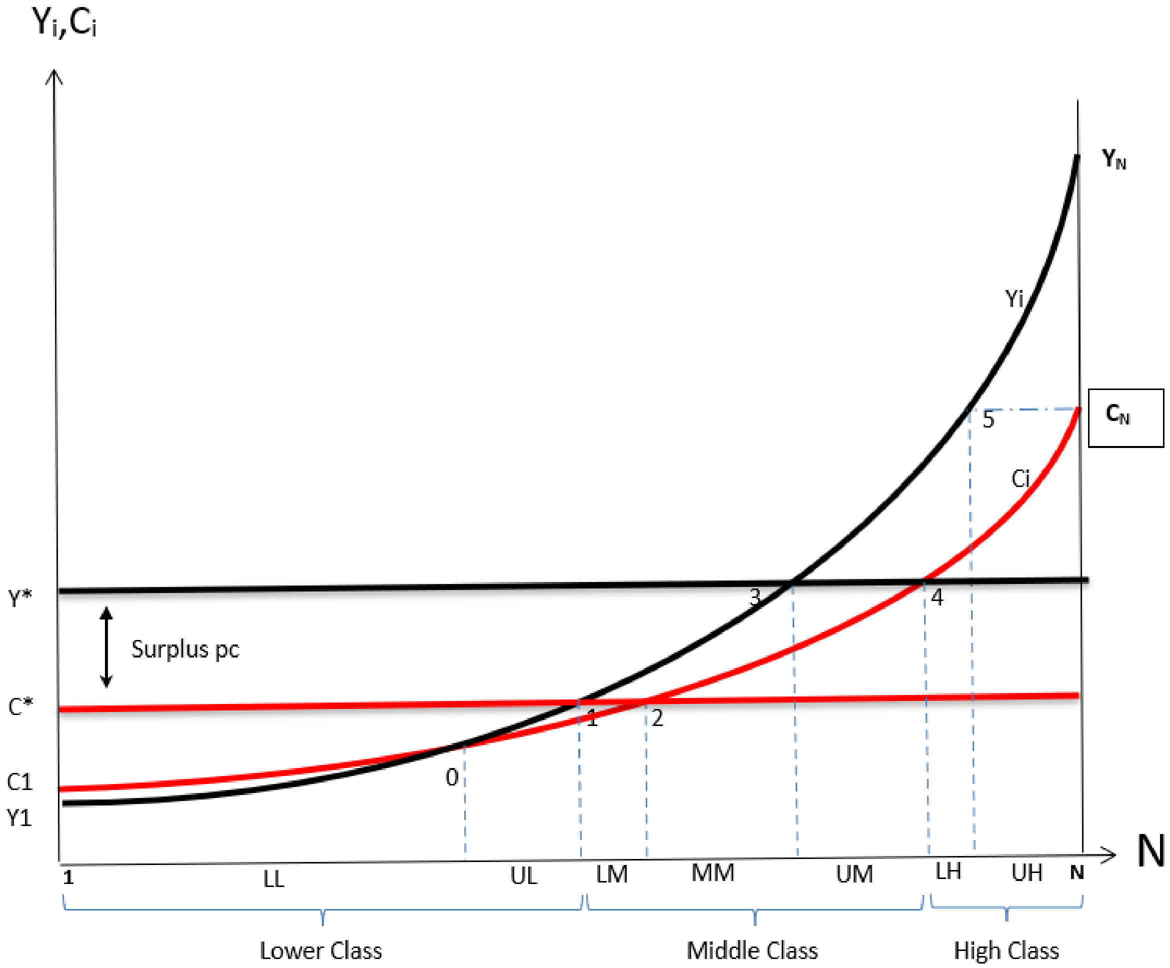
where C_N stands for the level of consumption of the highest income individual.

(7) an i individual belongs to the UH-class if his income level is

$$Y_i > C_N$$

Figure 1 reproduces the functions showing the income and consumption levels of the N-people ordered in X-axis from the lowest income and consumption individual (i = 1) to the highest income and consumption individual (i = N), assuming a continuous and increasing income and consumption distribution and a high correlation between them. The straight parallel lines Y* and C* show the average net disposable income and the average essential consumption, and so, the space between them measures the Sp, the private economic surplus. In the x-axis, it can be seen the size of the economic social classes and subclasses defined as they have been done in relation to their access to the economic surplus. These sizes depend on the interrelation among the four lines.

Figure1. Personal Disposable Income and Consumption. Surplus. Economic classes.



Therefore, classes are defined in relation to two benchmarks of major importance in market economies: individual consumption and individual disposable income, in relation to the *corrected* consumption average, C*, it is, the social essential per capita consumption in the first case, and average disposable income, Y*, in the second. Table 1.1 summarizes the criteria used to define the different social classes and subclasses, and to allocate individuals among them.

Table 1 Summary of criteria used for class definition.

Denomination			
Class	Subclass	Consumption criteria	Income criteria
Lower Class LC	Lower-low	Ci < C*	Yi < Ci < Y*
	Upper-low	*Ci ≤ C**	*Ci* < Yi < Y*
Middle Class MC	Low-middle	Ci < C*	C* < Y_i < Y*
	Middle-middle	Ci > C*	Ci < Y_i ≤ Y*
	Upper-middle	Ci > C*	Y_i > Y*
High Class HC	Lower-high	Ci > Y*> C*	Yi < $C_{N\,(max)}$
	Upper-high	Ci > Y*> C*	Yi > $C_{N\,(max)}$

1.2.2 *Class conflict and class struggle*

The If we denominate by Y_L, Y_M and Y_H the average disposable income levels of the L-class, the M-class and the H-class, the relative average access of these three classes[30] to the private economic surplus then is:

$$s_L = \frac{Y_L - C^*}{Y^* - C^*}$$

$$s_M = \frac{Y_M - C^*}{Y^* - C^*}$$

$$s_H = \frac{Y_H - C^*}{Y^* - C^*}$$

It is obvious that, as $s_L < 0$, then

$$s_M + s_H > 1$$

If the relative sizes of the L-class, M-class and H-class are defined as:

$$n_L = \frac{N_L}{N} \; ; \; n_M = \frac{N_M}{N} \; ; \; n_H = \frac{N_H}{N}$$

Where, N_L, N_M and N_H are the absolute numbers of the L-class, M-class, and the H-class. Obviously, again,

$$n_L + n_M + n_H = 1.$$

And so:

$$(8) \qquad n_L s_L + n_M s_M + n_H s_H = 1$$

What this means is that the "game" regarding the distribution of the private economic surplus generated by an economy in a given period of time, among the three classes considered, is a constant sum game: If a class gets a higher part of the economic surplus, Sp, the other classes have to suffer an equivalent loss in their conjoined shares. What one class gains in its share the others must loose.

[30] In this point, a model with only three classes will be considered. It can easily be generalized to the more complete one with seven classes.

If two classes gain, the remaining one must loose. So, the interaction among classes is a conflictive one. The intensity of this conflict can be measured by a class Conflict Index (CI_i) defined as the share of the economic surplus of class i divided by the sum of the shares of the other classes:

$$(9) \qquad CI_i = \frac{n_i s_i}{n_j s_j + n_k s_k}$$

So, for the M-class and the H-class:

$$CI_M > 0; CI_H > 0$$

But for the L-class:

$$CI_L < 0$$

A class conflict between one class and the others becomes a class *war* or class *struggle* if its CI is negative. So, the L –class is in class war with both the M and H-classes, but each one of the other two classes, the M and H-class, is not in a war class with it. So, the war class relationship is not a symmetrical relation.

As the CI for a class grows, this means not only that the class conflict between it and the other classes grows, but that this class is winning such war, as its share of the Sp grows. So, for instance, it is possible that both the M and H classes are winning the class struggle they are involved with the L-class (if the absolute value of CI_L increases).

In a similar vein, an index can be constructed to show the rivalry or opposition between any given class and the rest. This opposition index (OI) between an i-class and a j-class would be the absolute value of the division of their absolute shares of the economic surplus[31]:

$$OI_{ij} = \left| \frac{n_i s_i}{n_j s_j} \right|$$

If $OI_{ij} = 1$, that means there is no opposition between i-class and j-class. As OI grows, the opposition between them grows.

Finally, it must be remembered that to say that the L-class is in a class struggle situation or in a class opposition with other classes is not the same as saying that the L-class is waging a class war. Waging a class war is a dynamic phenomenon that requires, first, that the individuals in each class remain in them for enough time to be aware of which is their class before “going to war”. So, to define an economic class in time it is necessary to consider the existence, or lack of it, of (upward and/or downward) mobility. A high level of individual mobility between L-class individuals and the individuals of the M and H-classes implies the existence of little stability in the class composition through time, and so a reduced propensity to see the L-class waging its class struggle against the other classes.

But all the analysis developed so far depends on the chosen definition of essential consumption. What happens, for instance, if the essential consumption is defined in a way, more akin to a subsistence income, C_s^*? So that:

$$Y_p < C_s^* < C_p$$

i.e., what happens when the essential consumption per capita is higher than the income level of the poorest individuals (Y_p) but lesser than their consumption levels (C_p)?

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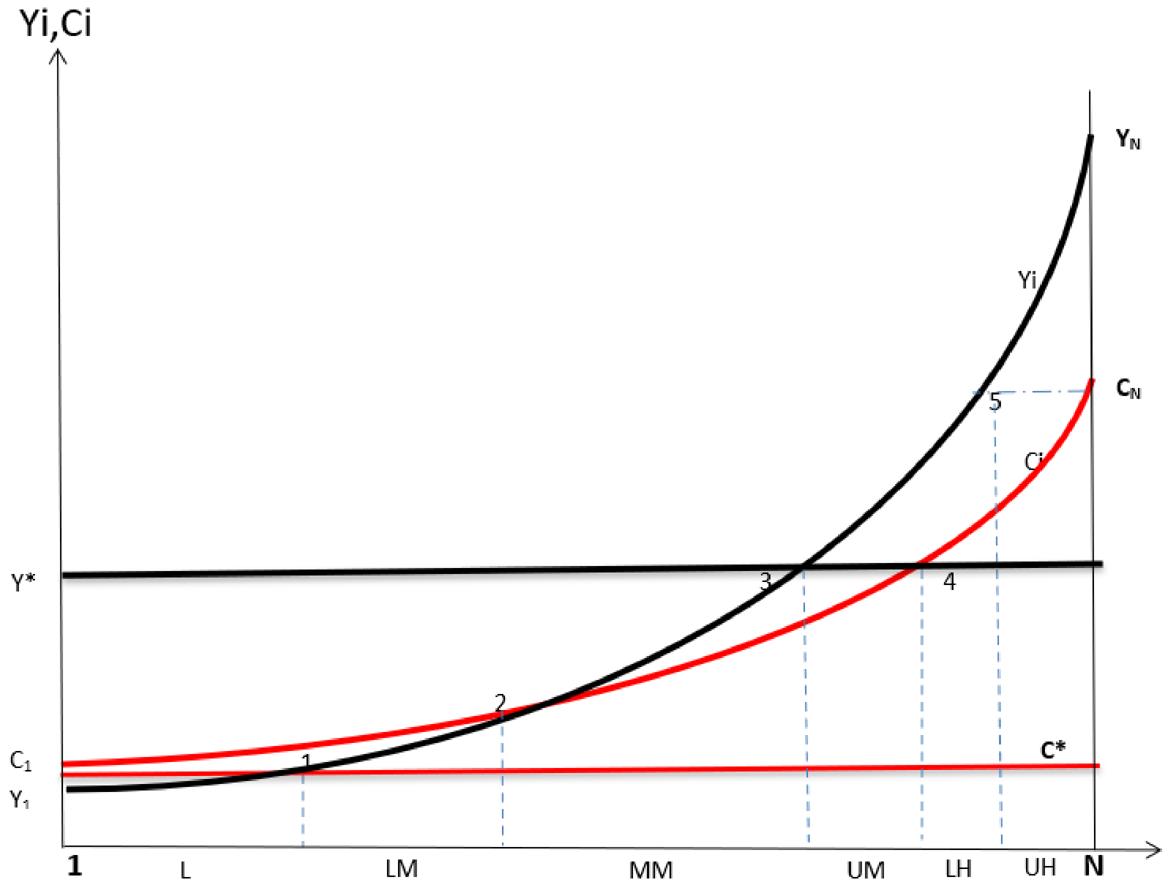
[31] In a generalized model with subclasses, the LL and UL classes are not in a class war between them, but they are in opposition, even the case they are winning their common class struggle against the other classes if their in-between relative shares vary. In that case, they will be getting a higher share of the economic surplus but the distribution between them of the gained income would not be equal.

In that case, there can be a situation in which the L-class is so lean that eventually it could be found that there is no LL-class. Yet, there is still class struggle, but in an attenuated way, as there are individuals who do not participate from the economic surplus. Figure 2 reproduces such possibility:

Figure 2. Social classes when essential consumption is fixed at a subsistence level.



An even more extreme situation (see Figure 3) would be that in which the essential consumption level is not only lower than the consumption level of the poorest individual, but even lower than his or her income:

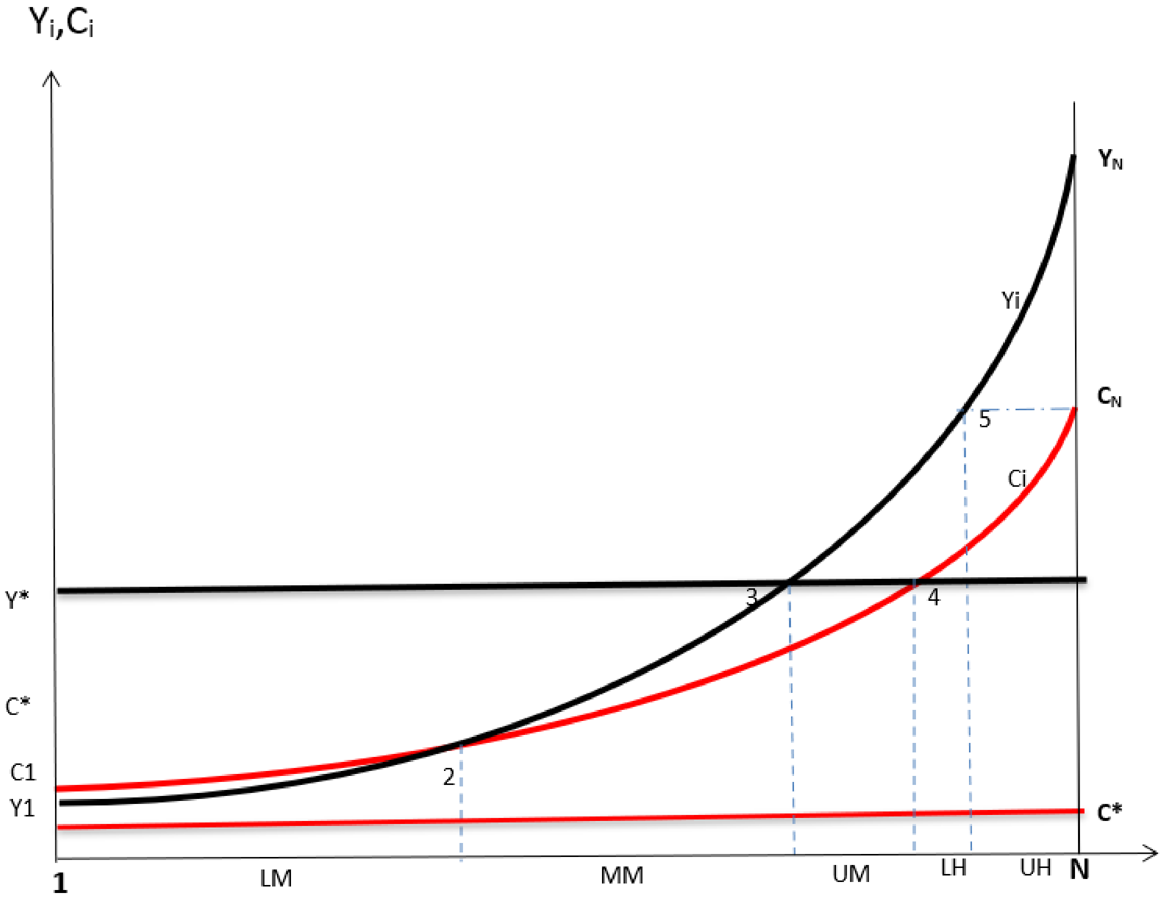
$$C^* < Y_p < C_p$$

And so,

$$Y_L > C^*, \text{ and } s_L > 0$$

In that case, a situation akin to the society dreamed by the proponents of the welfare state after WWII, there would be no low classes. All the people would belong to the "middle" or the "high" class, as their incomes, increased by their share (big or small, but positive) of the economic surplus, would allow them to surpass the essential consumption. In consequence, there would be no class struggle as defined in these pages, only class opposition between the middle and the higher classes. It would be a society without a clear and dividing economic conflict.

Figure 3. Social classes when essential the consumption of all individuals is higher than the essential consumption. No class struggle.



But, returning to a situation where there is class struggle, and even under the assumption of high stability in the class composition, waging a class struggle requires, additionally, that the L-class members would have solved the collective action problem (Olson, 1983) it implies. And this asks for a different and complementary approach in the definition of an economic social class to the one it has been followed so far. An approach aiming at knowing if there are some common circumstances that people in a social class share outside their income and consumption levels, so that they could find in them the base to a common political or social behaviour.

1.2.3 The class consciousness issue

As it was established previously, people are ascribed to a social class depending on four factors: (a) their disposable income, (b) their consumption, (c) the average disposable income and (4) the average essential consumption level. Of these four factors, only two are perfectly known to each person: his or her disposable income and his or her consumption. The other two are, estimated or guessed with more or less accuracy by each person. The obvious implication of this individuals' imperfect information about these last two factors that are considered in the process of class ascription is that the individual *subjective perception* of the class structure of the society and the individual *subjective perception* of belonging to a social class will be very different to the *real* or objective social class structure and his or her real class adscription. So, there can be, and usually there will be, a big difference between the exogenously and objectively defined social class structure and the inner or subjectively imagined structure[32]. The information on class gathered by the *British Social Attitude Survey 3*3 offers a good example of the difference between subjective and objective social class. Curtice et al. (2016), researchers at the NatCen Social Research divide the jobs people do in three categories following the class schema developed by the ONS[33]: (a) employers, managers, professionals and higher supervisors, (b) intermediate, small employers, own account workers, lower supervisory and lower technical workers, (c) routine and semi-routine workers. These occupations could be roughly regarded as middle class, intermediate class, and working class respectively. When people are asked about their class identification in terms of Middle or Working Class, the result is that in 2015 almost half (47%) of managers, professionals, and higher supervisors, who are objectively middle class, identify themselves with the working class.

In the same line, Krugman (2014) argued how: "One of the odd things about the United States has long been the immense range of people who consider themselves to be middle class – and are deluding themselves. Low-paid workers who would be considered poor by international standards, say with incomes below half the median, nonetheless consider themselves lower-middle-class; people with incomes four or five times the median consider themselves, at most, upper-middle-class"

Several recent studies (Gimpelson & Treisman, 2018; Hauser & Norton, 2017; Nichues, 2014; Norton, 2014) have shown that people of any social classes and income groups have the same and consistent bias when estimating the real level inequality on income and consumption distribution. People from all income and consumption levels think or believe, mistakenly, that the inequality level in society is lesser than the real and statistically observed one.

In consequence, in the terms of our model, people think that the curves Yi and Ci are much flatter than they really are, so that the individually *estimated* Y* and C* levels will be lower than the real ones for the people of low classes and *higher* than the real ones for the people of the high classes[34]. Correspondingly, the approach of social class here followed predicts than the subjective perception to belong to the middle classes grows as many people who are really (objectively) members of the low class or the high class do not see themselves as belonging to these classes but as members of the middle class.

This result is, at it has been said, consistent with many studies who show the existence of a subjective class ascription at odds with the "real" class people belong too, but at difference with them, here this phenomenon is not explained as a consequence of absence of some "spiritual" factor or element in these individuals: the *class consciousness* or other ideological, political or cultural factors, but as an empirical and "objective" effect stemming from the imperfect information people have and the asymmetrical believing that people show about inequality regarding income and consumption distributions.

1.2.4 Testing the model: Spain as a case study

Before concluding this section, we thought that it would be interesting to apply the above developed scheme to a specific country, to test the viability of the methodology proposed. Although the methodology proposed is theoretically directly applicable, as its common in applied economy, the lack of perfect correspondence between the variables used in theoretical analysis and the available statistics obliges to carry out certain adjustments in order to estimate the size of the different social classes. The following example uses the Spanish Household Budget Survey of 2019, the last year available before the Covid-19 pandemic, as we have considered that the pandemic has produced a

[32] And even the ideal or subjectively desired social class structure.
[33] The National Statistics Socio-economic classification (Office for National Statistics).
[34] There is also a generalized biased perception of a higher social class mobility (upward and downward) than the real one.

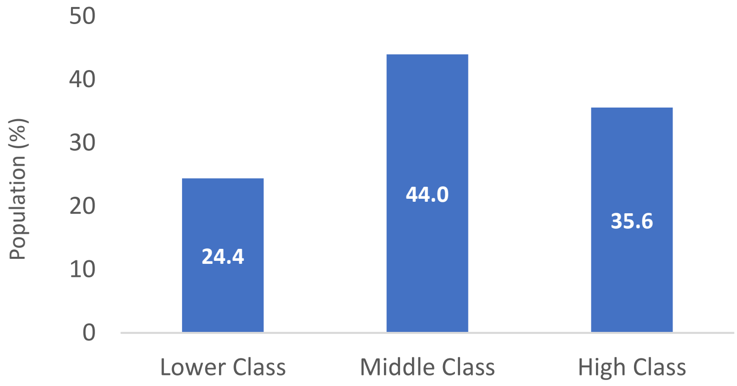
major shock in both consumption and income patterns that would make the estimates not representative of a standard situation.

The first problem we faced is that the rank of individuals by income is different from the rank of individuals by consumption. To address this problem, we have estimated a locally weighted regression of consumption on cumulative population ranked by income. Income and consumption are equivalized using the OECD modified scale.

A second problem is the existence of a significant gap regarding income and consumption between the estimates of the Household Budget Survey and the estimates of National Accounts. In order to address this problem, income and consumption have been adjusted to the figures of National Accounts. We consider three sources of income (benefits and mixed income, wages, and social benefits) and assume that all household income comes from the main source of income reported by each household. Consumption expenditure is adjusted considering 12 groups of goods and services. On average, the adjustment increases income and consumption by roughly 70 and 25%, respectively.

The results in terms of the three board social classes defined in the model presented in Figure 4, correspond to our preferred option (procedure C above) of defining C* (necessary consumption) as the average consumption excluding the consumption of the 20% population.

Figure 4. Estimate of size of social classes according to the dual model. Spain 2019.



Source: Authors' analysis from Spanish Household Budget Survey and National Accounts, 2019.

2 Power and social classes

The second aspect to consider in the dual approach to social classes is related to the reasons and/or mechanisms that determine the adscription of individuals (and groups of individuals) to any of the social classes empirically defined. At this respect, there has been two ways of proceeding:

> a) The *deductive* approach. This is the approach followed by analysts that starting from a general theory of social, political, and economic processes, deducts from it the reasons or mechanisms that allocate different individuals to the different social classes, attending to the differences amongst individuals to fulfil or satisfy the requirements stablished by these social mechanisms.

One example of this *deductive* approach to the allocation of individuals to different social classes is the Marxian perspective, which allocates workers to the low classes and capital and other property owners, all of them no working individuals (capitalists and rentiers), to the higher classes. This allocation would be the logical consequence of the Marxian theory of exploitation and of the dynamics of a capitalist economy[35]. For the variety of meritocratic/neoclassical approaches, on the contrary, the social standing of the individuals depends fundamentally on personal and (more or less) voluntary *circumstances.* For instance, the individuals' saving propensity in the Weberian approach that emphasizes the puritan ethics in which individuals are reared; or the Schumpeterian/Hayekian approach that highlights the entrepreneurship or risk loving personal character or personality of individuals as the ultimate explaining cause of being in a higher or lower class; or even the "genetic" approach (Clark, 2005), that looks into the individual genetic code to explain how people lineages occupy higher or lower places in the social rankings in the course of historical time.

The problem with all these *deductive* approaches to the social mechanisms of allocating individuals to the different social classes is their dependence on economic and sociological theories that, first, cannot be falsified[36], so that there is no way to choose scientifically among them; and second, as intellectual constructs, they are time dependent, so that the identified allocation mechanisms that maybe are valid in one epoch can lose their relevance as times go on.

Such has been what has happened to the approaches that look to the position of people in the labour process as the ultimate cause of belonging to a social class. As argued in a previous working paper (Muñoz de Bustillo and Esteve, 2022), to the 19th century classical political economists (A. Smith, D. Ricardo, T. Malthus, etc.) including K. Marx and T. Veblen, the working people or working *classes* were allocated to the low class and the *property* and *leisure* classes were allocated to the *upper* social and economic classes by income level. Nowadays, there are workers in the upper income groups while, at the same time, today not working voluntarily by choice because simply you are lazy, and you do not like working, is the worst way to present yourself in society. In a similar way, the personal attitudes to saving or risk have lost the importance that they could have in the past as saving or innovation is largely performed by big corporations, public centres and the state administration (*e.g.,* Internet). And, of course, there are other factors to consider here such as, most relevant, the public sector participation in all aspects of the (any) economy, globalisation, and the technological and scientific advances.

So, the growing importance of factors such as education (human capital accumulation), the Welfare State, Research and Development, the corporation...) has undermined the different *deductive* theoretical approaches to the mechanisms that allocate people to social classes in the past.

b) The **inductive** approach. This is the approach here followed. It consists in identifying the *common* characteristics of people that are in the different social classes to ascertain which ones are relevant to the class allocation process. As seen previously, according to the dual approach here followed, social classes are the result of a social **conflict** regarding the distribution of the economic surplus, then to uncover *inductively* how individuals are allocated among social classes we will have to look at those factors or items that can be interpreted in terms of the *weapons* used in this conflict.

2.1 **Sources of power**

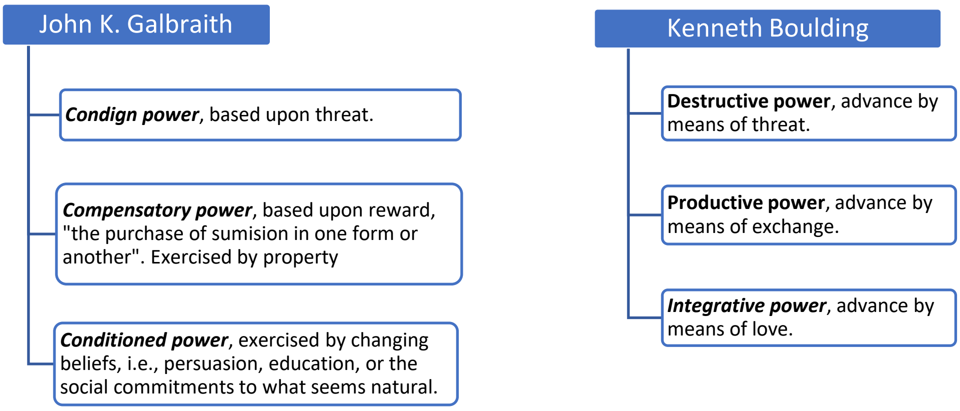
The ubiquity of power in social relations finds no correlate in Economics. In the terms used by Kurt W. Rothschild (2002): "Power can be and is used in fighting for profitable positions in the market and for maintaining them, for influencing the framework which determines the working of market mechanisms, and power is also important as an aim of economic activity. These types of power in a

[35] And so its theoretical validity would depend on the pertinence of the Marxian economic analysis. And the same it will happen with all the deductive approaches.
[36] As it usually happens in social sciences, by the way.

wider sense are rare birds in economic theory" (p. 433)[37]. As an example of the neglect of the study of power by economists, the prolific *New Palgrave Dictionary of Economics*, with over three thousand entries, only has one dedicated to power, and only since 2008. In this entry, written by Bowles and Gintis (2008), the authors note how "With some notable exceptions (...) economists have treated power as the concern of other disciplines and extraneous to economic explanation. The term does not appear among the 1,300 or so index entries of the leading graduate microeconomics text (Mas-Colell *et al.* 1995)" (p.2).

To be fair, that doesn´t means that power is absolutely alien to economic analysis (at least outside of the scope of market power, probably the only type of power present in mainstream economics). Two of the excursions of economists into the analysis of the sources of power, those of John K. Galbraith (1983), in his *The Anatomy of Power*, and Kenneth Boulding (1990), in his *Three Faces of Power*, are reproduced Figure 5. As we can see, although with different terminology, there is coincidence in the sources of power: threat, reward-compensation- exchange, and persuasion.

Figure 5. Types of power according to Galbraith and Boulding.



Source: Galbraith (1983a, 1983b) and Boulding (1990).

In fact, Galbraith, for whom "economics divorced from the concept of power was extensively irrelevant" (Galbraith, 1983b, p. 28), dealt with power as a major variable in explaining the working of the American economy in a much earlier book, *American Capitalism. The concept of countervailing power*, published in 1956. In his book Galbraith argued that the immense power accumulated by big corporation operating in highly concentrated markets is only kept at bay by the existence of countervailing powers, mainly, but not only, thanks to the development of strong unions there where businesses are more concentrated.[38]

Although the above classification of the types of power is shared by other scholars (*e.g.*, Anisi, 1992), there are other perspectives worth mentioned. For example, Randall Bartlett (1989) has developed a

[37] Three decades earlier Rothschild (1971) edited a book in the Penguin collection *Modern Economics Readings* on *Power in Economics,* with the intention of ending "the immunization of traditional economics against the important question raised by the fact of power". According to the above quotation of the author, it seems that, unfortunately, nothing has changed much in this regard. Although it is fair to cite here as a solitary exception the text of Adam Ozanne (2016), who tries to redefine the old Social Welfare Function as a political economy function through which the power concept could be introduced in neoclassical analysis. The approach misses the point in our opinion because it is conceptually difficult to use any concept of power different to bargaining power concept in a way of seeing the economic relationships centred in free exchanges between individuals. Power then must be considered being present in non-free exchanges or in externalities.

[38] For an analysis of the power theory of Galbraith see Kesting (2005).

different typology of power: (a) *Decision power*, defined as the ability to control decisions, economic power, for example, as 'the ability to change a decision by making a better offer than anyone else' (1989, p.43), but also control over important information, or psychological authority or influence; (b) *Event power*, as the ability to control events; (c) *Agenda power*, as the ability to change the options faced by the rational utility maximiser; and (d) *Value power*: as the is the ability to change the options faced by the rational utility maximiser

From the perspective followed in this section, the different "weapons" people have, and use, to get their share of income (and economic surplus) in the conflictual game of income distribution[39] can be classified in four types of power.

1) E*conomic power*. This kind of power includes the productive physical capital and the human capital individuals have. That is, their wealth. The income people get from this power (wages, profits, interest and rents) is the most important source of income to individuals in capitalism. The profitability of this kind of power also depends on the *market power* people have to get a higher profitability from these actives.

2) C*oercive power*. Understood as the capacity some people have to get money (or time) from others under threat of using violence against them. The coercive power has been a common way to get a higher share of income in historical societies. Nowadays it could seem restricted to societies in war or criminal organisations, but -as Max Weber noted, if we consider that one of the definitions of a modern state is having the monopoly of the legal use of violence, the control of government, i.e., the political power, can be interpreted in terms of coercive power. Controlling the political/coercive power allows to tax and transfer income among individuals and, as Katherine Pistor (2019) highlights, to codify which "things" can be considered *capital assets* and so a source of "income" to their owners. For instance, giving property rights to intellectual immaterial creations convert them into capital and so into a source of income.

3) O*rganisational power*, i.e., the "power" to get extra income from belonging to, and occupying, a high position in a hierarchical organisation. As Fix (2019) or Bebchuk and Fried (2004) have shown, there is no productive explanation to the very high incomes of managers. The humongous income of CEO and top managers is only consistent with the sheer fact of being at the top of the corporate hierarchies.

4) P*ersuasive power*, i.e., the capacity some people have to convince other people to give them "voluntarily" part of their income. In the Middle Ages, church members through tithes and other spiritual voluntary contributions would get enough income to allocate ecclesiastical leaders into the higher classes. Along with the traditional ways, this kind of persuasive power can also be detected nowadays behind the financialization process -in the sense, as argued by Graeber (2012), that behind debts, the financial assets, there is no other reality but *faith*.

Additionally, the economic theory of conflict (Hirshleifer, 2001) shows that the result of conflict among rival contenders depends not only on their respective **forces or powers** they can use in the distributive battle, but also on two other parameters: the so-called *decisiveness parameter* and *relative efficiency parameter*.

The decisive parameter stands for the real capacity of getting income from the volume of power people has. For instance, as Dani Rodrik (2011) has shown in its well-known trilemma, the decisiveness of the political power of the low class in the "political market" in which a person is a vote

[39] As it happens in wars, the income distribution conflict game may also be a less-than-zero sum game because in many circumstances the "fighting" on income shares reduces the income available for distribute.

is greatly reduced, even in case of success of their candidates in an election, as countries globally integrated (commercially and financially) have little discretionary power to develop distributive policies.

The relative efficiency parameter stands for the fact that there is a difference between the profitability people in different social classes get from similar types of power. For instance, it is well-known that people belonging to the high class obtain a higher income from their wealth, physical, financial, or human capital. It is not the same to get a grade in an Ivy League university or an *Ecole Normale* that getting it from a state university, the social relations people acquire in different educational institutions translate into different remunerations to the same "human capital", globalisation, technological progress, and other conjunctural factors affect this capacity.

3 Conclusions

With the development of economics social classes lost the important role they played in Political Economy, to be finally condemned to the drawer of history with the triumph of the Marginal Revolution. Nevertheless, the growth in interest in the study of the dynamics of income distribution and inequality during last few decades, itself a by-product of the increase in inequality experienced with the turn of century, has led to the resurgence of the concept of social classes in economic analysis. In any case, often the renascence of social classes in economics has adopted the form of ad-hoc definitions of such classes in terms of people belonging to x number of income deciles.

In this context, the aim of this paper has been to develop a new way of defining social classes based on clear economic concepts. The proposed methodology rests on two elements. The first one is the concept of economic surplus, defined as the income available after meeting the needs of the population to have a meaningful social life plus the depreciation of capital. The concept of economic surplus is important for two reasons. In first place, economic surplus is a necessary condition (although not a sufficient one) for the existence of social classes. In second place, because the allocation of individuals to social classes is defined in terms of their share of the economic surplus.

The second element, also related to the concept of economic surplus (in fact is required for the calculation of the economic surplus) is the concept of per-capita essential consumption, C*, defined conceptually as the level of individual consumption necessary to carry out a meaningful social life. The comparison of the consumption and the income of the different n individuals of a society with the estimated C*, average income, average consumption, and the highest consumption level, allows to define 3 major social classes, Low, Middle and High, and up to seven subclasses, two in the first case, three in the middle-class case, and two others in the top class.

It is in the factual calculation of C* where the model here proposed can be considered as an open one, as we don´t offer a closed and determined method for the estimation of C*. Now, depending on the definition of the average essential necessary consumption chosen, the application of the same criteria to ascribe people to social classes can produce very different combinations in terms of share of low and middle class, as, given an income distribution, the higher the level of C*, the higher the probability of belonging to the low class (or low middle).

So, our open approach allows and forces the analysts of social classes to choose and defend explicitly a method of estimation of C* from which a clear-cut definition of the social classes in a society emerges. We offer three very different ways of doing the estimation of C*, all of them with conceptual support, so that each one may be adequate for different types of societies in their level of economic growth. Thus, it must be underscored once more that our model of social classes is an open one that tries to offer a simple way to clarify a very contested and difficult question: what criteria must be used to define social economic classes.

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