



Working paper No. 1



Conceptualizing and measuring the middle class in the Arab countries

Working paper series on the middle class

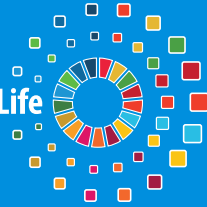


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Contents

Introduction	2
1. Conceptual background	3
A. The middle class as an income group	4
B. The middle class as a social class	6
2. Measuring social class	7
A. The Erikson-Goldthorpe-Portocarero class identification scheme	8
B. Other class schemes	9
C. Self-identification	9
3. Proposed framework for measuring social class	10
A. Key variables	11
B. Control variables	12
C. Class identification	13
D. Unit of analysis	16
E. Data sources	16
F. Out of the labour force	18
References	20

List of tables

Table 1. Social class and labour market relations	13
Table 2. Characteristics of the household labour force surveys used in the assessment of social class	17
Table 3. Characteristics of the household income and expenditure surveys used in the assessment of social class	17

Introduction

It is widely believed that a large and secure middle class is beneficial to countries for the following reasons: reducing inequalities and polarization, improving savings and the accumulation of human capital, and fostering the emergence of entrepreneurs, which can boost productivity, promote innovation and increase employment opportunities. Entrepreneurs, especially those active in the new high technology economy, typically come from the middle class. Furthermore, middle class values, such as tolerance and the importance of working hard, are believed to foster political stability and support democracy.

2 Many members of the middle class are not in formal employment. As such, they often lack many legal protections and enjoy only limited access to finance or pension coverage, making them particularly vulnerable to economic shocks. Indeed, many members of the middle class, including many artisans, small business owners and contractual “white collar” professionals, work in the unregulated informal sector. At the same time, innovative technology and the drive for automation have eliminated many jobs traditionally held by skilled professionals. New social, labour, economic and tax policies to promote formalization within the labour market are needed to strengthen legal and social protections, not only for the very poor, but also for members of the middle class employed in the private sector. It is therefore critical to identify mechanisms that governments can adopt to maintain stability, protect the middle class and bolster its resilience to socioeconomic shocks.

Although there are policy concerns with regard to the future of the middle class, there is little agreement on who should be considered members of that class. Typically, middle class boundaries are identified in terms of distance from median income or from the poverty threshold or in terms of people’s positions and occupations within the labour market. In this paper, the author builds on previous research to propose a harmonized methodology for the identification of middle-class boundaries.



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Conceptual background



01

Broadly speaking, a social class refers to a group of people living under similar socioeconomic conditions. Those conditions are, however, defined and conceptualized differently across disciplines, and the indicators used to measure those conditions also differ. Economists tend to use household income as an indicator with which to measure those conditions, and identify the middle class as a middle-income group or “middle income class” (Organisation for Economic Co-operation and Development (OECD), 2019). Other social scientists make use of occupation and position in the labour market

(Goldthorpe, 2016), assets or social and cultural capital (Savage and others, 2013) to measure the middle class. Subjective class identification has also been used, but less frequently (Bird and Newport, 2017; Evans and Mellon, 2016).

Although any definition of the middle class is arbitrary, it is important to identify it accurately in order to formulate and assess appropriate policies (Reeves and others, 2018). Ultimately, the particular definition used will depend on the questions one is attempting to answer.

A. The middle class as an income group

4

Economists tend to view the middle class as a middle-income group, and it is therefore measured within some interval of income, expenditure or purchasing power distribution or as a multiplier of the poverty rate. Although some researchers are reluctant to use the term “class” when using income as the sole indicator (Gornick and Jantti, 2013), the focus is almost always on households falling in the middle of the income distribution. The proportion of households falling into an interval around median income indicates the size of the middle class. In this tradition, households are typically categorized as poor, middle class or rich. One rationale behind that simplification of the middle-class concept is to enable researchers to examine its relative size and how it changes over time, namely whether it is relatively stable or is increasing or decreasing in size (Pressman, 2007). However, a decline in the size of the middle class may indicate income polarization and not necessarily that the middle class is weakening, shrinking or “missing”.

Income-based measures of the middle class vary widely owing to a lack of consensus on the size of the interval that should be used to capture the middle of the income distribution or its range

(Southall, 2018). One common approach is to use distance from per capita median income or expenditure (Ravallion, 2009), defining the interval as 75 to 125 per cent of the median (Reeves, 2018; Birdsall, 2010; Thurow, 1987). Others use an interval of 50 to 150 per cent of the median, and some increase the upper bound to 200 per cent or more (Atkinson and Brandolini, 2013). More recently, OECD (2019), using data from 18 countries, defined the middle class by the interval 70 to 200 per cent of national median income. OECD further divided that interval into three groups, namely, lower middle-income (75 to 100 per cent of median income), middle middle-income (100 to 150 per cent) and upper middle-income (150 to 200 per cent). Those earning below 70 per cent of median income are defined as lower income class and those earning more than 200 per cent are defined as upper income class. Those median-based measures are all proxy indicators for income inequality. The middle class can, moreover, shrink or expand due to the expansion or contraction of the lower income or the upper income classes.

A closely related, relative approach is to focus on income distribution, and assign households

falling within the middle quintiles to the middle class. Some researchers define the middle class as the class that encompasses households that fall into the second, third and fourth quintiles (Barro, 2000), which account for 60 per cent of the population, while others view the middle class as encompassing only those households that fall into third and fourth quintiles (Alesina and Berotti, 1996), which account for only 20 per cent of the population. Any proportion of households falling in the middle of the income distribution curve can be used (Estache and Leipziger, 2009). Atkinson and Brandolini (2013), for example, define the middle class as households with incomes that fall between the 75th and 125th percentile of the median, the lower middle class as households with incomes that fall between the 60th and 75th percentile, and the upper middle class as households with incomes that fall between the 125th and 160th percentile of income. This approach fixes the share of households in the middle over time, and the focus is usually on the share of income or expenditure going to that segment of the population. It should be pointed out, however, that using a relative approach may yield inconsistent findings, placing some households identified as middle class under the absolute international poverty line (Banerjee and Duflo, 2008).

Such issues faced when using a relative approach have led some analysts to construct the boundaries of the middle class either as a multiplier of the official poverty line or in terms of an absolute purchasing power threshold. Distance from the official poverty line has been used for the United States of America (Haskins and Sawhill, 2009) among other contexts (Economic and Social Commission for Western Asia (ESCWA), 2015). Although intuitive, the multiplier used as an indicator of middle-class status is arbitrary and ranges from 1.5 to 10 times the poverty line, ensuring that those with incomes near the poverty line are vulnerable to poverty and cannot therefore be considered part of the middle class (Atkinson and Brandolini, 2013; Horrigan and Haugen, 1988). Similarly, some researchers measure the middle class in absolute terms using

a multiple of the international poverty line, with a threshold between \$2 and \$14 per person per day (Banerjee and Duflo, 2008; Ravallion, 2009).

A different but related perspective on the middle class is based on the concept of assets instead of income or supplement income-based measures (Nemecková and others, 2020; Shimeles and Ncube, 2015). Assets provide security, especially upon retirement. Piketty (2014) defines the middle class only in terms of wealth, defining this class as those with assets between the top 10 per cent and the median. Household assets measured by the wealth index or similar indicators of durable goods can be a good proxy for welfare, and the members of the middle class own certain assets that the poor cannot afford. Relevant indicators on decent housing or even car ownership can be used to index middle class status. Such asset-based indicators can also be used in the measurement of poverty, as in Ezrari and Verme (2012), for example. One rationale for using assets instead of income or expenditure is that significant amounts of data on the former are generated through standardized household surveys, including demographic and health surveys.

Previous research has shown, however, that income-based or asset-based measures do not provide for the meaningful identification of the middle class in middle-income countries (Rasch, 2014), and may not reflect their actual living conditions. Using data from a number of European countries, Atkinson and Brandolini (2013) found considerable overlap among income-based measures and socioeconomic indicators, such as occupation and education, but that income misclassifies a sizeable proportion of the middle class. Indeed, as those authors stated, the middle class identified on the basis of income includes a sizeable proportion of the working class, together with some fraction of individuals in the top class. The authors therefore called for a different conceptualization of the middle class based on social indicators or hybrid measures indicating both social status and income levels.

B. The middle class as a social class

There is no standard definition of the term social class. One widely accepted definition in the social sciences refers to social classes as “groups among which unequal distribution of economic goods and/or preferential division of political prerogatives and/or discriminatory differentiation of cultural values result from economic exploitation or political oppression” (Outhwaite and others, 1994).

Social class as an analytic concept emerged in the nineteenth century during the first industrial revolution and the development of capitalist societies in Europe. Much of the debate on the concept and measurement of social class can be traced to the writings of two nineteenth century thinkers, namely Karl Marx and Max Weber.

Max Weber was among those who criticized Marx’s dichotomous concept of class and the primacy of economic exploitation and ownership of property and the means of production to define it.

Marx advanced an essentially dichotomous view of social classes, originating from the economic structure of capitalist societies. According to Marx, a person’s location in the production process, namely the means of production, determines his or her class position. Those who own the means of production are the bourgeois class and those who do not are the working class. The bourgeois class exploits the working class by generating surplus value from the production of goods and services. The bourgeois retain their economic power by preserving existing class arrangements and blocking attempts at class mobility.

This rather deterministic and dichotomous view of class was widely disputed. Max Weber was among those who criticized Marx’s dichotomous concept of class and the primacy of economic exploitation and ownership of property and the means of production to define it. He argued that those in different classes have similar life chances, which are shaped by many factors, such as position in the market, status and skills. Thus, social classes are many and can be defined by common individual characteristics rather than by considering whether they are the victims or perpetrators of exploitation.

Those opposing views had a tremendous impact on students of inequality and socioeconomic stratification during the twentieth century, with clear policy implications. Several developments during the past century have undermined Marx’s concept of class. Among these is the rise of the welfare state and emergence of the middle class, the rise of the service economy at the expense of traditional working-class jobs, and the increasing importance of other analytic categories such as gender, religious sect and ethnicity as rival determinants of life chances.

Much contemporary research on social class builds on Weber’s view of class as shared individual characteristics, with a particular focus on market relations. One exception is the work of Pierre Bourdieu (1984), which attempts to tackle class formation in an innovative way, linking Marxist and Weberian perspectives and highlighting the role of “cultural capital” in reproducing the class structure. Rather than being a vehicle for social mobility, the educational system in particular privileges middle and upper-middle class students to stay in school and attain credentials to become part of these classes themselves.



Measuring social class

02

A. The Erikson-Goldthorpe-Portocarero class identification scheme

One of the most widely used class identification models is the so-called Erikson-Goldthorpe-Portocarero (EGP) class scheme, developed by John Goldthorpe and his associates (Goldthorpe, 2000; Goldthorpe, 2007). That scheme has been endorsed by the European Union (Evans, 1992) and is used by the United Kingdom Office of National Statistics (Rose and Pevalin, 2005) and the statistical offices of other European countries (Rose and Harrison, 2010) for social class categorization. The scheme has proved to be useful in predicting various outcomes, including health inequalities, educational achievement and earnings (Blackburn 1998; Rose and Harrison, 2010).

This scheme is based on employment relations, dividing individuals into three positions in the labour market, namely, employer, own-account worker and employee. Since class is essentially a relational concept, those positions, rather than individual occupants of the positions, play a major role in differentiating classes. The positions of employer and own-account worker are clearly defined in the labour market. However, this is not the case for employees, who have diverse and qualitatively different employment relationships with employers. Those relationships can best be captured by the type of contract they have with their employers (Goldthorpe, 2007). Those contracts can be “service” contracts, “labour” contracts, or a combination of both. Those types of contractual arrangement refer to

The EGP scheme consists of 11 classes, which can be collapsed into a smaller number of classes depending on the application in question. Most commonly, the 11 are collapsed into either 7, 5 or 3 classes.

different systems of authority and control within the workplace. The labour market situation of employees is also diverse in terms of their sources of income, job security and prospects for promotion.

Although some ordering is implied in the EGP class scheme, classes are not inherently hierarchical. It is not clear, for example, how those belonging in the self-employment or small-employers class are of higher or lower order than those belonging to the professional or routine non-manual class. However, there is some hierarchy if we compare the first two classes, namely managers and professionals, to the skilled manual or non-skilled. Those belonging to the former have, on average, higher incomes, more stable employment and greater prospects for mobility over time.

The EGP scheme consists of 11 classes, which can be collapsed into a smaller number of classes depending on the application in question. Most commonly, the 11 classes are collapsed into either 7, 5 or 3 classes. For example, the self-employed can be combined with small employers and farmers, and the two professional classes can be combined into one.

This scheme can be drawn up using only three indicators, namely occupation, employment status and firm size. Moreover, the scheme can be reasonably accurately derived using only occupational data.



B. Other class schemes

The second most commonly used scheme is that of Erik Wright (1997). That class categorization system draws on Marxist theory, and is based on the concept of exploitation and a person's distance from assets or the means of production. Three factors are required to operationalize the class boundaries, namely assets, authority and expertise. Exploitation can take several forms and depends on the factors involved, as follows: employers own assets in terms of the means of production, including property and capital; managers use assets in terms of bureaucratic authority and control; and professionals have assets in that they have acquired expertise. Thus,

the operationalization of the scheme requires detailed questions on those three dimensions, in addition to questions relating to occupation, employment status and firm size, and cannot therefore be easily established using data obtained through standard labour force surveys or similar household surveys.

There have been other attempts to operationalize classes so as to more accurately reflect the structure of post-industrial societies, including by Esping-Andersen (1993), but the schemes obtained have not been thoroughly validated.

C. Self-identification

An alternative approach is the direct self-assessment of class position. Rather than relying on proxy objective criteria to identify an individual's class, the approach relies on people's subjective evaluation of their class location. The self-assessment approach is usually adopted in public opinion surveys, including those conducted by Gallup and other analytics and advisory companies, although some household surveys provide for such subjective welfare and class assignments. Although there are different formulations, most self-assessment surveys offer three class categories, namely lower class, middle class and upper class. Data obtained in developed countries on self-perception of class indicate that the majority of people locate themselves in the middle-class category. There is some evidence that people in developing countries also locate themselves in the middle category, with the majority seeing themselves as better off than the poor and worse off than the rich (Alexander and others, 2013). Interestingly, there is a strong

association between subjective class assignment and objective metrics such as household income (Cashell, 2007).



Proposed framework for measuring social class

10

03

Social class identification will be mainly based on one's position in the labour market. In a market economy, the position in the labour market is a major determinant of life chances for individuals and families, and its distribution is a marker of structural inequalities. The most commonly used indicator of position in the labour market is occupation. Although continuous occupational scales have been used to capture social stratification, a categorical approach is preferable because it reflects the relational and distributive dimension of stratification.

The proposed class identification scheme builds on the EGP class scheme, with some important modifications made in order to distinguish the three main classes while taking into account the regional context. The scheme is widely used, validated and accepted internationally (Mitnik and Cumberworth, 2016). Three main variables are used to measure social class: occupation, employment status and establishment size. Unlike EGP-based schemes, the proposed scheme uses information on the relative income (and/or wealth if available) of employers or the self-employed to identify upper-class boundaries.

A. Key variables

1. Occupation

Coded at the minor groups level of the 1988 (ISCO-88) or 2008 (ISCO-08) edition of the International Standard Classification of Occupations (ISCO), occupations are classified into a hierarchical structure based on the similarity of jobs in terms of the tasks and duties of the work performed as well as skill levels.

Both ISCO-88 and ISCO-08 organize occupations into four hierarchical tiers, namely, major group, sub-major group, minor group and unit group. The latter is the most detailed description of occupation, providing four-digit codes. The most recent edition of ISCO was released in 2008, and is considered an update of the previous edition rather than a more substantive revision.

Although the conceptual framework remains essentially the same in both editions, some changes in the organization of the minor and unit groups were made in the most recent edition. For example, "military" was added as a separate

major group. The other refinements made in the most recent edition have been made, primarily, to reflect societal changes, including new job titles, as well as to correct mistakes made in previous editions. Unfortunately, there is no one-to-one mapping of ISCO-88 and ISCO-08. Almost all of the labour force surveys used in this report follow the 2008 version. Exceptions include the Egyptian Labor Market Panel Survey, conducted in 2006, and the Jordanian Employment and Unemployment Survey, conducted in 2004. To minimize the potential loss of information and distortions from the reverse conversion of ISCO-88 to ISCO-08, we choose the best possible occupation alternative based on the ISCO-88 – ISCO-08 conversion table developed by the International Labour Organization.

Some countries do not provide occupational data in household surveys at the four-digit level owing to confidentiality rules or other reasons. Experiences in Europe show that classes can be derived from three-digit or even two-digit coding with little loss of information. Here, we use data with at least three-digit ISCO occupational classification.

2. Status in employment

The International Classification of Status in Employment (ICSE) refers to the type of contract an employed person has with other persons or organizations and comprises the following five main categories (1993 version): employer, self-employed, employee, contributing family member and member of cooperative. Most labour force surveys include the first four categories; here only the first three categories are used:

- **Employers:** those who buy the labour of others and thus assume control over them.
- **Self-employed:** those without employees; they neither buy nor sell their labour to others.
- **Employees:** those who sell their labour to employers and thus place themselves under their authority.

This variable captures the market situation of workers, namely the power and/or authority relationship between labour and capital (Erikson and Goldthorpe, 1992).

3. Firm size

This variable captures the number of employees in the workplace and is used mainly to distinguish between employers in large and small firms. Distinguishing between large and small business enterprises is somewhat arbitrary and depends to a large extent on the nature of the economy in question. Following an exploratory analysis of data on establishment size from several countries, we have decided to use a cut-off of 10 employees to distinguish between large and small business establishments.

B. Control variables

Additional variables may be used to control for potential inconsistencies in class assignment. Some, but not all, inconsistencies may be due to measurement errors. For example, a self-employed worker performing semi-skilled work can be categorized as a member of either the middle or the working class. The following two additional

variables may be used to resolve inconsistencies or ambiguous class location. In that connection, we rely, primarily, on income/earnings indicators, as well as on a wealth index, calculated mainly on the basis of housing conditions, in cases where income data are missing.

In that connection, we rely, primarily, on income/earnings indicators, as well as on a wealth index, calculated mainly on the basis of housing conditions, in cases where income data are missing.

1. Household income, wealth or earnings

Household income can also be used to refine the boundaries between the middle and owning classes, particularly for the self-employed and employers. However, household income can vary across classes as members of the middle and working classes can have different income levels

depending on their current jobs or occupations and as a consequence of other factors, such as their place of residence.

2. Housing conditions

It is widely known that housing conditions correlate closely with income. That variable can therefore be used if income data are lacking, or to supplement information on earnings or income when determining class boundaries separating the owning and middle classes.



C. Class identification

As illustrated in table 1, the proposed class scheme encompasses nine distinct (detailed) classes, which are grouped into three broader, overarching classes, namely the owning (upper) class, the middle class and the working class. The middle-class group is

further divided into the upper-middle class (detailed class 2) and the lower-middle class (detailed classes 3 to 6).

A description of the constituents of each class is provided below.

Table 1. Social class and labour market relations

Class	Detailed class	Contractual relationship
Owning class	Large business employers; high-grade managers and legislators; high-income self-employed	Service
Middle class	Higher-grade professionals and administrators	Service
	Lower-grade professionals	Service
	Routine non-manual and clerical workers	Both
	Self-employed; small business employers	None
	Sales and other low-level service workers	Labour
Working class	Blue-collar technicians	Both
	Skilled technical workers	Labour
	Non-skilled routine workers	Labour

Source: Authors' elaboration.

1. Owning class

Large business employers; high-grade managers and legislators; high-income self-employed

The owning class includes both employers and employees in large business enterprises (enterprises with more than 10 employees), as well as self-employed individuals with very high income. With regard to employees, only high-level managers and those with high-level executive and legislative authority are included in the owning class. Thus, the owning class is not confined to the so-called “capitalist class” here, as it is assumed that those who hold power and authority at the national level are as influential as capitalists. Furthermore, the so-called “capitalist class” is too small to be considered a class of its own.

High-level managers include those in positions characterized by a service relationship with their employers and who exercise high-level executive, planning and supervisory duties within business enterprises.

2. Middle class

The middle class encompasses those in a wide range of occupations and positions, who can be grouped into five major groups, namely, high-grade professionals and administrators; lower-grade professionals; the self-employed and small business employers; routine non-manual workers; and sales and other service workers. Those groups can be reduced further into upper- and lower-middle classes.

(a) Higher-grade professionals and administrators

This group is distinguished from lower-grade professionals by their work situation, in that they enjoy greater autonomy and control over their work than the latter group. The independent professional occupational

category includes lawyers, medical doctors, university professors and scientists, while the dependent category includes school teachers and librarians. High-grade administrators include those with service contractual relations, implying some autonomy but not necessarily with executive power. All managers and heads of departments without executive power are included here. Also included here are the self-employed and small business employers in those occupations. Thus, it does not make much difference if a medical doctor is salaried or works in private practice.

(b) Lower-grade professionals

This group includes employees with a service contractual relationship with their employers. Those workers usually work under the control and supervision of those higher in the professional hierarchy, and hence have less autonomy and authority than their higher-grade professional counterparts. All professionals in this category who are in self-employment are included in this category. For example, both independent teachers and teachers employed in the State school system would be classified in this category.

Occupations with supervisory functions in organizations and white-collar technicians are also included in this category.

(c) Routine non-manual and clerical workers

This group includes clerical-type and technical occupations with no supervisory or planning role. Employees in those occupations can have either service or labour contracts with some degree of autonomy in performing the tasks assigned to them. Occupations in this category include clerks in bureaucratic organizations and electrical and computer technicians.

This group also includes those working in sales and service occupations with no supervisory authority who are subject to similar labour regulations.

(d) Self-employed; small business employers

Employers in non-professional occupations employing less than 10 persons and the self-employed are included in this category. The majority of small business enterprises employ only one or two employees and hence their situation is similar to that of own account workers. Individuals in this group tend to be less economically secure than their professional counterparts and cannot access many of the benefits that the latter group enjoy. In terms of employment relations, those in this category working for small business enterprises usually work closely together, performing similar tasks, although their employers tend to exercise control over all management functions.

The self-employed in this category are involved in non-professional occupations such as trade and services, and work with no other workers with the exception, perhaps, of family members.

(e) Sales and other low-level service workers

This group includes those in routine sales and service occupations with labour contractual relationships with their employers. Employees in this class often have some autonomy in decision making and work performance, however, and are not necessarily under the direct control of their employers. Typical occupations in this group include retail workers, shop assistants, door-to-door sales persons and workers in the care sector. Also included here are semi-routine clerical workers.

3. Working class

(a) Blue-collar technicians

Employees in this group have specific skills and their employment is regulated by a mixed form of service and labour contracts. Employees in this group may enjoy some autonomy in the performance of their duties, especially those



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occupying lower supervisory roles. Typical occupations in this category include telephone installers and precision instrument makers.

(b) Skilled technical workers

Members of this group are employed under labour contractual arrangements with their employers. A certain degree of monitoring takes place as the occupations in this group require specific skills and employees must regularly update their skills in their area of work. Employees in this group are tightly controlled by their employers and enjoy no autonomy in their work. This category includes plumbers, tool makers and fitters.

(c) Non-skilled routine workers

Employees in this group are employed under labour contracts and are under the total control of their employers. They can be replaced easily without any loss of productivity to the business establishment, and the quality of their work is always directly monitored. This category includes low-skilled occupations such as cleaners, drivers, messengers and machine operators.

D. Unit of analysis

Although labour force household surveys collect information at the individual level for all adults, class composition has been usually determined for households, and all those living together in the same household are assigned the same class position. This is primarily because of the economic interdependence of family members. The family household is the basic decision-making unit in terms of labour market participation and consumption, and this implies that household members have the same class “fate” (Erikson and Goldthorpe, 1992). There are, of course, intrahousehold inequalities in terms of education, health and perhaps life chances, but household members must normally survive on the same household budget and are therefore assigned the same class status.

This poses a practical problem, namely how to assign a household a single class position. A simple solution would be to assign the class position of the head of household to all other household members. However, the head of household in Arab societies may not necessarily be the individual with the highest-class position

in his or her household. Indeed, household headship is often acquired by an individual due to age or gender considerations, and assigning the class position of the head of household to all other household members may therefore result in an inaccurate assignment of class to the broader household. To address that challenge, Martin (1998) derived a household reference person empirically with a view to ascribing a household class position by considering the individuals in the household with the highest occupational status, earnings or income. Here, we follow a similar strategy of assigning class at the household level on the basis of the highest occupational position or class achieved by its members. As noted in Bakker and Jol (1997), “the reference person is the household member who best represents the household, as he or she exerts most influence on the household’s circumstances and therefore on the quality of life of all its members”. It should be mentioned that in our samples, the majority of households are nuclear households and have one adult in the labour market, so class assignment is straightforward.

E. Data sources

Detailed occupational data with at least three-digit ISCO codes are often made available through household surveys and population and housing censuses. Recent micro-level data files from censuses in the region are not readily available, but relevant data are often made available through labour force surveys or through household income and expenditure surveys. The latter has the advantage of containing household income and/or expenditure that can be used to analyse the living conditions of the

middle class. As illustrated in table 2, however, the sample sizes used in household income and expenditure surveys are typically smaller than those used in labour force surveys, and may not provide the detailed occupational codes required. Furthermore, labour force surveys are more frequent, and are made available on a yearly basis in some countries in the region, including Egypt, Jordan, Kuwait, Lebanon, the State of Palestine, and Tunisia. We therefore use data made available through labour force surveys to measure the size

and characteristics of the middle class, but also use household income and expenditure surveys in order to examine the living conditions of the middle class in certain countries.

Tables 2 and 3 provide an overview of the household surveys used to measure social class in the region. As shown in table 2, the household labour force surveys are relatively large in size, include at least three-digit ISCO codes, contain a

variable for employment status, and provide data on either firm size or wealth/income or both. Data for three countries, namely Egypt, Jordan and the State of Palestine, are available for two time points, with either nine or twelve years elapsing between the first and second surveys. As shown in table 3, household income and expenditure surveys with the requisite variables are smaller in size and available for only three countries, namely Egypt, Jordan and the State of Palestine.

Table 2. Characteristics of the household labour force surveys used in the assessment of social class

Country	Year	Household sample size	Sample size roster	ISCO digits	Employment status	Firm size	Wealth/income	Notes
State of Palestine	2010	15 612	94 303	3	Y	Y	N	
State of Palestine	2019	14 469	77 503	6	Y	Y	Y	
Jordan	2004	14 173	78 731	3	Y	N	Y	
Jordan	2016	7 229	33 450	4	Y	Y	Y	Panel, compared with 2010
Egypt	2006	8 370	37 140	3	Y	Y	Y	Panel, compared with 1988 and 1998
Egypt	2018	15 746	61 231	6	Y	Y	Y	Panel, compared with 1988, 1998, 2006 and 2012
Tunisia	2014	4 521	16 430	5	Y	Y	Y	Panel, only 2014
Kuwait	2016	4 869	48 029	4	Y	Y	Y	
Lebanon	2019	39 116	149 263	3	Y	Y	Y	

Source: Data files provided by national statistical offices.

Table 3. Characteristics of the household income and expenditure surveys used in the assessment of social class

Country	Year	Household sample size	Sample size roster	ISCO digits	Employment status	Firm size	Wealth/income	Notes
State of Palestine	2016/17	3 739	20 185	6	Y	N	Y	
Jordan	2013	4 850	25 845	3	Y	N	Y	
Egypt	2017/18	12 485	52 928	1	Y	N	Y	

Source: Data files provided by national statistical offices.

One of the main challenges impeding the application of the class scheme using household survey data is a lack of detailed and comparable data on occupations. Recent data from labour force and household integrated economic surveys are available for other countries than the ones included here, but those surveys provide data on occupations coded at only the one-digit or two-digit ISCO levels. This makes it challenging to derive social class classification using our methodology, which, in theory, requires the availability of at least three-digit ISCO codes. The situation is even more challenging if household integrated economic survey data is used, as it is rare to find detailed occupational codes in the relevant user data files. Another challenge impeding the application of the scheme is that for some countries, and for specific survey years, the ISCO codes used are from an earlier version, such as ISCO-88. As a result, equivalent ISCO-18 codes must be calculated for comparability purposes.

Even when using comparable occupational codes, certain limitations impede the application of the scheme across countries. Occupational titles across countries differ in importance and use, creating difficulties in mapping occupations into social classes. One example is the title “director-general” in Government agencies. In one country, there might be a large number of directors-general in the Government system, and our scheme would suggest placing those individuals in detailed class 2 (higher-grade professionals and administrators). In the majority of countries, however, this title is rare and refers to positions with significant supervisory authority. Indeed,

in most countries, directors-general tend to be highly educated and high on the income/wealth scale, meaning that it is more appropriate to place individuals holding director-general positions in detailed class 1.

Another challenge is posed by a lack of standardized income or wealth variables across surveys and countries that can be used to place employers and the self-employed into either detailed class 1 or detailed class 2. Some labour force surveys provide no or only limited data on earnings from self-employment, and we are therefore compelled to use wealth and income variables interchangeably to determine which social class employers and the self-employed should be assigned to. Even when data on wage earning from employment are made available through labour force surveys, its underestimation in some Arab countries may, inter alia, lead to an underestimation of the size of the owning class. Firm size has also been used when classifying employers into classes. In most surveys, firm size is introduced as a categorical variable with predefined categories. It is therefore challenging to establish precise cut-offs or threshold values to distinguish between large business employers and small business employers. Finally, years of completed education, which may be used as a classificatory variable, is not always available as a continuous variable but as a categorical one. In such cases, years of completed education have been estimated from the related variable, namely level of education, while taking into account the structure of countries’ educational systems.

F. Out of the labour force

Occupational and related data are not available in household surveys for those outside the labour market, including those who have never worked and the long-term unemployed. Therefore,

two options were considered in this exercise, namely, (a) to exclude those individuals from the analysis since their labour market situation is not defined, or (b) to assign them to a class based on

models or matching techniques using relevant variables such as education, income, assets and housing conditions. Given the fact that this group represents a relatively large proportion of the population and that their characteristics differ from those of households that include members of the labour force, the second option was chosen.

The proportion of households with no one in the labour force comprise around 13 per cent, 16 per cent, 17 per cent, 22 per cent and 26 per cent of the total samples in the State of Palestine, Egypt, Lebanon, Tunisia and Jordan, respectively. Various models were considered in assigning classes to those households,¹ and two methods were chosen. The first is the nearest neighbour interpolation technique and involves sorting households based on the primary sampling unit and filling in missing class information from a donor cell that has similar characteristics. When class is missing, the imputed class entries use the value of the previous non-missing class cell or the next non-missing class cell depending on which value is nearer in terms of the covariates chosen (Dixon, 1979). If the distance between the previous and next value for class is equal, the mean of those two values is used as the imputed class. The imputed class variable retains the original data structure and distribution of the class variable before imputation (Junninen and others, 2004; Beretta and Santaniello, 2016). Furthermore, missing values are interpolated using the nearest neighbour, with the wealth index as the main covariate for imputation.

The wealth index has the highest correlation with our pre-constructed household class variable as compared to other indicators such as education, household size, age and sex. Those covariates were initially selected based on findings from previous studies showing associations with social class distribution (Lanjouw and Ravallion, 1995; Adnett and Davies, 2002; Bukodi and Paskov, 2020). The wealth index was chosen because it most accurately predicts a household's class and is primarily calculated based on housing conditions and asset ownership, which the middle

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class can afford but the working class cannot. In addition, it is widely used in the literature as a proxy for social class when data on housing conditions and assets are available (Piketty, 2014; Shimeles and Ncube, 2015; Nemecková and others, 2020). Some of the indicators used to construct the wealth index include type of household dwelling, floor and wall materials used, sources of water, heat and electricity, access to the Internet, car ownership and ownership of other durable goods. As expected, the average education and wealth levels for households drop slightly after imputation because those out of the labour force are worse off than those in employment.

However, not all data sets contain data on housing conditions needed to construct a wealth index. This is the case with the 2019 Labour Force Household Survey in the State of Palestine and the 2004 Employment and Unemployment Survey in Jordan. In those cases, the aforementioned second method of iterative hot deck imputation is used. That method follows the nearest neighbour criteria after sorting by primary sampling unit, governorate and/or residence area. It is assumed that households within a particular sampling unit share a similar standard of living characteristics. Therefore, we borrow the class for the missing cell from the nearest neighbour non-empty donor cell across each primary sampling unit.

References

- Adnett, Nick, and Peter Davies (2002). Education as a positional good: implications for market-based reforms of state schooling. *British Journal of Educational Studies*, vol. 50, No. 2, pp. 189–205.
- Alesina, Alberto, and Roberto Perotti (1996). Income distribution, political instability, and investment. *European Economic Review*, vol. 40, No. 6, pp. 1203–1228.
- Alexander, Peter, and others (2013). *Class in Soweto*. Scottsville: University of KwaZulu-Natal Press.
- Atkinson, Anthony, and Andrea Brandolini (2013). On the Identification of the Middle Class. In *Income Inequality: Economic Disparities and the Middle Class in Affluent Countries*, Janet Gornick and Markus Jäntti, eds. Palo Alto, California: Stanford University Press.
- Bakker, B. and C. Jol (1997). Socio-economic status: the choice between reference persons. *Netherlands Official Statistics*, vol. 12, pp. 48–55.
- Banerjee, Abhijit, and Esther Duflo (2008). What is middle class about the middle classes around the world? *Journal of Economic Perspectives*, vol. 22, No. 2, pp. 3–28.
- Barro, Robert (2000). Inequality and growth in a panel of countries. *Journal of Economic Growth*, vol. 5, No. 1, pp. 5–32.
- Beretta, Lorenzo, and Alessandro Santaniello (2016). Nearest neighbor imputation algorithms: a critical evaluation. *BMC Medical Informatics and Decision Making*, vol. 16, No. 3, pp. 197–208.
- Bird, Robert, and Frank Newport (2017). What determines how Americans perceive their social class? *Polling Matters*, February.
- Birdsall, Nancy (2010). The (indispensable) middle class in developing countries; or, the rich and the rest, not the poor and the rest. Working Paper, No. 207. London: Centre for Global Development.
- Blackburn, Robert (1998). A new system of classes: but what are they and do we need them? *Work, Employment and Society*, vol. 12, No. 4, pp. 1–7.
- Bourdieu, Pierre (1984). *Distinction*. Cambridge, Massachusetts: Harvard University Press.
- Breen, Richard (2005). Foundations of a neo-Weberian class analysis. In *Approaches to Class Analysis*, Eric Ollin Wright, ed. Cambridge, United Kingdom: Cambridge University Press.
- Breen, Richard, and David Rottman (1995). Class analysis and class theory. *Sociology*, vol. 29, No. 3, pp. 453–473.

- Bukodi, Erzsebet, and Marii Paskov (2020). Intergenerational class mobility among men and women in Europe: gender differences or gender similarities? *European Sociological Review*, vol. 36, No. 4, pp. 495–512.
- Cashell, Brian (2007). Who are the “Middle Class”? Congressional Research Service Report to Congress. Washington, D.C.
- Dixon, John (1979). Pattern recognition with partly missing data. *IEEE Transactions on Systems, Man, and Cybernetics*, vol. 9, No. 10, pp. 617–621.
- Economic and Social Commission for Western Asia (2015). Arab Middle Class: Measurement and Role in Driving Change.
- Erikson, Robert, and John Goldthorpe (1992). *The Constant Flux*. Oxford: Oxford University Press and Clarendon Press.
- Erikson, Robert, and John Goldthorpe (2002). Intergenerational inequality: A sociological perspective. *Journal of Economic Perspectives*, vol. 16, No. 3, pp. 31–44.
- Esping-Andersen, Gosta (1993). Post-industrial class structures: An analytic framework. In *Changing Classes: Stratification and Mobility in Post-Industrial Societies*, G. Esping-Andersen, ed. London: Sage.
- Estache, Antonio, and Danny Leipziger (2009). *Stuck in the Middle: Is Fiscal Policy Failing the Middle Class?* Washington, D.C.: Brookings Institution Press.
- Evans, Geoffrey (1992). Testing the validity of the Goldthorpe class schema. *European Sociological Review*.
- Evans, Geoffrey, and Jonathan Mellon (2016). Social class: Identity, awareness and political attitudes: why are we still working class? *British Social Attitudes*, vol. 33, pp. 1–19.
- Ezzrari, Abdeljaouad, and Paolo Verme (2012). A multiple correspondence analysis approach to the measurement of multidimensional poverty in Morocco, 2001–2007. *Policy Research Working Paper*, No. 6087, pp. 1–40.
- Goldthorpe, John (2000). Rent, class conflict, and class structure: A reply to Sorensen. *American Journal of Sociology*, vol. 105, No. 6, pp. 1572–1582.
- _____ (2007). Social class and the differentiation of employment contracts. In *On Sociology: Second Edition, Volume Two: Illustration and Prospect*, John Goldthorpe, ed. Palo Alto, California: Stanford University Press.
- _____ (2016). Social class mobility in modern Britain: changing structure, constant process. *Journal of the British Academy*, vol. 4, pp. 89–111.
- Gornick, Janet, and Markus Jäntti (2013). *Income Inequality: Economic Disparities and the Middle Class in Affluent Countries*. Palo Alto, California: Stanford University Press.

- Haskins, Ron, and Isabel Sawhill (2009). *Creating an Opportunity Society*. Washington, D.C.: Brookings Institution Press.
- Horrigan, Michael, and Steven Haugen (1988). The declining middle-class thesis: A sensitivity analysis. *Monthly Labor Review*, vol. 111, pp. 3–13.
- International Labour Organization (1990). *International Standard Classification of Occupations ISCO-88*. International Labour Organization publication.
- Junninen, Heikki, and others (2004). Methods for imputation of missing values in air quality data sets. *Atmospheric Environment*, vol. 38, No. 18, pp. 2895–2907.
- Lanjouw, Peter, and Martin Ravallion (1995). Poverty and household size. *The Economic Journal*, vol. 105, No. 433, pp. 1415–1434.
- Mahajan, Vijay (2013). Understanding the Arab consumer. *Harvard Business Review* (May).
- Martin, J. (1998). A new definition for the household reference person. *Survey Methodology Bulletin*, vol. 43, pp. 1–8.
- Mitnik, Pablo, and Erin Cumberworth (2016). *Measuring social class with changing occupational classifications*. Working paper. Palo Alto: Stanford Center on Poverty and Inequality.
- Nemecková, Tereza, and others (2020). Measuring the middle class in Africa – income versus assets approach. *Africa Spectrum*, vol. 55, pp. 3–22.
- Organisation for Economic Co-operation and Development (2019). *Under Pressure: The Squeezed Middle Class*. Organisation for Economic Co-operation and Development publication.
- Outhwaite, William, and others (1994). *The Blackwell Dictionary of Twentieth-Century Social Thought*. Oxford, United Kingdom and Cambridge, Massachusetts: Blackwell Reference.
- Piketty, Thomas (2014). *Capital in the Twenty-First Century*. Cambridge, Massachusetts: Harvard University Press.
- Pressman, Steven (2007). The decline of the middle class: An international perspective. *Journal of Economic Issues*, vol. 41, pp. 181–200.
- Rasch, Rebecca (2014). *Measuring the middle class in low income countries*. Working paper, No. 611. Luxembourg: LIS Cross-National Data Center.
- Ravallion, Martin (2009). The developing world's bulging (but vulnerable) 'Middle Class'. *Policy Research Working Paper*, No. 4816. Washington, D.C.: World Bank.
- Reeves, Richard, and others (2018). *Defining the middle class: Cash, credentials, or culture? Future of the Middle Class Initiative Report*. Washington, D.C.: Brookings Institution.

- Rose, David, and David Pevalin (2005). *The National Statistics Socio-economic Classification: Origins, Development and Use*. London: Office for National Statistics.
- Rose, David, and Eric Harrison (2010). *Social Class in Europe: An Introduction to the European Socio-economic Classification*. London: Routledge.
- Savage, Mike, and others (2013). A new model of social class? Findings from the BBC's Great British Class survey experiment. *Sociology*, vol. 47, pp. 219–250.
- Shimeles Abebe, and Mthuli Ncube (2015). The making of the middle-class in Africa: evidence from DHS data. *The Journal of Development Studies*, vol. 51, No. 2, pp. 178–193.
- Southall, Roger (2018). (Middle-) class analysis in Africa: does it work? *Review of African Political Economy*, vol. 45, No. 157, pp. 467–477.
- Thurow, Lester C. (1987). A surge in inequality. *Scientific American*, vol. 256, No. 5, pp. 30–37.
- Wright, Erik (1997). *Class Counts: Comparative Studies in Class Analysis*. Cambridge, United Kingdom: Cambridge University Press.
- _____ (2005). *Approaches to Class Analysis*. Cambridge, United Kingdom: Cambridge University Press.

Endnotes

- 1 Other predictive models were run to impute the data, including linear discriminant analysis, Multivariate Imputation Chained Equations (MICE), Support Vector Machines (SVM), and Decision Trees (DT). Those models predict values for classes based on a set of covariates including education, housing conditions, region, age, gender and household size. The covariates are selected based on their association and explanatory power for predicting social classes. However, those models were not chosen for this paper because they primarily assign those who are out of the labour force to detailed class 5 (self-employed; small business employers) in the middle class. Hence, more than half of the imputed observations would be allocated to detailed class 5, distorting the initial distribution of class classification.



There is currently no consensus on how the middle class should be defined or measured. Typically, middle-class boundaries are identified in terms of distance from median income or from the poverty threshold or in terms of people's positions within the labour market. In this paper, the author builds on previous research on social class to propose a harmonized methodology for the identification of middle-class boundaries. The proposed methodology provides for the identification of three classes, namely, the owning, middle and working classes, on the basis, primarily, of employment status, occupation and firm size. The paper concludes by highlighting a number of limitations to the proposed methodology and suggests ways in which those limitations could be addressed.

