Defining and Measuring the Middle Class

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1. Introduction

Over the past decade many authors (D'Agostino 2012; Faux 2012; Frank 2013; Kiernan 2015; Leicht & Fitzgerald 2013; Pressman 2007, 2011) have worried about the US middle class shrinking. They have also raised concerns about the economic consequences, the political consequences, and the social consequences of this phenomenon.

In order to determine what has happened to the middle class, and to understand its impact as well as its causes, we need to have a good measure of the middle class. Such a measure would enable us to estimate the size of the middle class in one country in one year and to see how it has changed over time. This is particularly important today, as many people have blamed a shrinking middle class for the rising populism in many countries around the world, especially the support of Brexit in the UK and Donald Trump for President of the US (Judis 2016). A good measure of the middle class would also enable us to compare the size of the middle class across nations, and contribute to our understanding how different national policies might help maintain the viability of the middle class or even help the middle class to grow in size. Finally, a good measure of the middle class is a necessary prelude to developing models that can explain what determines the size of the middle class in one country over time and across different countries throughout the world.

This paper takes a first step in this direction. Section 3 develops a definition of "the middle class" that, to a large extent, follows the procedure used by Mollie Orshansky when she came up with the official US measure of poverty (the subject of section 2). Section 4 estimates the size of the middle class for nine developed nations over several decades using the Luxembourg Income Study database and the methodology described in section 3; it also briefly discusses these results. Section 5 begins to address the important issue of what determines the size of the middle class. Rejecting the standard economic explanations for rising inequality, it looks toward institutional factors as the main determinants of the size of the middle class in developed countries. Section 6 summarizes our results and sets forth a future research agenda.

2. Mollie Orshansky and the Measurement of Poverty

The US is one of the few countries in the world with an official national poverty rate. It was developed in the early 1960s by Mollie Orshansky. Orshansky received a B.A. degree in mathematics and statistics from Hunter College in 1935, and then went on to do some graduate work in statistics and economics at the American University. She landed her first job with the US Children's Bureau in the late 1930s; in 1942 she returned to New York as a statistician for New York City Department of Health. Three years later she took a job working on family consumption and living standards at the US Agricultural Department in Washington, DC. Soon Orshansky became their senior Food Economist, collecting and analyzing data on food consumption. In 1958 she went to work for the Social Security Administration, becoming their expert on income adequacy.

Orshansky's rise to fame began in December 1962. Influenced by John Kenneth Galbaith's (1958) *The Affluent Society* and Michael Harrington's (1962) *The Other America*, President John F.

Kennedy asked Walter Heller (chairman of the Council of Economic Advisors) to get him some statistics on US poverty. Heller asked the Social Security Administration to come up with a measure of poverty, and they turned to Orshansky to perform this task. As noted above, she was a specialist in family living standards and income adequacy; and she had been studying household budgets for a number of years. She was the perfect person to choose for devising US poverty measures.

Prior to Orshansky's work there was no agreed upon method for defining poverty and measuring poverty. Scholars writing about poverty used thresholds with fixed dollar cutoff points that came from subjective musings about adequate income levels. During the 1940s and 1950s single individuals making less than $1,000 a year (a little more than $8,500 in today's dollars) and families with an income under $2,000 were usually considered to be poor. By the early 1960s, when Orshansky began her work, most scholars took $3,000 to be the poverty line for the US. This number applied to families of all sizes; and it was not increased each year to deal with rising prices reducing the purchasing power of that income level (Orshansky 1965).

Orshansky went at her job pragmatically and empirically. She began with US Agriculture Department data on the minimum food requirements for families of different sizes.[1] This data had been compiled in 1955 by the Agriculture Department while Orshansky was employed there. Next she obtained data on the cost of purchasing all this food.

Examining government surveys of household expenditures undertaken during the 1940s and the 1950s, Orshansky found that families, on average, spent around one-third of their income on food. So she multiplied the cost of a minimum food budget for each family type by three to arrive at its poverty threshold. These thresholds represented the minimum income needed by families (of

[1] Orshansky (1965, p. 28, Table E) originally proposed a lower poverty threshold for single women because women needed less food than men. This was quickly quashed.

different sizes) to survive during the year.

Each year poverty thresholds get increased by the annual rate of inflation. Poverty thresholds in the US thus represent a fixed and constant real living standard. Orshansky called her thresholds “relatively absolute” measures of poverty (Fisher 1997b, p. 9); they provide an absolute standard relative to household spending habits and the minimum income needed by each family type at the time. The national poverty rate measures the fraction of all US households that fail to meet its poverty threshold.

The Orshansky definition became the official US definition of poverty in 1969. It was soon used to determine eligibility for federal programs such as housing vouchers, Medicaid, school lunches and SNAP (formerly Food Stamps). In all these cases, the ability to receive government benefits depends on household income levels that are some percentage (typically more than 100%) of the Orshansky poverty thresholds. Nonetheless, the measure has been criticized on a regular basis since it was first proposed in the 1960s.

First, there is a problem with the thresholds. Harrell Rodgers (2000) has argued the food requirements used in the official poverty thresholds were designed for short-term, emergency situations only; they could not meet a family’s nutritional needs for an entire year. The story of how this came about has been told in great detail by Gordon Fisher (1997a, 1997b). Orshanksy originally developed two sets of poverty lines. One was based on a food budget intended for short-term, emergency use only; the other was a food budget that would provide adequate nutrition to the family for a longer time period, such as a year. Since the poverty lines and poverty measures are all annual measures, it would seem as though the more generous food budget should have been used. Orshansky has even indicated that this was her preferred set of poverty thresholds (Fisher 1997b, p.

17). But her work compiling a poverty measure took place during the height of the Cold War. If the US government used Orshansky's annual food budget rather than the emergency food budget, the higher poverty thresholds would have resulted in a national poverty rate that was extremely high. The US government would then be proclaiming to the entire world that its economy, and capitalism in general, had a problem with poverty.

Harold Watts (1986) focuses on taxes rather than on politics. He notes that in the early 1960s the poor paid no income taxes and virtually no Social Security taxes. By the 1970s and 1980s, low-income households faced a considerable tax burden. Calculating poverty based upon pre-tax income, as in the Orshanksy methodology, ignores the fact that pre-tax incomes can buy less than a comparable real pre-tax income from the 1960s due to rising taxes. More important, the Earned Income Tax Credit or EITC (Hoffman & Seidman 1990), which results in negative taxes for a substantial number of low-income households, does not get counted as income when calculating poverty status and poverty rates. Yet, the EITC has substantially increased the money income available to low-income families with children and working parents, and has given them a substantially higher standard of living. US poverty computations ignore this.

3. Defining the Middle Class

Unlike poverty, when it comes to the middle class, there is currently no definition that social scientists accept, and no number that gets calculated and reported regularly, in the US or elsewhere. Part of the reason for this is historical. While the poor have always been with us, to paraphrase a Biblical injunction, the same cannot be said of the middle class. As Thomas Piketty (2014) argues, until the second half of the twentieth century, the middle class was virtually non-existent in the developed world. Only during the past decade or has the shrinking middle class become a major concern. This, in turn, has led to numerous attempts to define and measure the middle class.

Most of the attempts focus on some income range, just as the original attempts to define "poverty" focused on a single income level. This is quite reasonable since we have good income data and virtually everyone agrees that having a certain income, and thus material standard of living, is an important component of being middle class.

A first approach involves selecting figures that accord with one's intuitions about middle-class incomes, similar to what was done before the Orshansky measure of poverty. For example, Brian D'Agostino (2012) identifies the middle class as those households whose income ranges from around $20,000 to around $200,000. The Congressional Research Service (Elwell 2014) sets the range at between $19,000 and $91,000. While such numbers may accord with what the author believes to be middle-class incomes, these are rather strange figures. The main problem with these numbers is that the official poverty line for a family of four in 2010 was over $21,200. (It was even higher in later years.) Consequently, many families falling in the middle-class income range also get counted as being poor by the US government. This is oxymoronic and a wrong way to go about measuring the size of the middle class. As Horrigan & Haugen (1988, p. 5) rightly contend, the lower bound for the middle class must be "*significantly above the poverty level*".

Doing a bit better, Gary Burtless of the Brookings Institution employs a somewhat narrower range, and one whose lower bound is a little bit above the US poverty thresholds. Relying on early 2000s income levels, Burtless defined "the middle class" as those households whose income ranges from $24,000 to $96,000. His numbers come from taking half the national household median income at the time and also twice the national household median income. MIT economist Frank Levy pushed up the lower boundary point even further. He takes the range of middle-class incomes to be from

$30,000 to $90,000 (Vigeland 2008). Still, this approach is unsatisfactory for a number of reasons. One major shortcoming is that these income ranges fail to control for household size or recognize that the standard of living one can enjoy with a certain income depends on how many people that income needs to support. But the big problem with all these income ranges is that different people have different intuitions about what it takes to be middle class, and there is no way different intuitions can be debated so that we can bring things to some kind of resolution.

A second way to measure the size of the middle class is to look at the fraction of income received by the middle-three income quintiles. The top quintile can be regarded as the upper class and the bottom quintile the poor or the lower class. Everything in between, or the middle 60%, is taken to be the middle class. Nobel Laureate economist Robert Solow (on the back cover of Estache & Leipziger 2009; also see Atkinson & Brandolini 2011) takes this approach and defines "the middle class" as the middle 60% of earners (the upper middle class, middle class and lower middle class, respectively).

One advantage of this approach is that annual data is available back to 1967. The Census Bureau surveys US households every year, asking about their income and various household characteristics. From this, it publishes data on the fraction of income going to various income quintiles or fifths-- the top 20% of households, the second 20%, etc. The percentage of income going to this middle group can tell us how well this group is doing over time and how it is doing in one country compared to another country.

We can easily make this suggestion concrete. To be in the bottom income quintile in 2014, households would need an income of $21,432 or less; to be in the top quintile required an income of more than $112,262. Using these as our dividing lines, middle-class households can be defined as those with incomes between $21,433 and $112,261.

Figure #1 shows the percentage of total income going to the three middle quintiles in the US over time. With only a few exceptions, we see a steady decline starting in the late 1960s and continuing up to the present. Today, the three middle quintiles receive only 46.5% of total national income—a drop from 53% in the late 1960s. Most of this drop has been due to the smaller fraction of income going to the middle fifth and the second lowest quintile. All the income gains (and then some) went to households in the top quintile, which increased its share of total income from 43% to 51%.

Although possessing a number of strengths, this method of defining “the middle class” also has a number of drawbacks. First, there is a problem of the income ranges that make one middle class. Although we no longer have the problem of selecting income ranges based on intuitions, we still encounter a key problem noted earlier -- many middle-class households will also be poor on this definition. At the other end of the continuum, a family of four with an income of $113,000 is unlikely to be considered rich; most people would regard such a family as middle class (more on this later). A second problem is that the size of the middle class always remains the same. While we will know what fraction of total income goes to households in the middle of the income distribution, this *does not* tell us what happens to the size of the group in the middle of the distribution. The middle class is always the sum of the three middle-income quintiles. It cannot grow; it cannot shrink. It is 60% of the population and will always be 60% of the population. If we care about the changing fraction of the population that is middle class over time, or if we want to measure the size of the middle class from one country to the next, a different approach is required.

Another way to go about defining “the middle class” is more sociological. It ignores income levels entirely and focuses on the “class” in middle class. This involves looking at the sort of job that is being done, or the occupation of individual rather than the amount of money they make. Upper-class and upper-middle class individuals are generally thought to be Ivy League educated or equivalent and working as a salaried professional. Those in the middle-class are semi-professionals, pink-collar and blue-collar workers whose jobs generally involve routine tasks. At the bottom of the job hierarchy are the working poor and underclass, whose jobs pay little and have variable hours and a great deal of insecurity (Gilbert 2002; Thompson & Hickey 2005).

Like the other attempts at selecting middle-class income ranges, this approach also is problematic because it categorizes many poor households as middle class. Pink-collar and blue-collar workers can fail to earn enough money to escape poverty, especially if they are the sole bread-winner for their family. Based on occupation, this household should be considered middle class; but based on income this household is better regarded as working poor than middle class. Again, one can't be both poor and middle class at the same time. Furthermore, recognizing that the working poor are not middle class acknowledges that income is important, or more important, than the type of job or occupation one has in determining whether one's class.

Yet another non-income approach focuses on education level as a determinant of middle-class status. Robert Putnam (2015) and Charles Murray (2012) define classes in terms of the highest level of education attained by a household member. Their method of defining "the middle class" regards a household with anyone possessing a college degree as being in the upper class. The lower class are those households where no one has gone to college. Middle-class households are those in between these two cases— households containing one adult who has gone beyond high school (maybe they have an Associate's Degree and maybe they have some college credits) but no adult in the household possesses a college degree.

This approach also runs afoul of what we identified previously-- by ignoring income it categorizes many households as middle class (due to their education level) although they are regarded as poor according to the official US definition of poverty. It will also count some very wealthy individuals as middle class. Bill Gates is one of the richest people in the world. He attended Harvard University but never graduated. Should he divorce his wife Melinda (who has an MBA from Duke University), Bill Gates would count as being middle class according to this definition. A definition of "middle class" that counts Bill Gates and other multi-millionaires without a college degree as middle class leaves a great deal to be desired.

Another problem with using education as a distinguishing characteristic of the middle class is that in the 1960s and 1970s relatively few household heads had much education beyond a high school degree. None of these would be considered middle class on the Putnam-Murray definition. Because educational attainment has increased over time, more households will move from the lower class into the middle class and upper class; so we would see the middle class growing for this reason—even if household incomes are falling and people feel as though they are dropping out of the middle class.

Yet another way to define "the middle class" looks at wealth rather than income. Some wealth is certainly important for a middle-class existence. Assets provide security; they enable middle-class families to help put their children through college. And perhaps most important of all, middle-class individuals want to be able to retire. *Capital in the Twenty-First Century* (Piketty 2014) defines "the middle class" *exclusively* in terms of wealth holdings. In particular, middle-class households have wealth holdings that fall between the top 10 percent of the wealth distribution and median household wealth. He argues that up until the 20th century most households, other than the very wealthy ones, did not have much wealth. The destruction of inherited wealth, due to two world wars and a Great Depression, reduced income and wealth inequality, and enabled a middle class to grow in the US and Europe. Their wealth provides both a source of income and security to households. (Also see Wolff 2012)

This definition has problems similar to those we encountered with other definitions. As with looking at the middle-three income quintiles, looking at the middle of the wealth distribution makes the size of the middle class the same every year; it prevents us from being able to understand what causes the size of the middle class to change. And like the Putnam-Murray definition, and wealth-determined definition ignores income. Someone who just graduated from college, and is beginning their professional career and their adult life, will likely have no wealth (and maybe even carry considerable debt). But they may also be making $60,000 or $90,000 a year—incomes that should put them solidly within the middle class.

Since the other attempts to define “the middle class” are so problematic, it makes sense to try something else. Despite its flaws, it is important to note a number of things that Orshansky got right and that provide important lessons for those wanting to define “the middle class”. First, she sought a measure of poverty that was grounded empirically rather than just selecting numbers based musings from an ivy tower. In specific, she looked at what was needed to maintain a certain lifestyle by trying to ascertain what was necessary to survive for a year. Second, she realized that poverty lines had to be increased every year with inflation in order to provide income levels that represented a constant standard of living. Third, she recognized that household size, as well as income, was important in determining whether or not the household was poor.

Our measure of the middle class starts with median household income as well as surveys that asked people what was needed in different communities to be able to live a middle-class lifestyle. In 2010, the Pew Research Center (2012) asked people not whether they are middle class based on their income level, a question which almost always gets a “yes” answer, but how much income was necessary for a typical four-person family to be middle class in your neighborhood. While the numbers varied by individual, by location and by individual characteristics (e.g., those in the northeast and those making more money tended to give higher responses), the median response of $70,000 seemed to be a focal point. Wider Opportunities for Women (WOW) (2010) estimated the budget needs of households with two working parents and two children (plus a few other household types). For 2010, it estimated that their four-person family required $68,136 to have some degree of economic security. This figure includes some savings for retirement and for emergencies. I take this to represent what is needed to have a middle-class income in 2010 for a family of four in the United States. Further support for using this figure comes from US Census Bureau figures, which found that the median income for a family of four in the US in 2010 (the year of the Pew and WOW surveys) was $68,274.

From their surveys, Pew also found that a large percentage of responses about middle-class incomes fell between two-thirds and twice the median response. Some of these differences were due to differences in perception of what was necessary to be middle class in one area and some of these differences were due to differences in the cost of living across various different locations. For this reason, Pew takes the middle-class income range for 2010 to be between 67% and 200% of the $70,000 household income for a family of four, or between $46,900 and $140,000. This income range is substantially (more than twice) above the Orshansky poverty thresholds and the top figure does not seem to be so high that we would consider this four-person family to be wealthy.

In what follows we focus on *disposable income* rather than household income because people care about what they can spend, and it is disposable income that is used to purchase the necessities and luxuries that make up a middle-class standard of living. Furthermore, the failure to account for taxes has been a major criticism of the Orshansky poverty definition and is a legitimate concern among most scholars who study poverty. Consequently, the percentage of middle-class households in the population will be the percentage of all households whose disposable income falls within the income range deemed to be middle class. A three-step process gets us this range.

Following the WOW and Pew survey results we start with the median income for a family of four, and the income range for such a family to be considered middle class as falling between 67% and 200% of median income. We assume that $70,000 comes from rounding up the median household income for a family of four (either by Pew or by the people surveyed), and so we use the *actual* median household income as our starting point. This has the additional advantage of letting us use the median household income for a family of four as our starting point each year for each country when we measure the size of the middle class. Pew, unfortunately, does not undertake this survey every year and did not undertake such a survey until recently. As a result, there is no historical data on this going back to the 1980s or earlier and no time-series data that is available to use. Nor is there cross-sectional data that we can rely on. Likewise, WOW data is limited for the United States and does not exist for other developed countries. By starting with the median income for a family of four in each year we circumvent this data problem.

For households of other sizes, we adjust median income for a family of four using the Orshansky thresholds in order to get equivalent household income. Again, we take middle-class households as those (of a given size) whose incomes fall between 67% and 200% of the median income for (a household of that size). The fraction of middle-class households during any given year is just the fraction of all households that are middle-class (given our income ranges).

Table #1 sets out middle-class income ranges for 2013 based on median household income for a family of four, the Orshansky adjustments for households of different sizes, and the Pew ranges for middle-class incomes. These all lie substantially above (more than twice) the poverty line for these households—an important criterion for a good measure of the middle class (Horrigan & Haugen, 1988). While the top of these ranges do get large for very large families, this is not problematic since there are few large families and even fewer large families with very high incomes. Furthermore, it should be noted that for large families, a higher income *is necessary* for enjoying a middle-class existence, and per capita income is still relatively low.

As noted above, the important issue is not household income but disposable income. People care about what they make; what households get to keep determines their standard of living. The main difference between the two is taxes, and taxes can change from year to year and are different from one country to the next. So we convert household income to disposable income and then compute the percentage of households whose disposable income falls within two-thirds and twice median disposable income.

One valid objection to our methodology is that we define “the middle class” in terms of relative income for a particular year; to be middle class means having an income that is somewhere near median household income (adjusted by household size). This procedure does not account for what happens when median household income declines, as occurred during the Great Recession. Many people will feel they have fallen out of the middle class because their income fell substantially; the fact that average incomes also declined will provide little comfort or compensation. To take a concrete and extreme case of this problem, if we define the middle class in terms relative to the median income and if everyone's income is cut in half, our empirical results will show that there is virtually no change in the size of the middle class. Yet most people will feel that the sharp drop in their standard of living has taken them out of the middle class.

To deal with this problem we make one minor adjustment to our numbers. When real median income falls, we use the highest real median income before that, and recalculate the size of the middle class using that higher median income and then following our other steps. We continue in this vein until real median income recovers to its previous level.

4. The Size of the Middle Class Across Countries and Over Time

The Luxembourg Income Study (LIS) is an excellent data source for actually measuring the size of the middle class and examining changes in the middle class over time.[2] Before the LIS was developed, studies of poverty and income inequality usually focused on just one country. Attempts to actually compare nations and draw lessons from these cross-national comparisons faced numerous obstacles. There were national differences in how much income was unreported and in how this problem was corrected in national statistics; countries dealt with sampling errors in different ways; and there were differences in how raw data got manipulated to reflect the demographic composition of the entire nation. Finally, there could be definitional differences from country to country. LIS was created in April 1983 to circumvent these problems as much as possible. Its goal is to employ common definitions of key income variables, ensuring that all variables are measured according to uniform standards across countries. It has made data from different countries as comparable as possible, so that researchers are not comparing apples and oranges when they are talking about poverty or

[2] Additional information regarding LIS can be found on the LIS homepage at www.lisdatacenter.org.

income equality in different nations.

Figure #2 plots the percentage of middle-class households in the US for the years between 1974 and 2013, using all available LIS data. It shows that the middle class in the US has declined fairly continuously since the early 1980s, when it made up a bit less than 60% of all households. The only exception was the economic boom of the late 1990s when the middle class remained relatively stable. Since the late 1990s, the US middle class has declined in size, from around 55% of all households to around 51% of all households.

Figure #2 also adjusts US median household income upward after it falls during times of recession. The main adjustment takes place in 2010—after the Great Recession. We see that for 2004, there was a slightly smaller middle class due to the recession of the early 2000s (March-November 2001). Things got much worse during the Great Recession, which officially began in December 2007 and officially ended in June 2009. But official measures of economic recessions do not always reflect what is happening to people. Starting in the late 20th century, economic recoveries have come to be deemed as "jobless," with stagnating wages, even when profits and economic growth have risen.

As late as 2013, jobs and income levels had not recovered to their pre-recession levels. In 2010, median household income for a family of four was $4,800 below the inflation-adjusted figure for 2007. Taking this into account reduces the size of the middle class by 1.2 percentage points. In 2013, median household income for a family of four was more than $5,100 below the inflation-adjusted figure for 2007. Using the higher real income figure from 2007 would have reduced the size of the US middle class to just 50% in 2013.

The LIS data base, and our methodology for defining "the middle class" enables us to also measure the size of the middle class, and how it changed over time, in other countries. We examine here 8 other developed nations. These countries can be divided into three groups, based on the framework laid out by Gøsta Esping-Andersen (1990)—Anglo-Saxon nations, Nordic countries and Continental Europe. Figures #3, #4 and #5 show the size of the middle class over time for several developed countries that fit into each of these three classifications.

First, the middle class is smallest in the three Anglo-Saxon countries, making up 55%-60% of all households in the 2000s, except for the US, where the middle class shrinks to nearly 50% in the early part of the 21^{st} century. In addition, as Figure #2 shows, the pattern of change varies over time from one Anglo-Saxon country to the next. As we saw above, in the US there has been a nearly continuous decline in the size of the middle class. In the UK the middle class fell sharply during the 1970s and 1980s as a result of social security and other government benefits being cut substantially (Atkinson 2015, p. 205). In the 2000s, during the Tony Blair-Gordon Brown era when Labour held political power, some of these benefit cuts were reversed and the British middle class grew (Waldfogel 2010). In contrast to the UK, the Canadian middle class grew in the 1970s and 1980s; then it fell throughout the 1990s and 2000s, which included times when the Conservative Party ruled Canada and also times when the Liberal Party ruled Canada.

Additional support for our methodology for defining “the middle class” comes from Canada. The Canadian figures for the 2000s correspond fairly well with survey data asking people to define their social class. According to Frank Graves (2013), in 2004, a bit more than 60% of Canadians described themselves as middle class. And, in 2010 a bit less than 60% of Canadians thought they were middle class. These figures are quite close to our estimate that 57% of Canadian households were middle class in these years.

At the other end of the spectrum, Nordic countries tend to have the largest middle class, with around 65% to 70% of households falling within this category.

The case of Finland is rather unique. In 1995 over 70% of Finnish households were middle class and Finland had one of the largest middle classes in the world. Since then the Finnish middle class dropped sharply, falling to 62% by 2010. This decline stems from several factors. First, a housing bubble burst in the early 1990s; this was followed by the economic collapse of their main trading partner, the Soviet Union. Also the demise of Nokia, headquartered in Finland and a major employer in the country, had a big impact on incomes. Today Finland faces many of the same economic challenges that Greece is experiencing. It is running a trade deficit with Europe but cannot devalue its currency because it adopted the Euro in 1999. As a result, it cannot sell enough goods to other Euro nations, and thereby create adequate jobs and incomes for its workers. Taken together, these factors help explain why Finland is beginning to look more like the major industrial nations of Continental Europe than Norway or Sweden.

Norway and Sweden continue to do better than the other developed European nations and continue to have a large middle class. In the case of Norway, the size of the middle class has fluctuated a little; over a period of three decades it has remained relatively stable at somewhere between 65% and 70%. Sweden has seen somewhat large fluctuations in the size of its middle class over time. Exceeding 70% in the 1980s and 1990s, the Swedish middle class fell to a bit under 70% in the early 2000s. Unfortunately, at present, there is no LIS data available for Sweden in the late 2000s; so for now we don’t know the impact of the Great Recession on Sweden’s middle class.

The nations of Continental Europe lie between the Anglo-Saxon and the Nordic countries. In the three largest continental economies—France, Germany and Italy-- around 60% to 65% of all households are middle class.

For Germany, the middle class comprised approximately 65% of households in the 1980s. It has since slowly fallen to around 60%, with a clear decline during the 2000s. One needs to be somewhat cautious when comparing German data prior to reunification in 1990 and Germany now; earlier data included only what was then West Germany.

France runs counter to Germany and against the trend in a majority of our nine countries. In France, the size of the middle class seems to have grown continuously. It increases from around 60% in the late 1970s and early 1980s, to 65% in the 1990s, and begins to approach 70% in the 2000s. There is no sign of any middle-class squeeze in France over several decades, even during bad economic times.

Finally, Italy runs counter to most other countries. Its middle class remained fairly steady, at around 60% from the 1980s to 2000s. The size of the middle class fluctuated somewhat in the 1980 and 1990s, but remained stable throughout the 2000s, even after the start of the Great Recession.

Data is never perfect. The practical question to ask is whether the figures are good approximations of what is transpiring-- the decline of the US middle class (and likewise the changes taking place in other nations). My best guess is that, for two reasons, these figures are too conservative and that things have gotten worse for the middle class over time compared to what the numbers indicate. First, more people work in a typical household today compared to 1980, and people work more jobs. This increases living costs because households must spend more on clothing, food and transportation. Most important is the additional cost of child care (Giannarelli & Barsimantov 2000). Due to these factors, the higher income resulting from sending another family member into the workforce, or having family members work longer hours, does not result in an equivalent increase in the family living standard, which is what being middle class is all about. Second, a weaker social safety net means that in hard economic times most people must resort to borrowing. This debt much be repaid—with interest. However, making interest payments on past debt does not help me maintain a middle-class living standard today. In fact, it actually worsens my standard of living today since these payments mean I cannot buy other things that are part of a middle-class existence. Consumer debt (all debt excluding mortgage debt and college debt) has been rising sharply in the US with time. According to the calculations of Scott & Pressman (2013), if we were to subtract just the interest on consumer debt, this reduces the size of the US middle class by 3.6 percentage points in 2010. Moreover, the percentage of households taken out of the middle class due to interest payments on consumer debt has been increasing sharply since the 1980s.

5. Some Lessons and Suggestions for Moving Forward

Several key lessons from these figures stand out.

One lesson should be clear from the data in Figures #3-#6—things look very different in each country. In many countries the middle class has fallen during the past several decades. However, there are important exceptions—in some countries (e.g., France) the middle class has risen since the early 1980s, and in other countries (e.g., Canada, Italy and Norway) the size of the middle class has remained relatively constant over time. Also, it is worth pointing out the different historical trends in cases where countries wind up at relatively the same place. In the UK, the size of the middle class falls and then rebounds. Conversely, in Canada, the size of the middle class rises and then falls back to around where it was 30 years earlier.

Because the fate of the middle class over the past several decades has been very different in the nine developed nations we examined, we should be skeptical of the two major economic explanations for rising inequality in the world economy starting in the late 20th century. If the phenomenon of rising inequality, and by implication a declining middle class, was due to globalization (Friedman 2005; Wood 1994) or to technical change (Bound & Johnson 1992; Tinbergen 1975) we should see relatively similar patterns in all developed nations since these are all economies that have substantial economic relationships with each other. All nine nations we examined trade with each other and are part of a world economy where technology rapidly gets transferred around the globe. If these two forces are the main reasons for changes in the size of the middle class, the results should be similar for all the nations in our sample. However, this is not the case—both in terms of the timing of changes and in terms of long historical trends. If global changes and technology are not driving these results, we need to look more at what is going on in different nations, especially at the institutional factors that help maintain the middle class, and less at global forces. We need to examine policies that different countries employ, and how they change over time, and how these policy changes impact the size of the middle class. For example, cutbacks in child allowances under Prime Ministers Margaret Thatcher and John Major, and their revival under Prime Minister Tony Blair, might explain the changes that have taken place in the UK middle class over time (Pressman 2014; Waldfogel 2010). Similarly, the contraction of unemployment insurance in the US since 1980 (both in terms of who is eligible for it and in terms of the amounts involved) might explain the decline of the US middle class to some extent. So too might the decline in the real minimum wage in the US.

Two things do seem clear, however. First, the middle class fares poorly during recessions. As Figure #2 shows, if we control for falling median household incomes when defining and measuring the middle class, the result is even starker. Second, the middle class (at least in the US) are being squeezed and hurt by high levels of personal debt (Scott & Pressman 2013).

There is still a great deal of work that needs to be done. One important next step is to expand the middle-class dataset presented here so that it includes more countries (and with time more years for existing countries). A second step is to account for regional differences in living standards. Orshansky originally distinguished poverty lines in rural areas from poverty lines in the rest of the country. Given much higher housing prices and living costs in large cities compared to rural areas, some adjustment based on region should be made. Along these lines, a National Academy of Sciences report (Citro and Michael 1995; also see Ruggles 1990) suggested varying poverty thresholds by geographic area to take account of different costs of living in different parts of the country. Another step is to examine the extent to which the decline of the middle class is due to upward mobility and the extent it is due to falling downward economically. It makes a big difference whether middle-class households are ascending and becoming rich or descending and becoming poor. Even if we find that the loss is equally due to ascension and decline, this would tell us that income distribution is becoming more polarized. Fourth, we need to take into account household debt and debt payments that reduce the amount of money that households have to spend on goods and services consumed in the present year. This adjustment can be made for some countries with the aid of the Luxembourg Wealth Study. Expanding the Luxembourg Wealth Study database would help immeasurably in this endeavor. Last, but not least, we need to study in greater detail what factors impact the size of the middle class within nations over time and from one nation to the next, as well what the consequences are of a shrinking middle class. One important thing that should be looked here is the impact of the falling middle class on the election of Donald Trump as US President. Much was made after the 2016 Presidential election about how several states went into the Trump column that had previously been states that strongly supported Democratic candidates for President. Are these states that also saw a sharp drop in the size of their middle class? Fortunately, the Luxembourg Income Study has data on income by state, which enables us to explore this possibility.

6. Summary and Conclusions

This paper has surveyed some past attempts at defining “the middle class”. It then set forth a pragmatic approach to measuring the middle class, using the Orshansky methodology for measuring poverty and the LIS database to measure the size of the middle class in the US and other developed nations.

Our empirical work contains several key findings. First, since the 1980s the US middle class has been shrinking. From nearly 60% of households in the late 1970s, the US middle class declined to a bit more than 51% of all households by 2013. Things are even worse for the US if we control for lower median household incomes; not lowering the income standards for being middle class as a result of economic recessions and large income drops, puts the US middle class at around half of all households in 2013.

Second, the fate of the middle class over the past several decades has been very different in many of the developed nations we examined. This casts doubt on the two major economic explanations for rising inequality in the world economy starting in the late 20th century-- globalization or technical change. If these were good theories, we should see similar patterns in all developed nations since all nine nations are trade with each other and they are part of a world economy in which technology gets transferred around the globe rapidly. Because our nine nations look so different, we need to look more closely at what is going on in each nation, especially the institutions and policies that they have put in place to support the middle class and enable it to flourish.[3]

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[3] The author thanks Xaioxaio Chen for her excellent research assistance.

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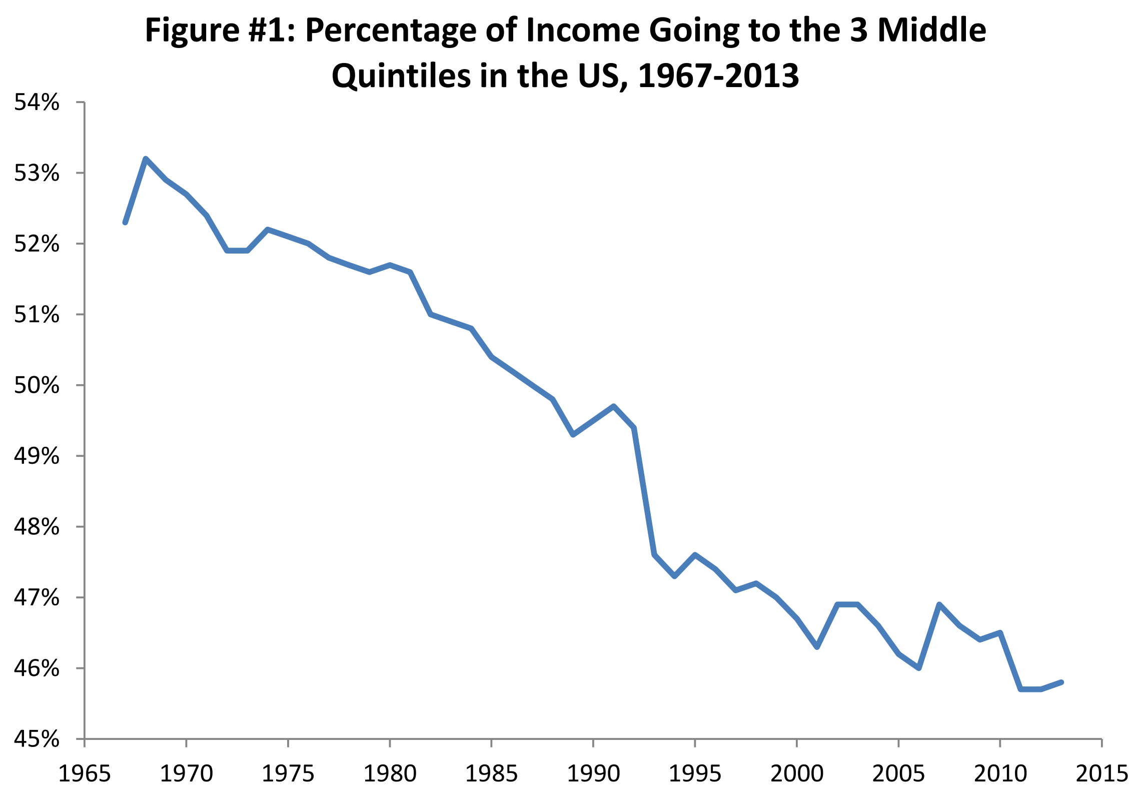
Annex:

Figures and tables



Source: US Census Bureau, *Current Population Surveys*, various years

Table #1: Middle-Class Income Range for 2013

HOUSEHOLD SIZE	INCOME RANGE (Household Income)
1	$28,569-$85,281
2	$37,140-$110,865
3	$45,710-$136,449
4	$54,281-$162,033
5	$62,852-$187,617
6	$71,422-$213,201
7	$79,993-$238,786
8	$88,564-$264,370
9+	$97,135-$289,954
Source: See Paper	

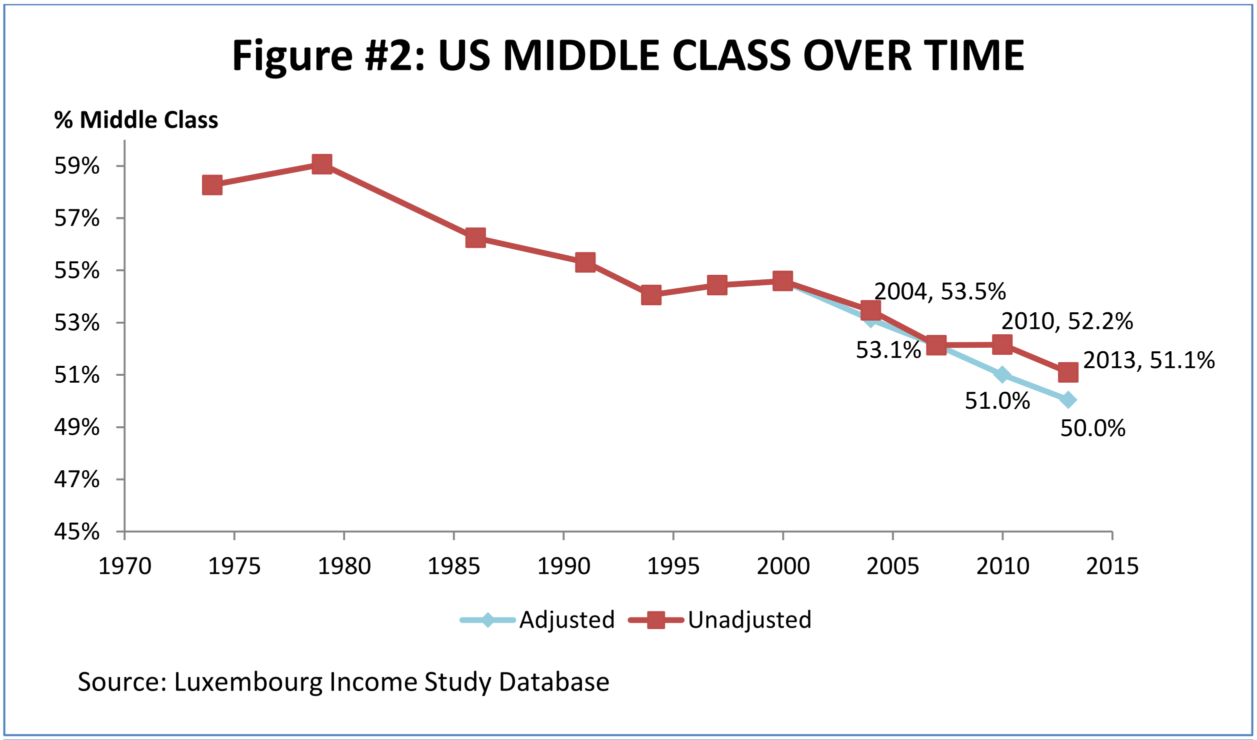


Figure #2: US MIDDLE CLASS OVER TIME
% Middle Class
59%
57%
55%
53%
51%
49%
47%
45%
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
2004, 53.5%
2010, 52.2%
2013, 51.1%
53.1%
51.0%
50.0%
Adjusted
Unadjusted
Source: Luxembourg Income Study Database

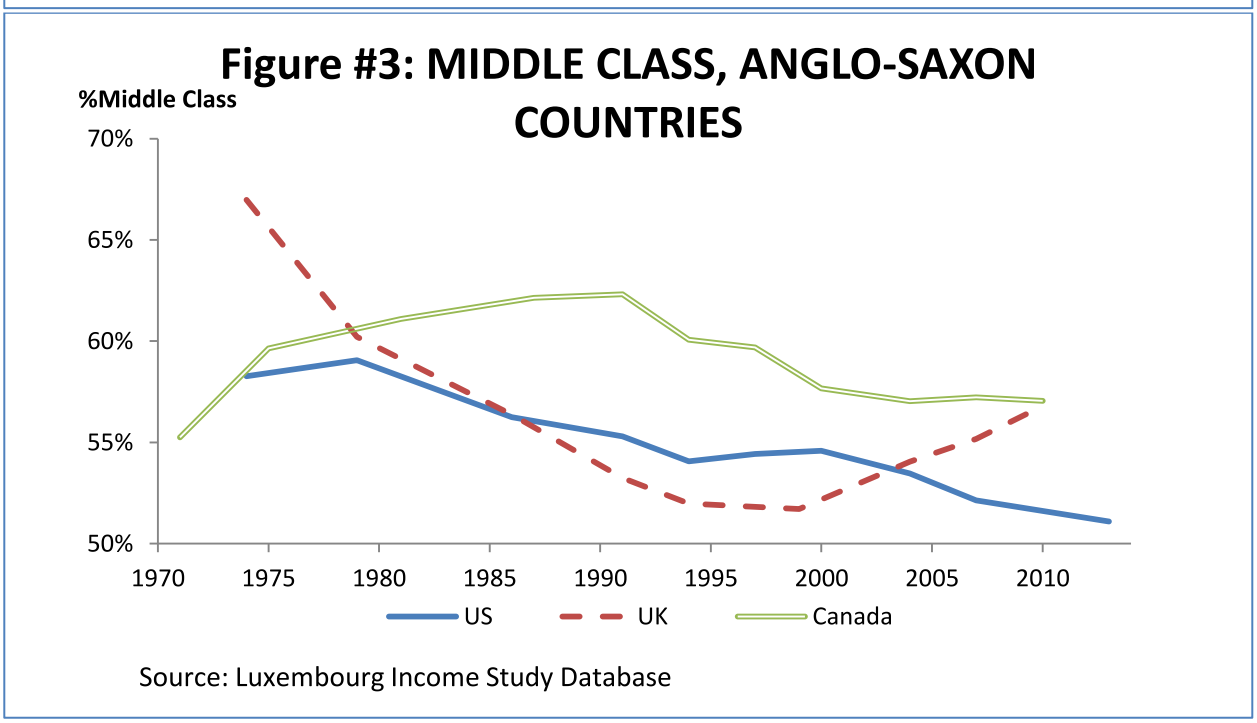
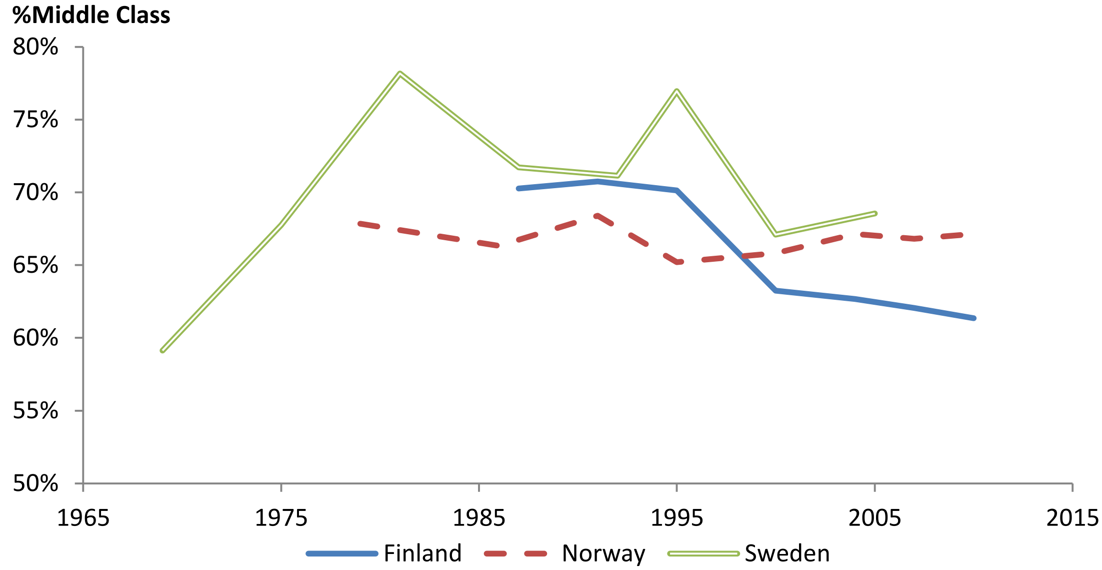


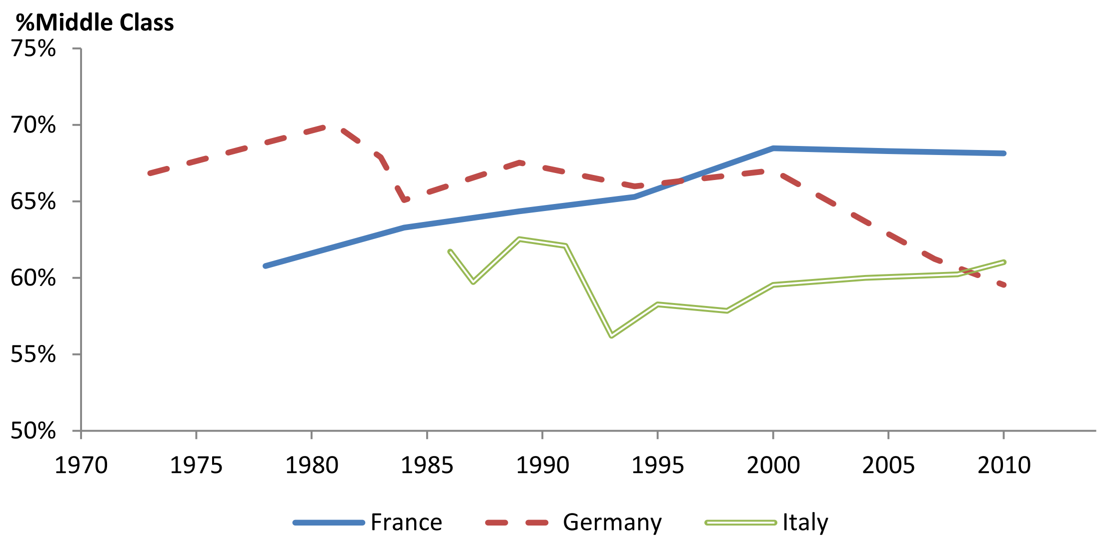
Figure #3: MIDDLE CLASS, ANGLO-SAXON COUNTRIES
%Middle Class
70%
65%
60%
55%
50%
1970
1975
1980
1985
1990
1995
2000
2005
2010
US
UK
Canada
Source: Luxembourg Income Study Database

Figure #4: MIDDLE CLASS, NORDIC COUNTRIES



Source: Luxembourg Income Study Database

Figure #5: MIDDLE CLASS, CONTINENTAL EUROPE



Source: Luxembourg Income Study Database