Rethinking the Lebanese economic miracle:

The extreme concentration of income and wealth in Lebanon

2005-2014

Lydia Assouad

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Abstract. In this paper, I combine surveys, national accounts, and personal income tax records to produce the first estimates of the national income distribution in Lebanon over the period 2005-2014. I find that income is extremely concentrated, with the top 1 and 10 percent of the adult population receiving approximately 25 and 55 percent of national income, placing Lebanon among countries with the highest level of income inequality in the world. Shifting the analysis to wealth, I find that the richest 1 and 10 percent receive almost 40 and 70 percent of total personal wealth. Taken together, these results question the view of Lebanon as a paragon of economic success in the Middle East: the dynamism of the tourism, banking and real-estate sectors has benefited only a minority of the population, while a large part still lives in extreme poverty.

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Section 1. Introduction

Lebanon is often presented as a paragon of economic success in the Middle East. Its macroeconomic performances seem to survive the numerous conflicts shaking the country. In particular, per adult national income has been systematically higher than in neighboring countries since 1950 despite political shocks (see Figures 1a and 2a). According to this positive narrative, sometimes coined the "*Lebanese economic miracle*", this relative prosperity relies on revenues from dynamic financial and real estate sectors, but also trade activities, luxury tourism and remittances coming from the large Lebanese diaspora[1]. The conclusion is less clear when we look at per adult national income expressed in purchasing power parity and not in market exchange rate (see Figure 2b). This suggests that the relative living standards in Lebanon may not be that high and that external economic relations as financial flows coming to Lebanon play a major role in Lebanon's economic prosperity compared to its neighbors.

Some analyses have criticized the idea of an "*economic miracle*", arguing that the rentier structure of the economy creates major socio-economic disparities (Gaspard, 2004). Yet, to my knowledge, no study provides a rigorous estimation of the degrees of income and wealth concentration in Lebanon, due to a major shortage of data. The only income share figures ever published date back from 1960 (Ministry of Planning, 1968). Recent studies based on survey data focus on expenditure and poverty only (El Laithy, Abu-Ismail and Hamdan, 2008). Moreover, the country does not appear in international organizations' annual reports and databases on inequality. This lack of transparency impedes any public awareness on the social issue at a time when the country undergoes major political and social crises.

In this paper, I exploit unique fiscal micro data provided by the Lebanese Ministry of Finance to start filling this gap. More precisely, I combine this new database with survey tabulations, national accounts, public finance reports and wealth rankings to produce the first estimates of income shares in Lebanon between

[1] The expression « Lebanese economic miracle » was first coined to describe the economic boom of the country in the 1960s. Today, the expression does not refer to a substantial growth but rather to the persistent dynamism of the banking and real estate sectors, despite the high political instability.

2005 and 2014. I find that the top 10 and 1 percent of the adult population receive approximately 55 and 25 percent of total national income, which places Lebanon among the countries with the highest levels of income concentration reported in the World Wealth and Income Database (WID.world), alongside Brazil, Colombia, Russia, South Africa and the United States. Next, I estimate wealth concentration using billionaires lists. I establish that the top decile and top percentile of wealth holders account for 70 and 40 percent of total wealth.

The main contribution of this paper is to present novel estimates of income and wealth concentration in Lebanon. The high levels of inequality found challenge the view of a Lebanese "economic miracle" from a distributional perspective. I argue that this partial vision could persist as access to income and wealth data in the country is massively restrained[2].

I should stress that the objectives of this paper are modest. Indeed, a detailed interpretation of the results is currently difficult to provide given the limited quality and time span of the data. Measuring inequality in Lebanon is however worthy of interest for three reasons. First, the country provides a unique case for research in this area because of its distinctive political economy. Lebanon has the oldest liberal market system in the region and has constantly opted for *laissez-faire* economic policies since its independence (Jawad, 2009, Gaspard, 2004).

Second, it is natural to ask whether income inequalities are related to the political instability that Lebanon has undergone since 2005, all the more so as most existing analyses focus on confessional rather than socio-economic factors.

Finally, analyzing the Lebanese income distribution can shed light on inequality in the Middle East. Since the outbreak of the Arab Spring, interest in inequality measurement in the region has been renewed (see Ncube and Anyanwu (2012)). Existing studies suggest that inequalities in Middle Eastern countries are not particularly high by international standards and that the source of dissatisfaction at the origin of the popular movements must be found elsewhere (Hlasny and Verme (2013)). The data sources remain insufficient to derive reliable trends of top income

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[2] Although some ministries, as the Ministry of Finance, increase access to data, information usually available in other countries is still not disclosed to the general public in Lebanon, creating a major gap between knowledge and facts (World Bank, 2016).

shares at the national level. The Lebanese tax micro-files are the first fiscal data to be available in the region and can be used to derive correction factors for the top of survey income distributions in all countries of the region (Alvaredo, Assouad, Piketty, 2017).

The rest of this paper is organized as follows. In section 2, I describe the main data sources, concepts as well as the methodology used. Section 3 presents the results on the evolution of income and wealth inequality in Lebanon between 2005 and 2014 and compares them to other countries. Section 4 provides concluding comments. This paper is supplemented by an online appendix that includes all raw data sources and computer codes and presents additional results and robustness checks.

Section 2. Data Sources, Concepts and Methodology

This paper relies on five types of data: household survey tabulations, fiscal micro data, national accounts, public finance reports and wealth rankings. It is part of a growing literature that attempts to produce distributional statistics comparable across countries (see Alvaredo et al. 2016 and the World Wealth and Income Database (WID.world)). The methodology used has already been applied to the United States (Saez and Zucman, 2016; Piketty, Saez and Zucman, 2016), France (Garbinti, Goupille-Lebret and Piketty, 2017), China (Piketty, Yang and Zucman, 2017), Russia (Novokmet, Piketty and Zucman, 2017), Brazil (Morgan, 2017), India (Chancel and Piketty, 2017). It consists of three steps: (1) generating income series using household survey data, (2) correcting the income levels at the top with fiscal data (3), correcting for missing non-fiscal and tax-exempt incomes using national accounts. The approach adopted for Lebanon follows the same structure, with some adaptations described in the following. Detailed descriptions of methods and robustness checks are provided in the online appendix.

Section 2.1. First Step: Deriving raw income distribution with survey data

Lebanese survey data are scarce (see World Bank, 2016 Table 2.1 for a review of existing survey-based studies). The only figures on the distribution of

income date back from the first nationally representative survey conducted in 1960[3]. Since then, only three surveys have been undertaken, in 1997, 2004 and 2007, but no study analyzing them focuses on income inequality[4].

This paper is based on the 2007 survey, conducted by the Lebanese Central Administration of Statistics (CAS)[5]. The micro data of the survey are inaccessible but the CAS published two tabulations indicating the household frequencies for thirteen income groups, before and after the 2006 war. Using the generalized Pareto interpolation techniques developed by Blanchet, Fournier and Piketty (2017), I estimate the full distribution of income expressed in generalized percentiles (or g-percentiles), which delimits 127 income groups along the income distribution: 99 for the bottom 99 percentiles, 9 for the bottom 9 tenth-of-percentiles of the top percentile, 9 for the bottom 9 one-hundredth-of-percentiles of the top tenth-of-percentile, and 10 for the 10 one-thousandth-of-percentile of the top one-hundredth-of-percentile. I then apply a proportional upgrade factor to derive the distributions adjusted for the yearly price change over the entire 2005-2014 period. By construction this has no impact on income shares[6]. Finally, I take as unit of observation the adult individual and I assume income is equally split between adult household members[7].

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[3] The study indicates great income disparities: the richest 4 percent concentrate 32 percent of total income while the following 14 and 32 percent have respectively 28 and 22 percent. The remaining half of the population is left with 18 percent of the national income, including 2 percent for the poorest 9 percent (Ministry of Planning, 1968).

[4] Laithy et al. (2008) produce very valuable results on the bottom of the consumption distribution. They document that nearly 8 percent of the population (that is 300,000 individuals) live under conditions of "extreme poverty" (less than US$ 2.40 per day) and are not able to meet most basic food and non-food needs. With a broader definition of poverty (World Bank's "upper poverty line" of US$ 4 per day), they find a rate of 30 percent (1,000,000 individuals). The bottom 20 percent of the population accounts for 7 percent of total consumption levels while the top 20 percent accounts for over 43 percent. They find a relatively low Gini coefficient of 0.37 for the consumption distribution but their estimates for the top shares are certainly highly underestimated.

[5] Data for the 1997 survey, in the form of tabulations by range of income, or in the form of micro data, are unavailable. A table from the 2004 survey is available but not used in the following (see Appendix A.1, for a discussion on this choice and a comparison of the series).

[6] I use the tabulation titled "before the war" (2005) to estimate the 2005 and 2006 distributions and the tabulation "after the war" for the following years. I simply upgrade the two raw distributions by the ratio of per adult national income between the target year and the survey year.

[7] Therefore, I divide household income by the number of adults in each household. As no additional information is available, I apply the same adults/children ratio to all brackets: if high earners have fewer children than average, inequality is slightly underestimated.

I stress again that the raw data are highly deficient. As underlined in Alvaredo et al. (2016), being precise on the definition of income is however crucial when combining survey and fiscal data. Unfortunately, the survey tabulations do not provide detailed information on income categories. It is therefore impossible to know which income source is included in the income variable and if the income concept captured in the survey data matches the one from the fiscal data. The tabulations can nevertheless be exploited thanks to the new generalized Pareto interpolations techniques developed by Blanchet, Fournier and Piketty (2017).

Section 2.2. Second step: Fiscal correction of the survey distribution

As it is now widely acknowledged, surveys fail to capture top incomes and inequality statistics based on surveys are seriously downward biased, due to under-reporting, truncations and top coding problems at the top. To correct for this, I use fiscal data. The method is similar to Piketty, Yang and Zucman (2017) and Novokmet, Piketty and Zucman (2017), but with substantial differences due to the specificity of the Lebanese fiscal law. I start by presenting the personal income tax and the records used in this paper. Then, I present the correction procedure applied.

The Lebanese Personal Income Tax created in 1959 is a schedular, progressive and individual tax which taxes separately: (1) business income (profits made by self-employed individuals, partners in partnerships and individuals in small corporations) at marginal rates ranging from 4 to 21 percent, (2) labor income (salaries, wages, bonuses, allowances, life annuities, pension payments, and other benefits in cash and kind) at rates ranging from 2 to 20 percent and, finally, (3) incomes from movable capital (dividends incomes, board member appropriations from profits and interest incomes, including interest on bonds and treasury bills) at a flat rate of 10 percent. Next to the personal income tax, a built property tax hits rental revenues at the individual level at rates ranging from 4 to 14 percent.

The fiscal data provided by the Ministry of Finance are in the form of an unbalanced panel[8]. Each observation corresponds to the annual declaration of a taxpayer, and three sources of income are reported separately: business income, salaries and wages, and housing rental incomes (excluding revenues of people living in their own dwelling). For business income and wages, there are three variables: the "gross income" (before any deduction and gross of expenses), the "taxable income" (after deductions of charges and benefits) and the amount of tax paid. For rental revenues, only the latter two variables are reported.

Two major limitations should be stressed. First, the amounts of deductions, expenses and benefits are not reported. Therefore, I need to make assumptions to obtain actual individual fiscal income (pre-tax, pre-deductions fiscal income but net of expenses). In my benchmark series, I assume that taxable income equals 80 percent of total fiscal income[9]. Second, most capital incomes are not reported: imputed rental revenues of persons living in their own dwelling, incomes from movable capital (that is dividends and interest income) and corporate profits made by individuals in limited partnerships (joint stock or limited liability companies), hit by a flat corporate tax of 15 percent, are also absent. Finally, post corporate-tax profits, distributed and taxed again as movable capital gains by the personal income tax, are not reported either. Both issues bias the fiscal income series downwards. Nevertheless, income reported for the top 1 percent in the micro-files is still substantially larger than those observed in the survey data.

My benchmark correction is based upon the following assumption: the survey data are reliable below percentile $p1$ = 0.8, the fiscal data are reliable above $p2$ = 0.99, and I assume that the quantile ratio upgrade factor $f(p)$ rises piecewise-linearly from $f(p1)$ = 1 to the observed fiscal/survey ratio between $p1$ and $p2$, $f(p2)$, so as to generate a smooth and convex Pareto curve (Blanchet, Fournier and Piketty, 2017). I then apply generalized Pareto interpolation techniques to the corrected tabulations to

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[8] The data is reliable for the top 1 percent of the adult population, although it includes income from individuals in lower income groups.
[9] Total taxable income is the sum of taxable business income, wages and housing rents. See Appendix B for robustness checks and variants on the income definition.

obtain the full distribution of fiscal income among equal-split adults, by g-percentiles, between 2005 and 2014[10].

Section 2.3. Third Step: Correcting for missing capital incomes

Finally, I correct for tax-exempt and non-reported capital incomes (dividends and interests). National accounts are not disaggregated enough to estimate the missing amounts. This is why I complement them with public finance reports and I recover the missing amounts by dividing the revenues collected from the different income sources by the corresponding tax rate in force in the legislation. I find that non-reported and tax-exempt capital incomes represent on average 20 percent of national income[11].

Then, to estimate the distribution of total personal income (y_p), the sum of fiscal income (y_f) and missing income (y_m), I first assume that y_m follows the same distribution as wealth, estimated using wealth rankings (see section 2.4 below). As for the correlation structure between y_f and y_m, I use the family of Gumbel copulas, with Gumbel parameter $\theta = 3$.

Section 2.4. Wealth distribution series

To correct for missing capital incomes, I estimate the wealth distribution in Lebanon using billionaires lists published in Forbes and Arabian business magazines and apply generalized Pareto interpolation techniques. As displayed in Figures 2a, billionaires' wealth represents 30 percent of total national income on average over 1990-2016, surpassing by far what we observe in other countries using the same data. The observation is the same between 1990 and 2005 or 2005 and 2016, suggesting that wealth is more concentrated in Lebanon and that this extreme concentration is stable over time (Figures 2b and 2c).

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[10] I also provide several variants based upon different piecewise-linear profiles for the upgrade factor between f(p1) and f(p2). As shown in Appendix B., the variants have a relatively limited impact on the results. In section 3, I focus on the benchmark series.

[11] See Appendix B for detailed computations and variants.

I estimate an average wealth distribution using WID.world series that I adjust at the top using the Lebanese billionaires' wealth. Despite data limitations, the stable and high concentration revealed in the rich lists reflects something real about the Lebanese wealth distribution. Discussion about the methodology is available in Novokmet, Piketty and Zucman, (2017) and Alvaredo, Assouad and Piketty (2017). I present the construction of the Lebanese wealth series in the appendix.

Section 3. The extreme concentration of income and wealth in Lebanon 2005-2014

Section 3.1 Levels of income inequality

The main results are summarized in Figures 3a, 3b and 3c. The conclusion is clear: income is extremely concentrated in Lebanon, with the richest 10 and 1 percent accounting for respectively 56 and 23 percent of total national income, on average throughout the period. After a slight decrease following the 2006 war, top income shares quickly recover to remain stable until 2014. In contrast, the bottom 50 percent of the Lebanese population is left with approximately half of what is accruing to the top 1 percent. Figure 4 gives a sense of the level of concentration: the top 0.1 percent of the adult population, that is approximately 3000 individuals receives approximately the same amount of national income as the bottom 50, that is 1,5 million individuals. Finally, the middle 40 percent of the Lebanese adult population receives one third of the total national income.

Despite the data limitations, the order of magnitudes found can be considered as reliable. My estimates are consistent with the high levels of poverty reported in El Laithy, Abu-Ismail and Hamdan (2008), although we do not use the same welfare concept and unit of observation. I find a higher Gini coefficient, mostly due to the fiscal correction (see Figures 5a, b and c)[12].

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[12] This is reassuring given the uncertainty surrounding billionaires' data. In the appendix, I also provide detailed robustness checks for the fiscal correction. In all variants, corrected inequality levels are substantially higher than raw survey levels, and stand relatively close in magnitude to the benchmark series (by international and historical standards).

Section 3. 2 The distribution of economic growth

Between 2005 and 2014, real national income increases steadily, with a cumulated growth rate of almost 50 percent (Figure 6). However, if we look at the per adult national income, it follows a bell-shaped curve, increasing between 2005 and 2010 and then decreasing due a sharp population growth of 50%, mostly following the major inflow of Syrian refugees. The variations in the demographic structure give first insights into the change in the income distribution. Despite the positive real growth rate, we observe a global impoverishment of the Lebanese population after 2011. The series computed in this paper allow me to go further and to determine which income groups did or did not benefit from growth. Figure 7 shows that the bottom 90 percent of the adult population experiences a negative growth, far below the average, while the top 10 percent enjoyed very large growth rates[13].

In order to understand the driving forces behind these high growth rates at the top, I examine the respective role of business income, labor income and rental revenues using the fiscal micro-data. Figures 8a, b and c decompose top groups by income categories for the years 2005, 2010 and 2014. Several conclusions can be made. First, the negative growth rate of the top 0.01 percent comes from a sharp decline in rental revenues over the period, which translated into an increase in the share of wages. A natural explanation for this is the major property destructions that happened during the Israeli war [14]. However, as early as 2007, a massive reconstruction effort was made and demand on housing kept increasing while real-estate prices and rental income skyrocketed. The variation we observe at the very top may simply reflect a change in tax evasion behaviors due to the political instability that began in 2005. In parallel, the computerization of taxation implemented in the 2000s by the Ministry of Finance and the fact that wages are taxed at source made taxation on labor income easier to collect.

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[13] Except for the top 0.001 percent (that is between 25 and 37 adults over the period), for which the rate becomes negative again.

[14] The Israeli war indeed damaged more than 210,000 housings and destroyed 25,000, leaving more than 300,000 people homeless (see Verdeil, E. "Le bilan des destructions", cited in Mermier F., Picard E*., Liban, une guerre de 33 jours*, Paris, La Découverte "Cahiers libres", 2007).

Section 3. 3 International comparisons

As discussed in the introduction, it is currently impossible to compare Lebanon's level of income inequalities with other countries. Table 2 and 3 present the income thresholds and averages within the different income groups, in 2016 Euro PPP in Lebanon and in France. To be among the 1 percent richest Lebanese, one needs to make at least 123,001 € per year in 2014, for an average income of 334,163 €, levels comparable to France. The magnitude of concentration however increases drastically within top groups, with an average income for the top 0.1 percent of 1,585,240 €. To get a sense of the skewness of the Lebanese distribution, it is interesting to compare the average income within each group in Lebanon and in France. Until the top 1 percent, the average income is systematically smaller in Lebanon, representing 40 percent of the corresponding average in France for the bottom 50 percent and 90 percent for the top 1 percent. Within top groups, the ratio reverses to reach 190 percent within the top 0.01 percent and even 335 percent within the top 0.001 percent.

Figures 9a and b compare the top 10 and 1 percent income share in Lebanon with series for Brazil, China, France, Russia and the United States, computed following the same methodology. I also compare Lebanon with other developing countries with high levels of income inequality and similar per adult average income. The conclusion is clear: Lebanon has one of the highest records of income concentration in the world.

Section 3. 4 Wealth inequalities

Conclusions on wealth inequality are similar to those on income inequality. Figure 10a reports statistics on the distribution of wealth for the 1990-2016 period, obtained using data from the annual Forbes and Arabian business rankings that cover the wealthiest Lebanese individuals. According to my benchmark estimates, wealth is on average extremely concentrated with the top 10 and 1 percent of the Lebanese adult population gathering almost 45 and 70 percent of total personal

wealth respectively[15]. These levels are substantially higher than in China and France and slightly higher than in Russia and the United States in the recent period (see Figure 10b).

Section 3.5 Interpreting the Lebanese evidence

The data do not allow me to provide detailed interpretations of the results. Putting them in a broader historical perspective, I however identify four possible explanations for the high levels of inequality observed between 2005 and 2014.

First, the combination of the rentier structure of the economy with the confessional system of governance enables sectarian elites to capture and redistribute most of the resources through communal clientelism which may lead to major socio-economic disparities.

Second, Lebanon has constantly opted for *laissez-faire* economic policies since its independence in 1943, resulting in the absence of welfare state and large-scaled redistributive policies (Gaspard, 2004)[16]. The reconstruction period following the civil war was marked by a neoliberal policy shift close to the one observed in Western countries during the 1980s (Corm 2012, Baumann, 2017). A commitment to minimal state intervention was reasserted in the 1989 Taif Agreement, while major tax breaks were undertaken[17]. Since then, social welfare and state reforms have constantly been relegated to the background, while the Hezbollah has become a real state within the state, ensuring basic solidarity and redistributive functions.

Third, the country underwent major economic crises in the 1990s, with waves of land and financial speculations, resulting in (1) several periods of inflation and

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[15] Given the uncertainty surrounding the use of billionaires data, I only present averaged statistics over the period as the trends may not be reliable. In any case, the wealth share stay extremely high throughout the period, with a minimum for of 35 percent and 67 percent for the top 1 and 10 percent of the adult population (see Appendix A).

[16] The only attempt to build strong public institutions and to create a welfare state occurred during Fouad Chehab's presidency between 1958 and 1964, contrasting with the liberal tendency prevailing since 1943.

[17] Top marginal rates on corporate profits and on labor incomes were decreased to 10 percent. Incomes from movable capital were taxed only at 5 percent, and capital gains from financial activities or from built properties were exonerated. Withholding interests on bank deposits or treasury bonds were completely exonerated from taxes. Traders based on the territory could enjoy two free zones, exempted from taxation for 10 years. In 2000, all companies based in the South of Lebanon were exempted from paying any taxes. In 2002, a 10 percent value-added tax was introduced. Contrarily to what is commonly seen in postwar periods, no exceptional tax was implemented.

hyperinflation that most probably eroded low incomes, not fully indexed (see Figure 11a and b) (2) a macroeconomic context of high real interest rate coupled with a relatively slow real growth of national income per capita that was mostly beneficial to bankers and depositors (World Bank, 2016)[18]. The period of inflation observed in 2005-2009 has probably eroded low self-employed and labor income, not fully indexed. I however certainly underestimate this phenomenon as the bottom of the distribution is measured with the 2007 survey (whereas inflation is at its highest in 2008 and 2009 in the period of study) and a great part of low and non-indexed incomes comes from the informal sector that the fiscal data do not capture.

Fourth, immigration movements are crucial to understand inequality dynamics in Lebanon. Lebanon has recently welcome more than one million Syrian refugees, representing 30 percent of the total population, adding to the 450,000 Palestinian refugees already present[19]. As displayed in Figure 7, the increase in the cumulative population growth after 2011 leads to a decrease of per adult national income that increased inequality. I however underestimate this effect as the survey data stop in 2007, so that the refugees' incomes are not taken into account within the bottom of the distribution.

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[18] According to a UN report, 0.6% of the bank accounts held 40% of total deposits, which kept increasing during the period (UNDP, 2002, p. 77). Analyses of the distributional effect of the neoliberal policies and the macroeconomic climate between 1990 and 2005 are proposed in Gaspard (2004), Leenders (2004), Corm (2012) and Baumann (2017).

[19] https://www.unrwa.org/where-we-work/lebanon

Section 4. Concluding comments and perspectives

In this paper, I combine national accounts, survey, fiscal data and wealth ranking to estimate the national income distribution in Lebanon between 2005-2014. To the best of my knowledge, this paper is the first to use personal income tax records to study distributive issues in a Middle Eastern country. I find that income and wealth are extremely concentrated. The richest Lebanese catch the bulk of the national income growth resulting into a massive impoverishment of the majority of the population.

The main contribution of this study is to review available data sources on income and wealth and to combine them in a transparent manner in order to produce novel estimates of income inequality in Lebanon. The lack of exhaustive and reliable data impedes any in-depth analysis of wealth and inequality dynamics. The series presented in this paper are therefore a first attempt to build a consolidated view on the subject but they should be improved in future research.

It is at this stage difficult to establish whether the extreme concentration of income observed in Lebanon is structural and due the long-lasting specificities of its political economy and/or whether it is more circumstantial, following economic crises and the policies undertaken at the end of the civil war.

Despite these limitations, shedding light on the extreme levels of income and wealth inequality puts in perspective the so-called Lebanese economic miracle. If the financial and real estate sectors are indeed still very dynamic, the growth they generate is captured by a very small part of the population. More transparency about income and wealth data is however a prerequisite to analyze the driving forces behind such an extreme concentration.

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Figure 1a. Per adult national income in selected countries (€ 2016 MER) 1950-2016
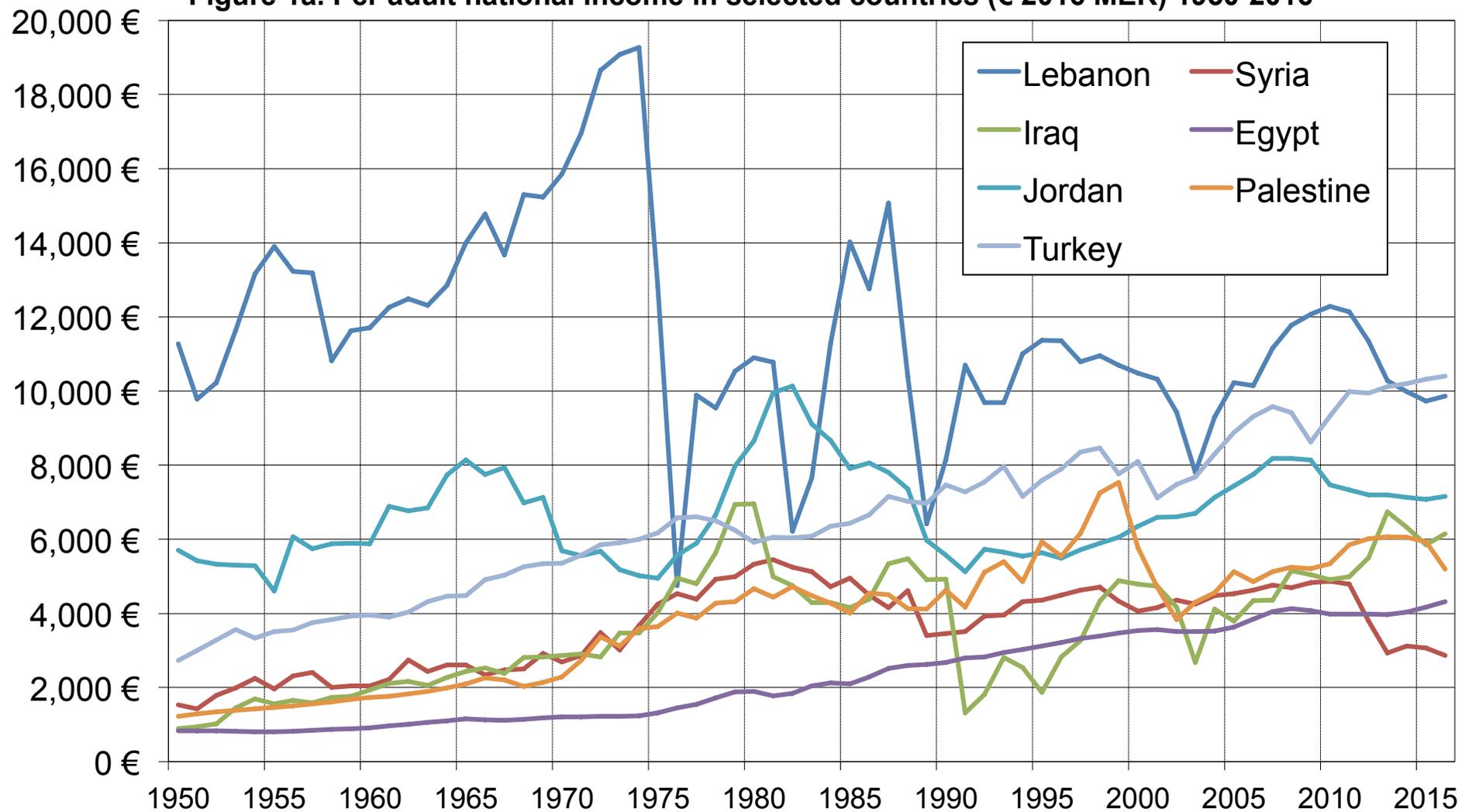
Per adult national income in Euro 2016 (Market Exchange rate). Adults are the individuals aged 20 and more.
Sources: WID.world

Figure 1b. Per adult national income in selected countries (€ 2016 MER) 1990-2016
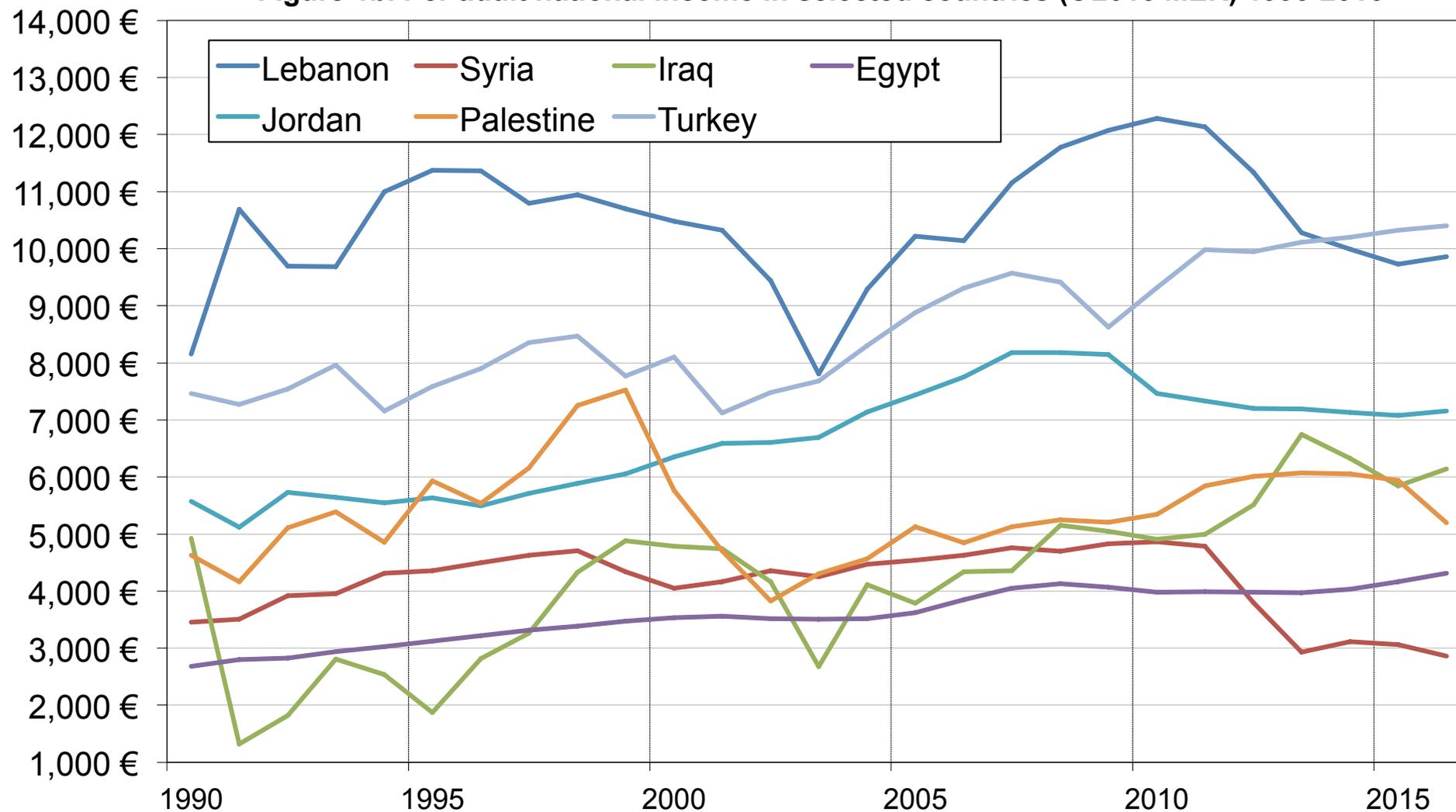
Per adult national income in Euro 2016 (Market Exchange rate). Adults are the individuals aged 20 and more.
Sources: WID.world

Figure 1c. Per adult national income in selected countries (€ 2016 PPP) 1990-2016
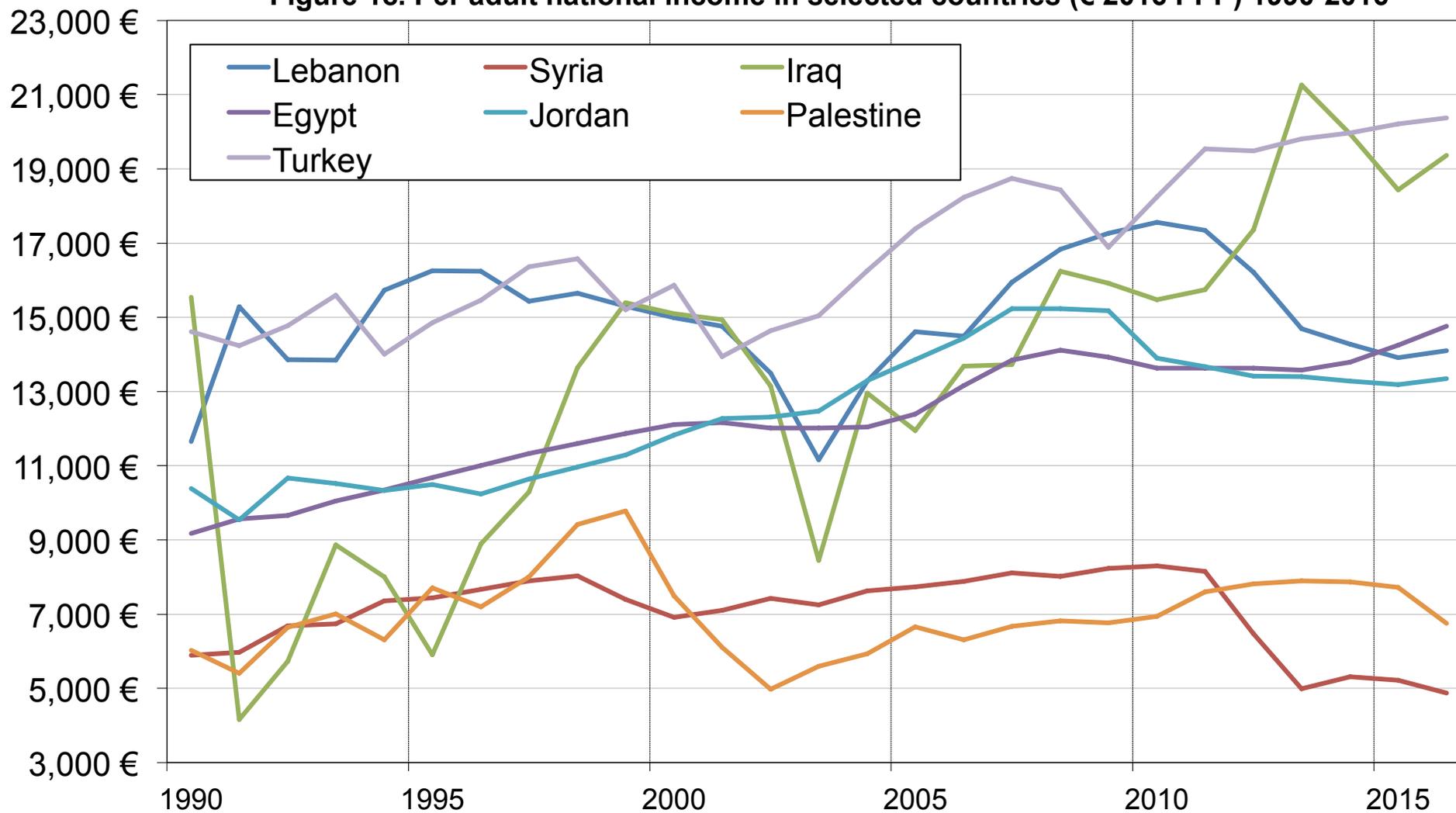
Per adult national income in Euro 2016 (Purchasing Power Parity). Adults are the individuals aged 20 and more.
Sources: WID.world

Figure 2a. Billionaires' wealth as a share of National Income
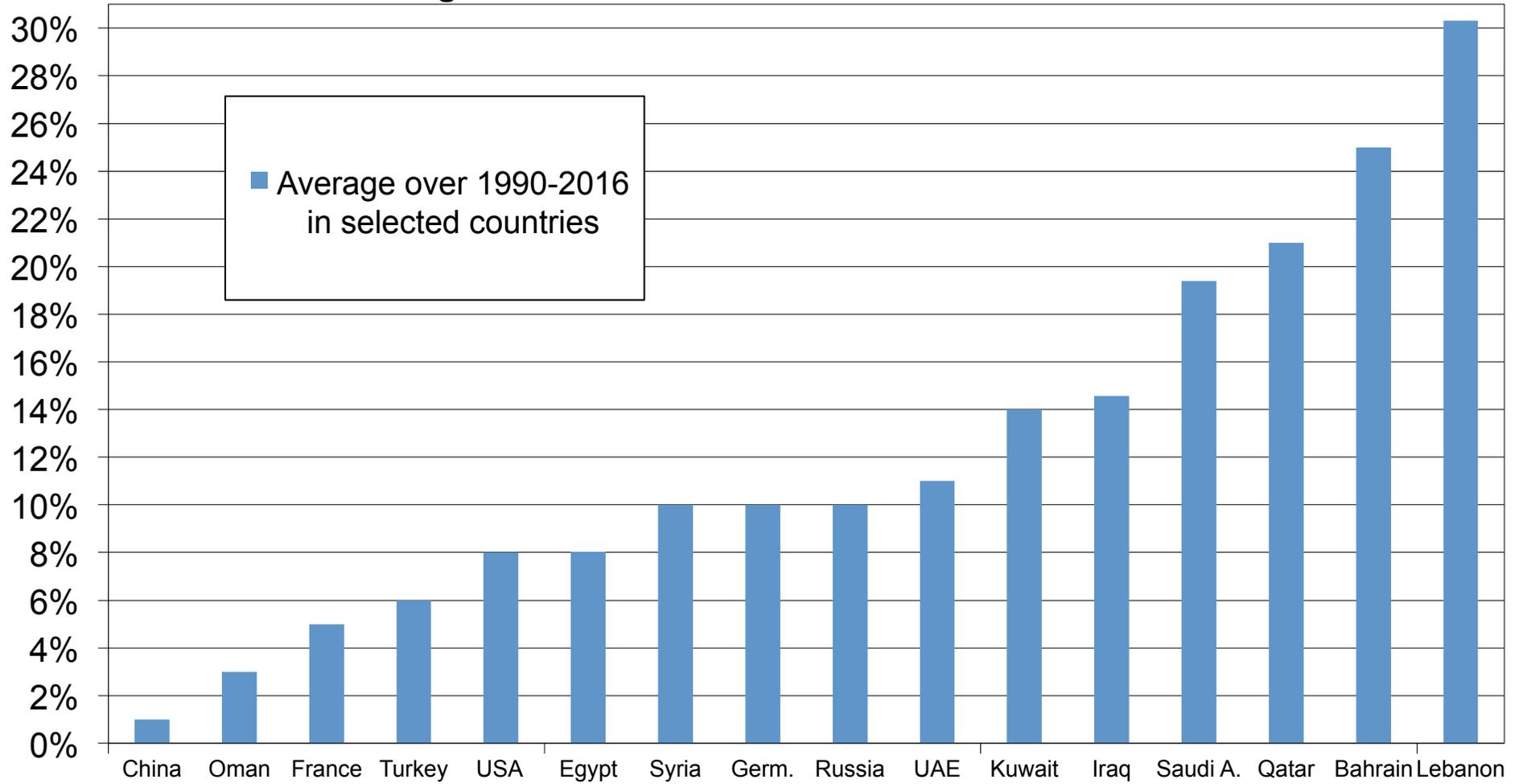
Total billionaire wealth as a share of total national income (measured at market exchange rates), average over for 1990-2016. Author's computation using rich lists from Forbes and Arabian Business magazines, for Middle Eastern countries.

Figure 2b. Billionaires' wealth as a share of National Income
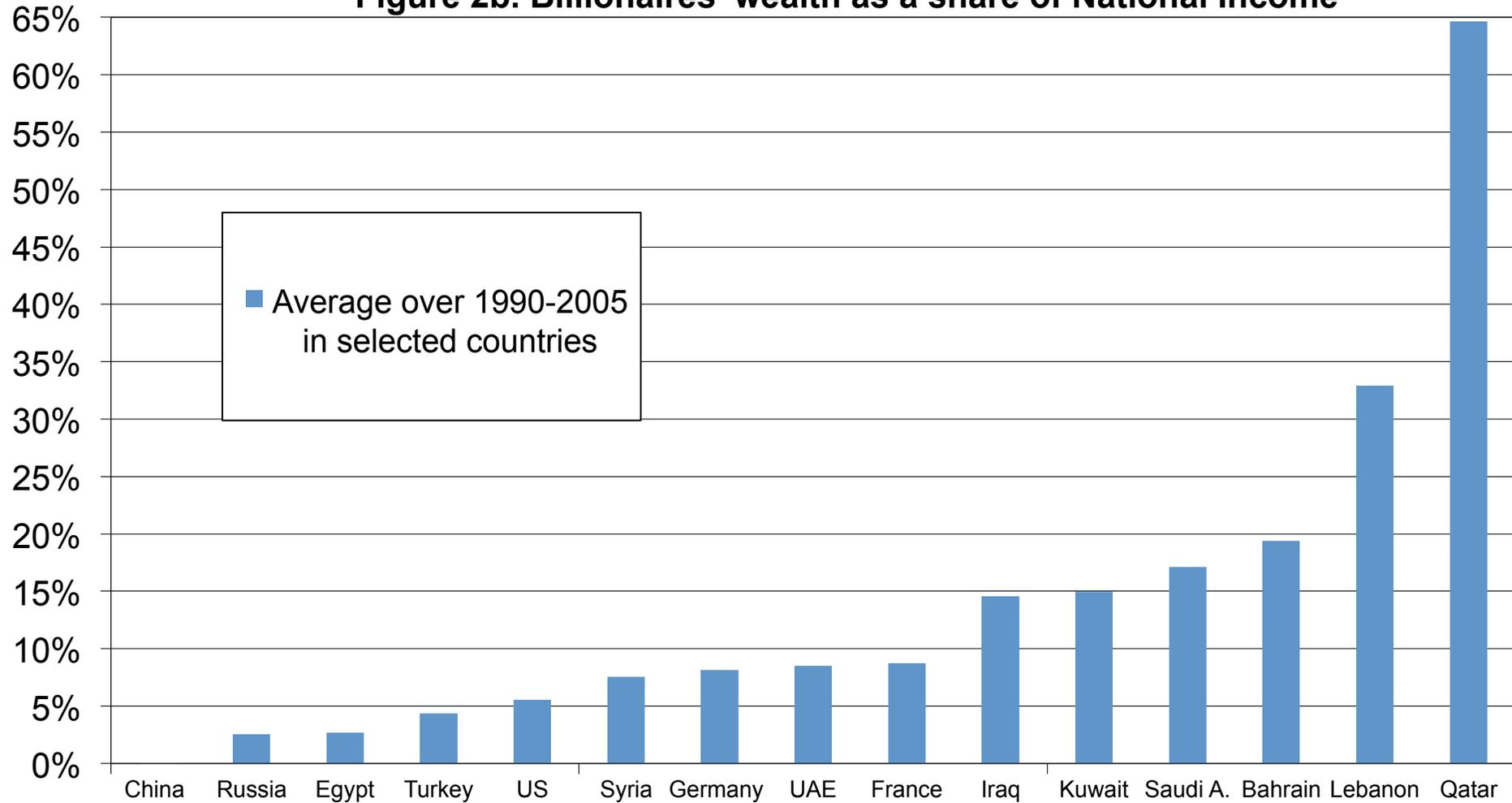
Total billionaire wealth as a share of total national income (measured at market exchange rates), average over for 1990-2016. Author's computation using rich lists from Forbes and Arabian Business magazines, for Middle Eastern countries.

Figure 2c. Billionaires' wealth as a share of National Income

Legend: Average over 2005-2016 in selected countries

Countries (left to right): China, Qatar, Oman, France, Turkey, Egypt, Syria, Germany, US, Kuwait, UAE, Saudi Arabia, Lebanon, Bahrain, Russia
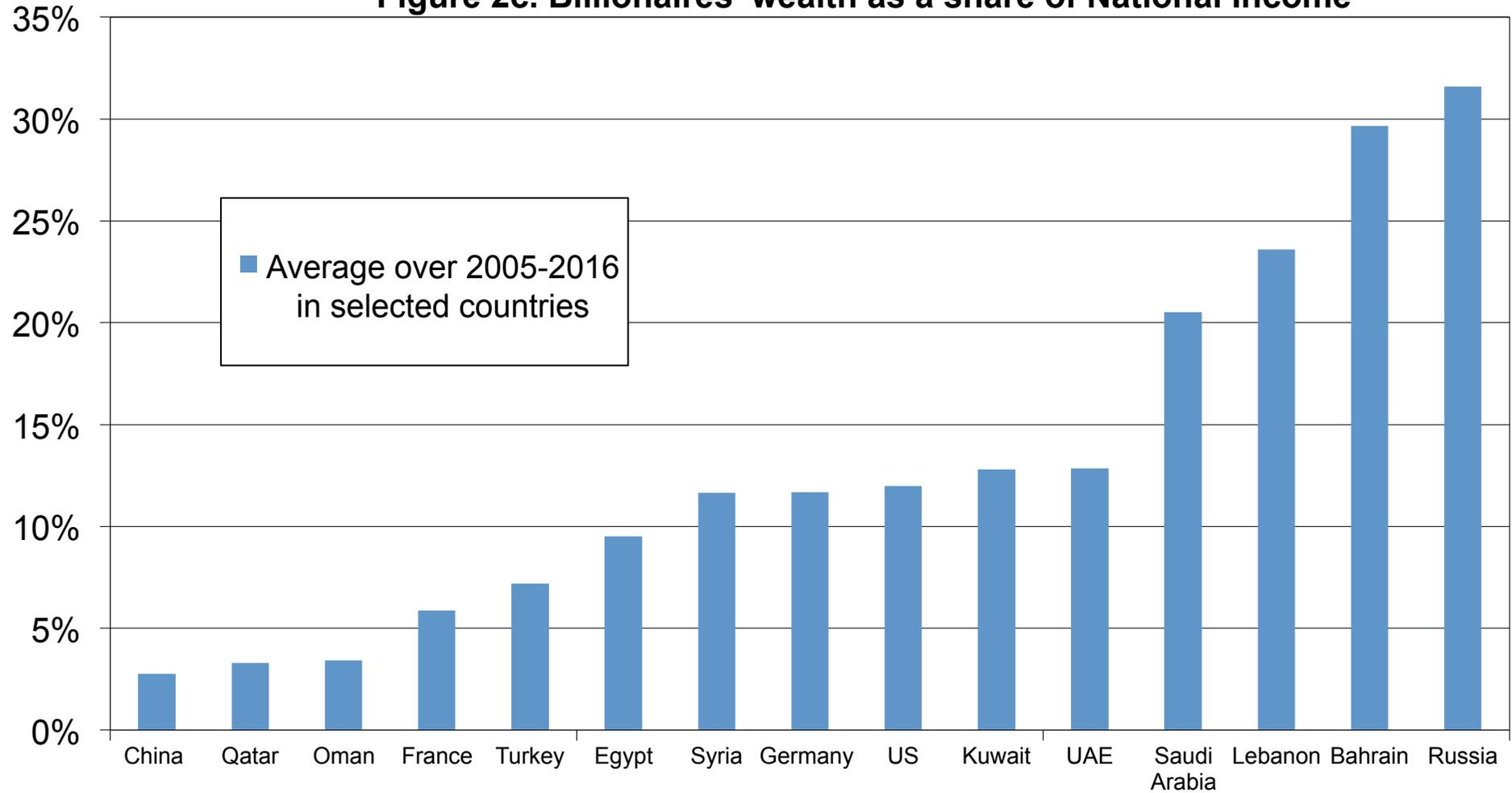
Total billionaire wealth as a share of national income (measured at market exchange rates), average over for 1990-2016. Author's computation using rich lists from Forbes and Arabian Business magazines, for Middle Eastern countries.

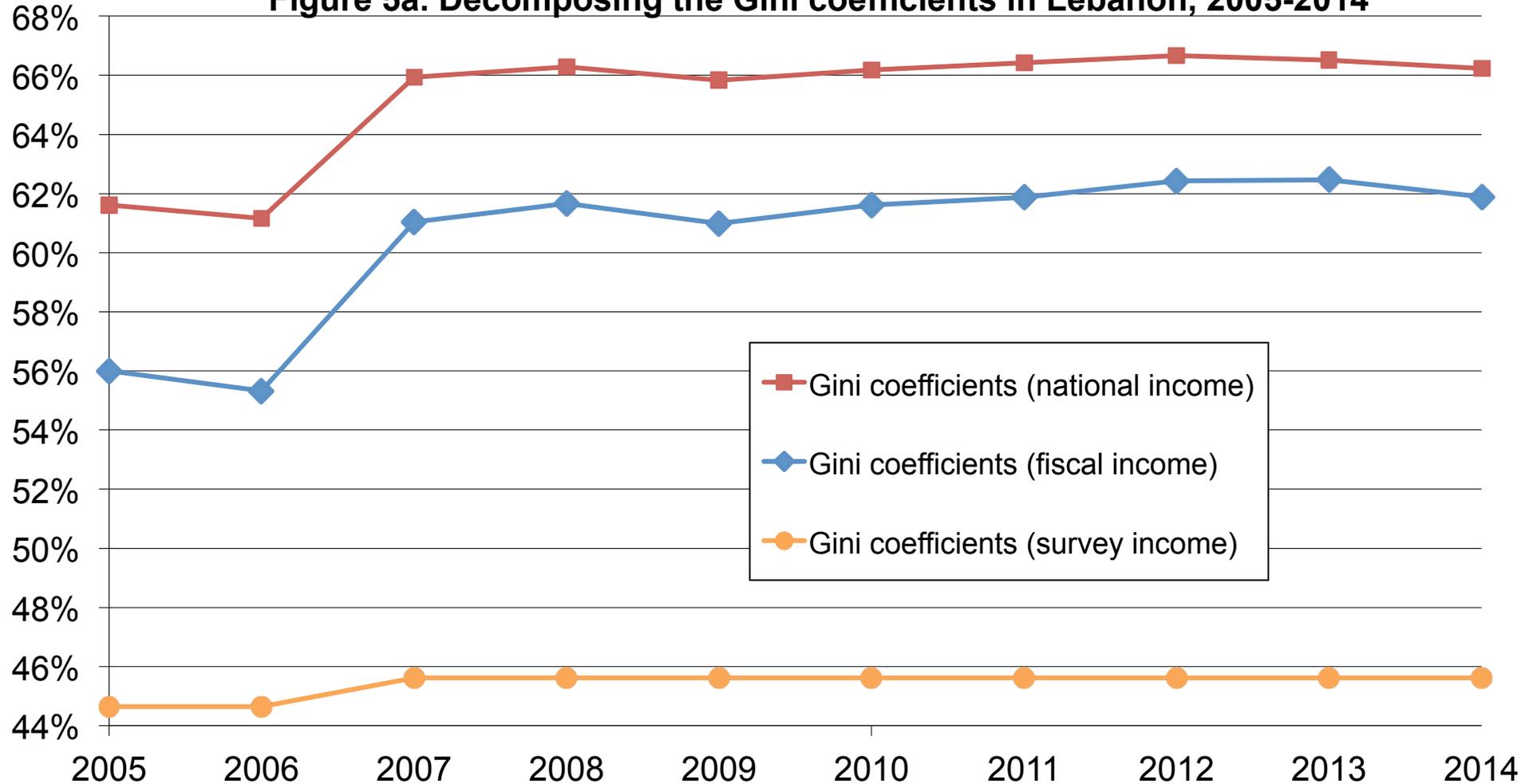**Figure 3a . Top 10 % income share in Lebanon, 2005-2014**
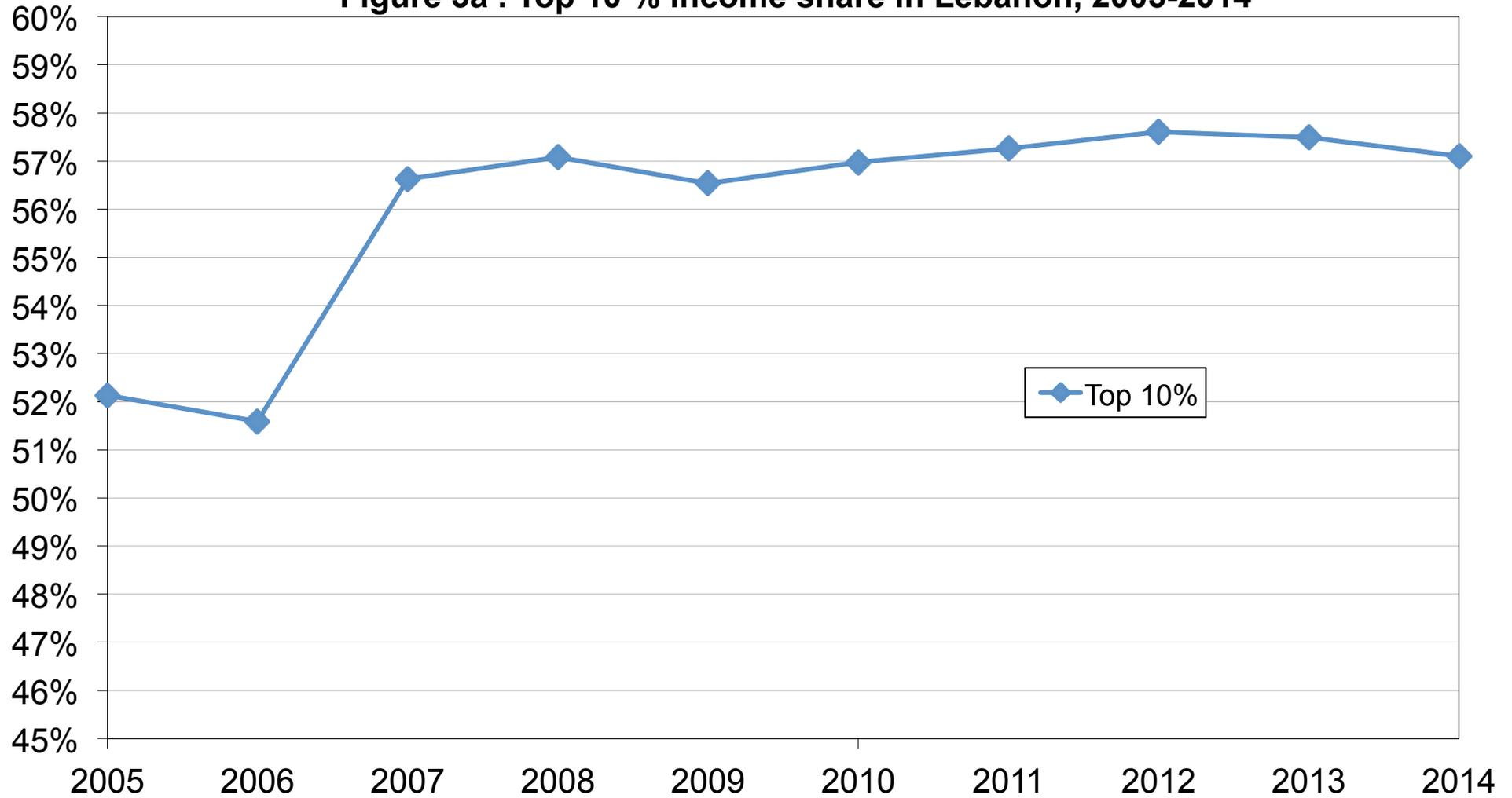
Distribution of national income among adults aged 20 and more. The final corrected estimates combine survey, fiscal, wealth and national accounts data. Equal-split-adults series (household income divided by the number of adults in the household for the bottom of the distribution).

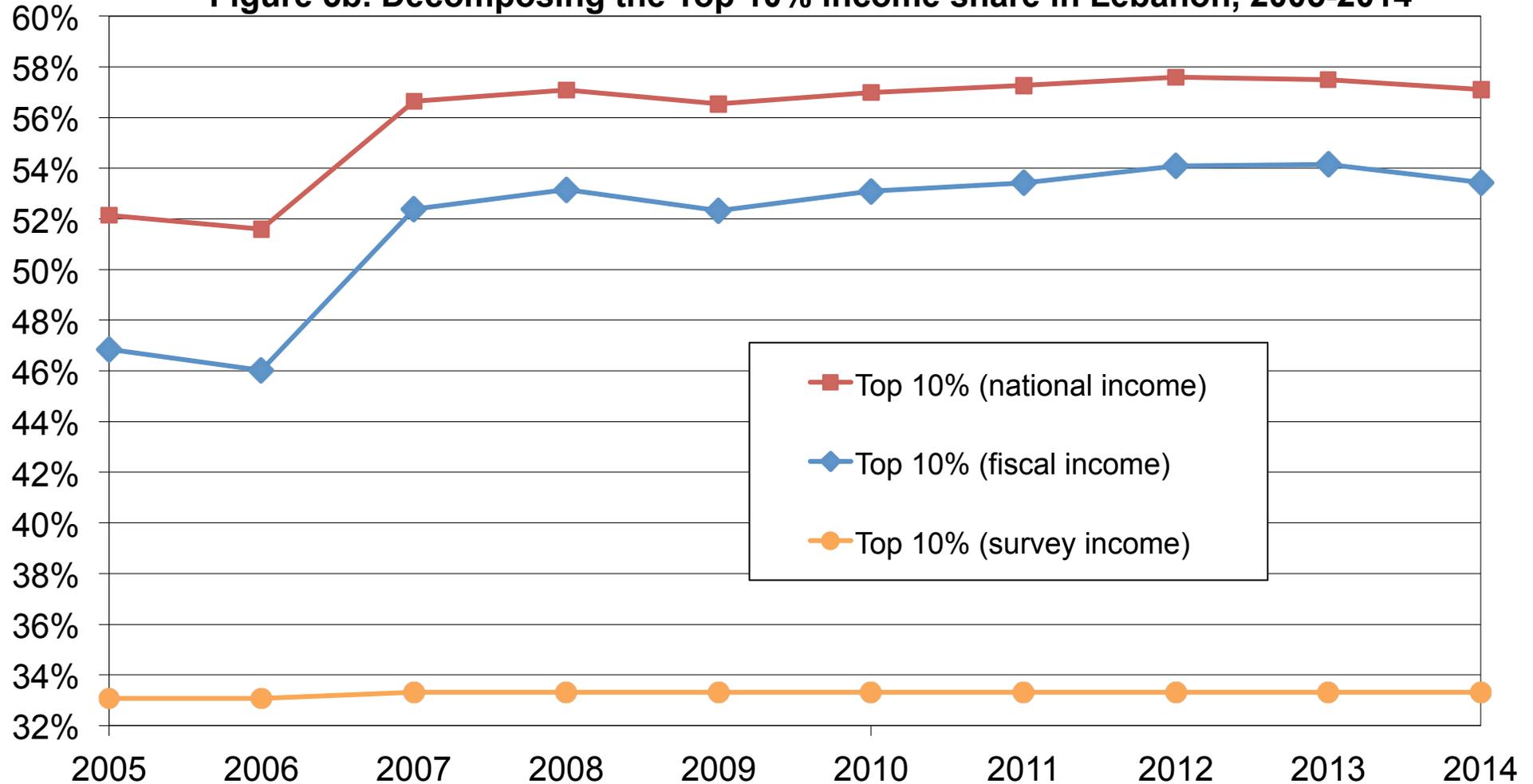# Figure 3b . Top 1% income share in Lebanon, 2005-2014

Distribution of national income among adults aged 20 and more. The final corrected estimates combine survey, fiscal, wealth and national accounts data. Equal-split-adults series (household income divided by the number of adults in the household for the bottom of the distribution).

Figure 3c. Income shares in Lebanon, 2005-2014
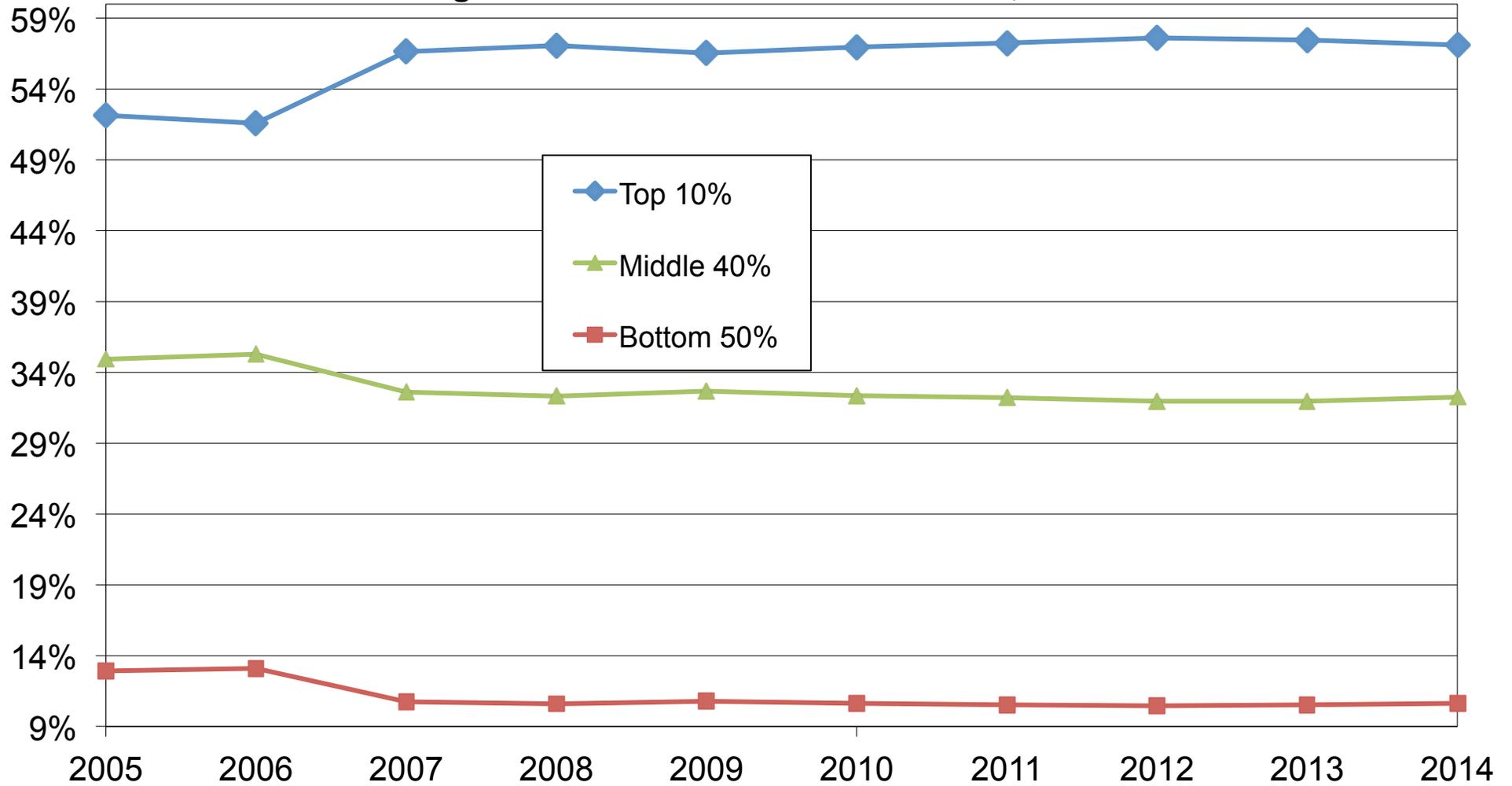
Distribution of national income among adults aged 20 and more. The final corrected estimates combine survey, fiscal, wealth and national accounts data. Equal-split-adults series (household income divided by the number of adults in the household for the bottom of the distribution).

Figure 4. Income shares in Lebanon 2005-2014: Top 0.1 % vs. Bottom 50 %
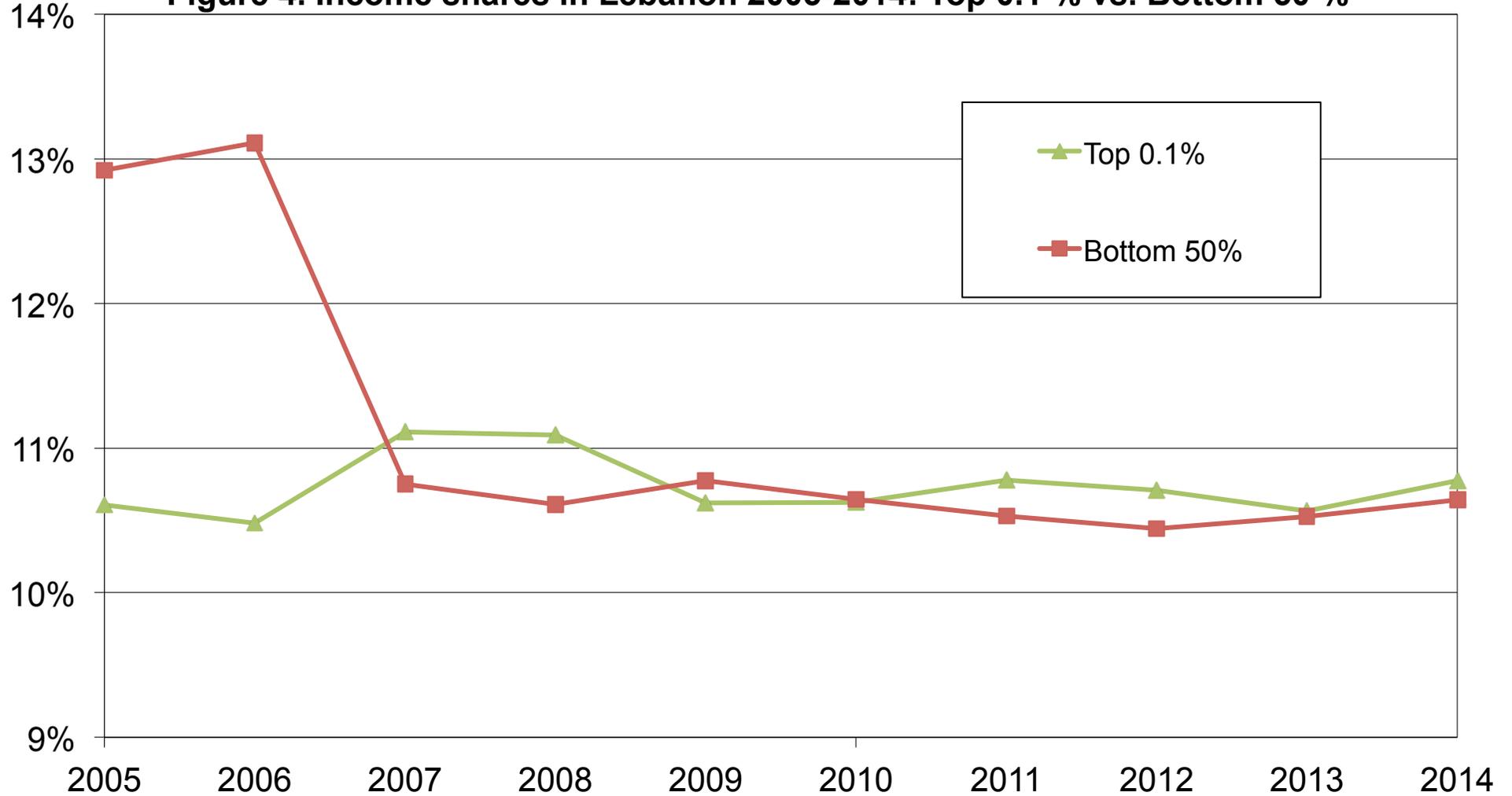
Distribution of national income among adults aged 20 and more. Corrected estimates combine survey, fiscal, wealth and national accounts data. Equal-split-adults series (household income divided by the number of adults in the household for the bottom of the distribution).

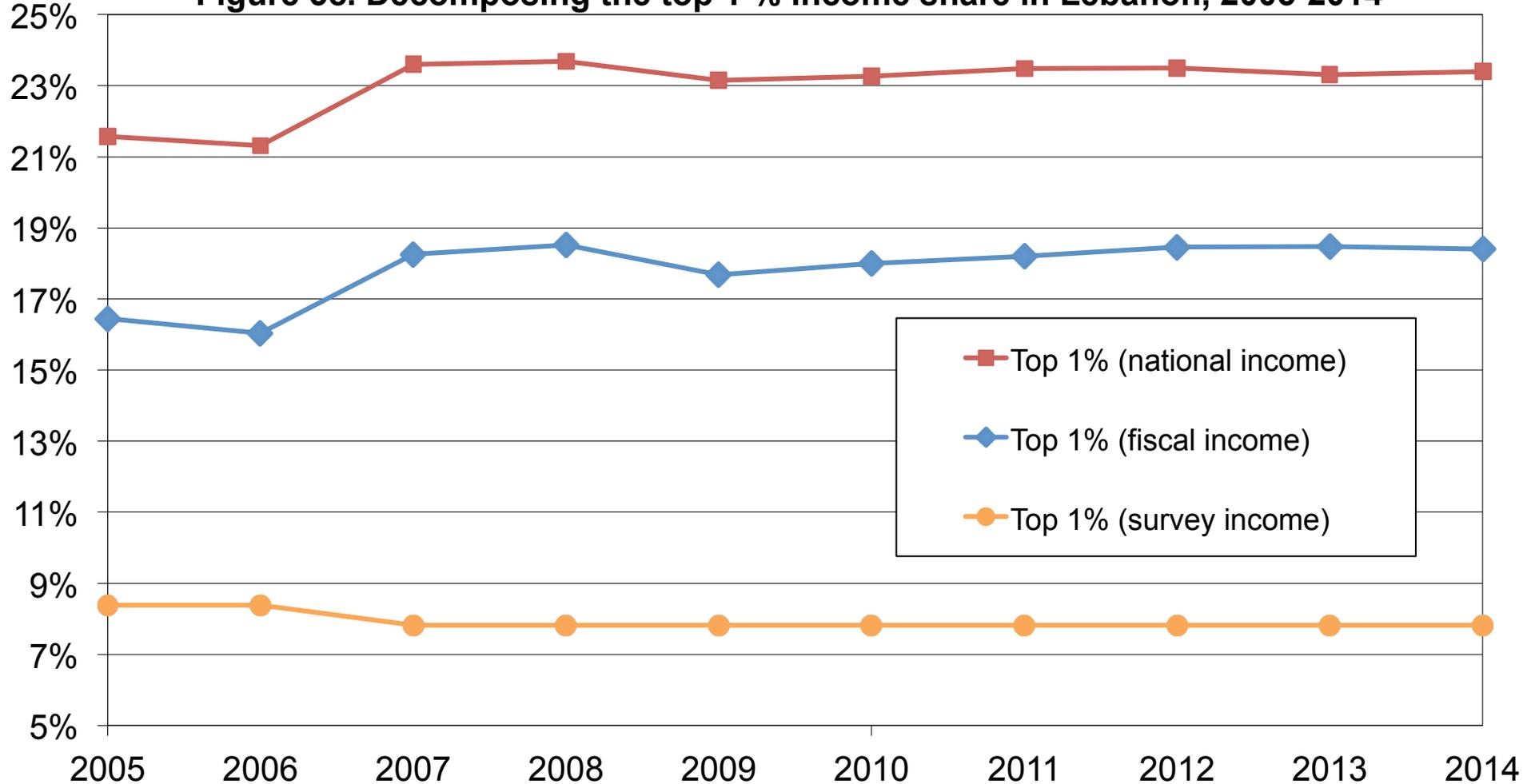# Figure 5a. Decomposing the Gini coefficients in Lebanon, 2005-2014

Distribution of income among equals-plit adults, aged 20 and more (household income divided by the number of adults in the household for the bottom of the distribution). National income estimates combine survey, fiscal, wealth and national accounts data, normalized to the total average income per adult. Fiscal income estimates combine survey and income tax data (but do not use wealth data to allocate tax-exempt capital income). Survey income series solely use self-reported survey data.

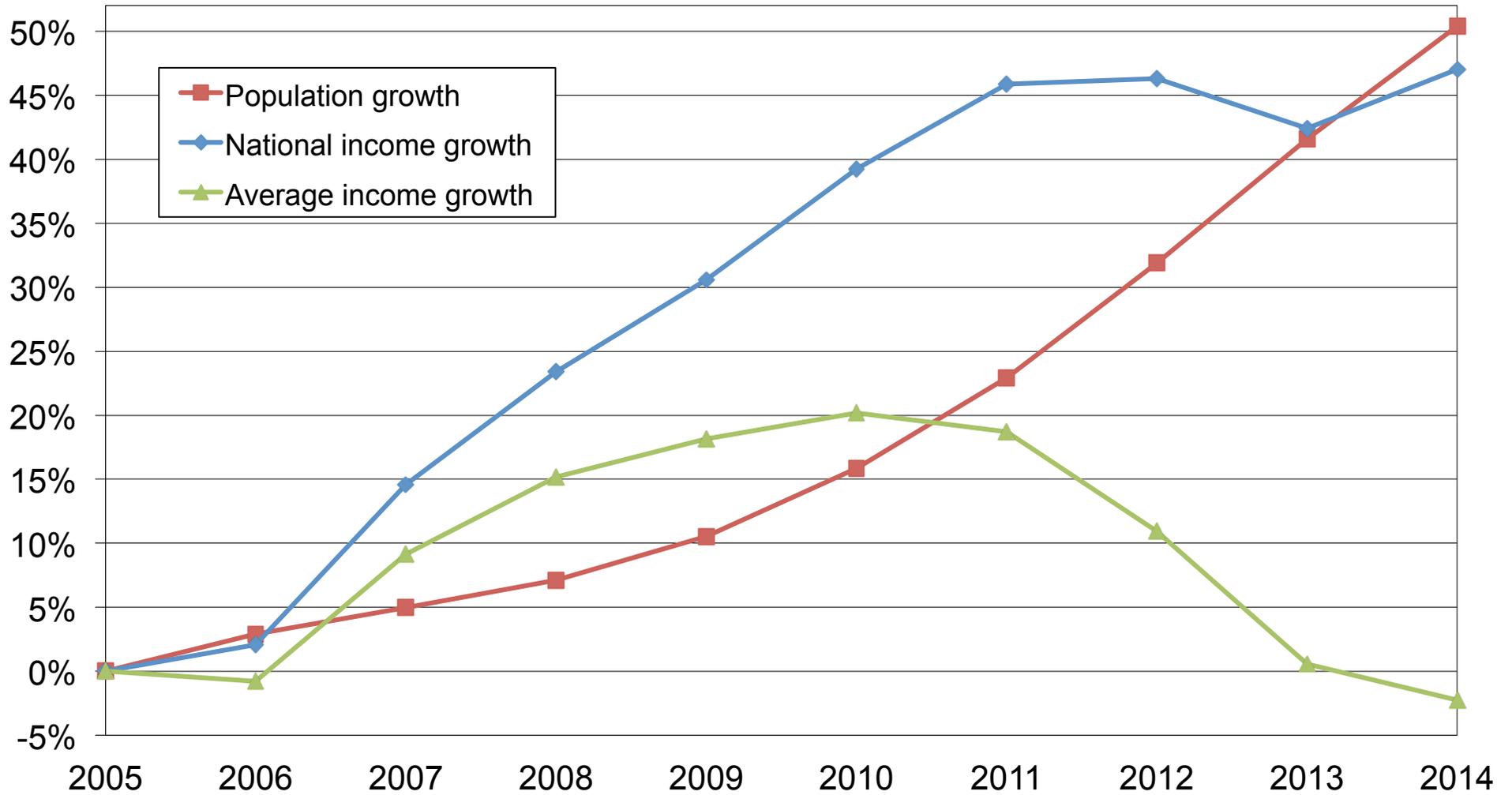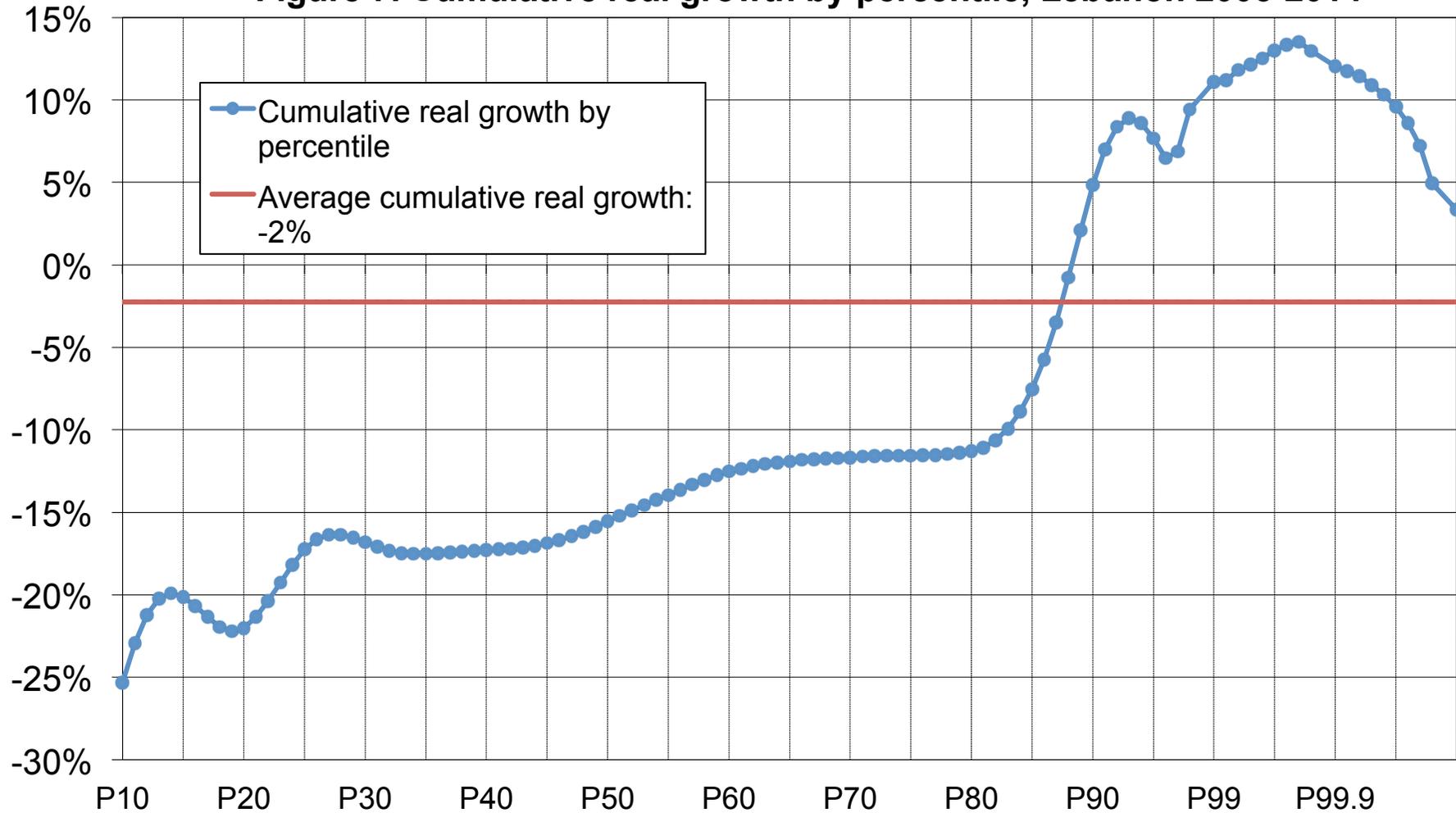**Figure 5b. Decomposing the Top 10% income share in Lebanon, 2005-2014**

Distribution of income among equals-plit adults, aged 20 and more (household income divided by the number of adults in the household for the bottom of the distribution). National income estimates combine survey, fiscal, wealth and national accounts data, normalized to the total average income per adult. Fiscal income estimates combine survey and income tax data (but do not use wealth data to allocate tax-exempt capital income). Survey income series solely use self-reported survey data.

Figure 5c. Decomposing the top 1 % income share in Lebanon, 2005-2014

Distribution of income among equals-plit adults, aged 20 and more (household income divided by the number of adults in the household for the bottom of the distribution). National income estimates combine survey, fiscal, wealth and national accounts data, normalized to the total average income per adult. Fiscal income estimates combine survey and income tax data (but do not use wealth data to allocate tax-exempt capital income). Survey income series solely use self-reported survey data.

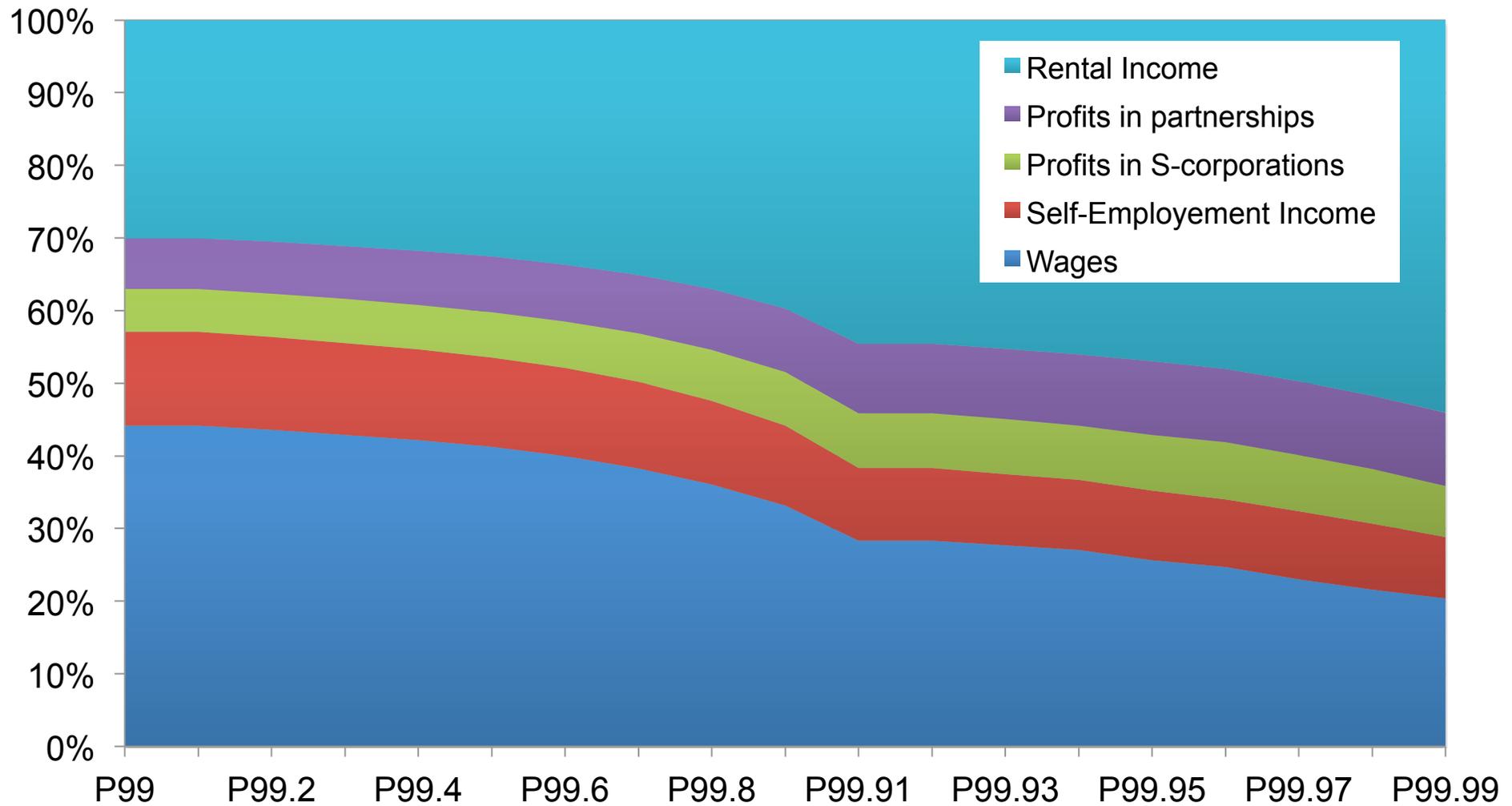# Figure 6 . Population vs income cumulative growth since 2005

Average income is the income by adult aged 20 and more. Source: WID.World

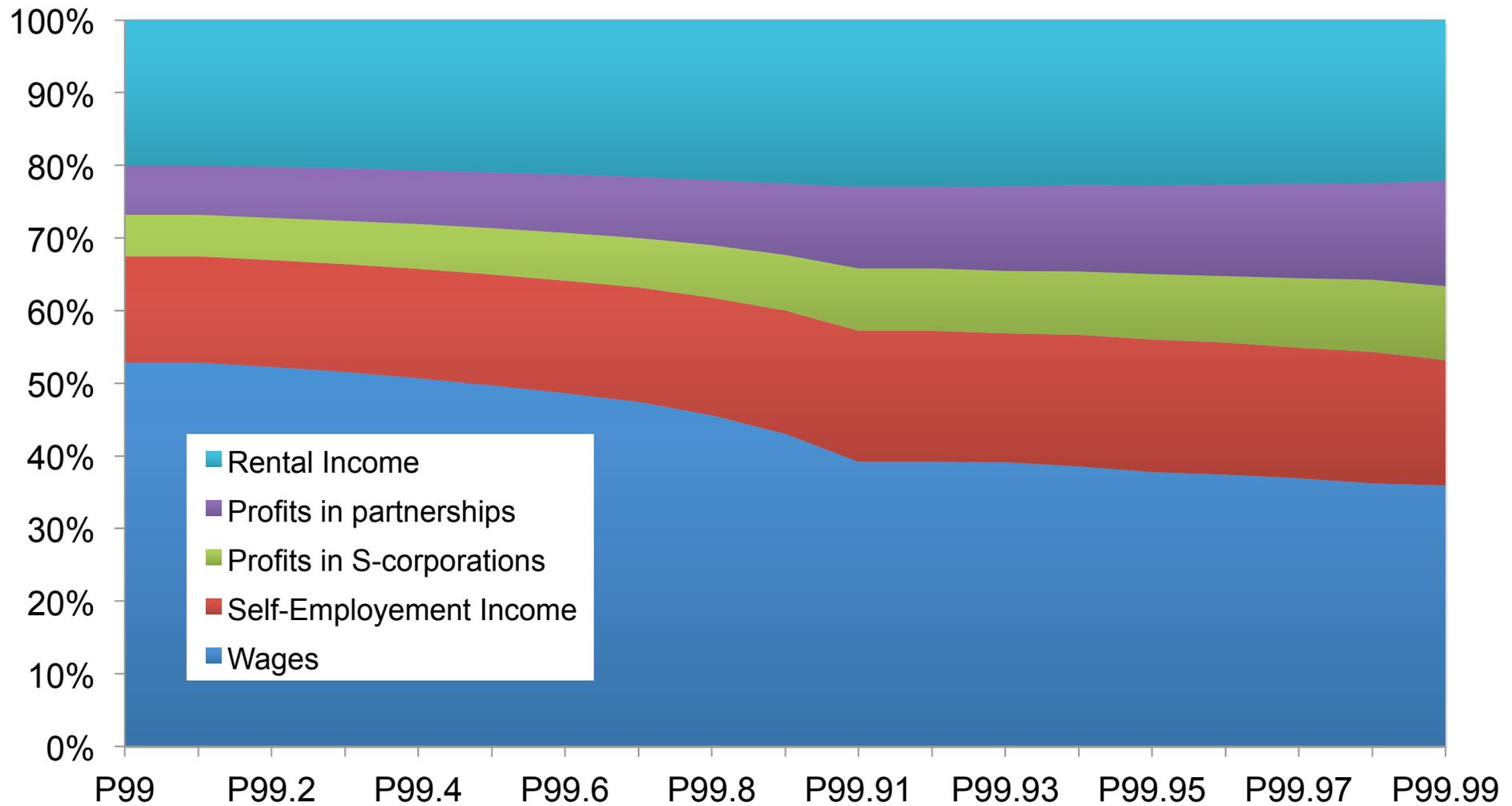# Figure 7. Cumulative real growth by percentile, Lebanon 2005-2014

Distribution of national income among equal-split adults aged 20 and more (household income divided by the number of adults in the household for the bottom of the distribution). The final corrected estimates combine survey, fiscal, wealth and national accounts data. Equal-split-adults series

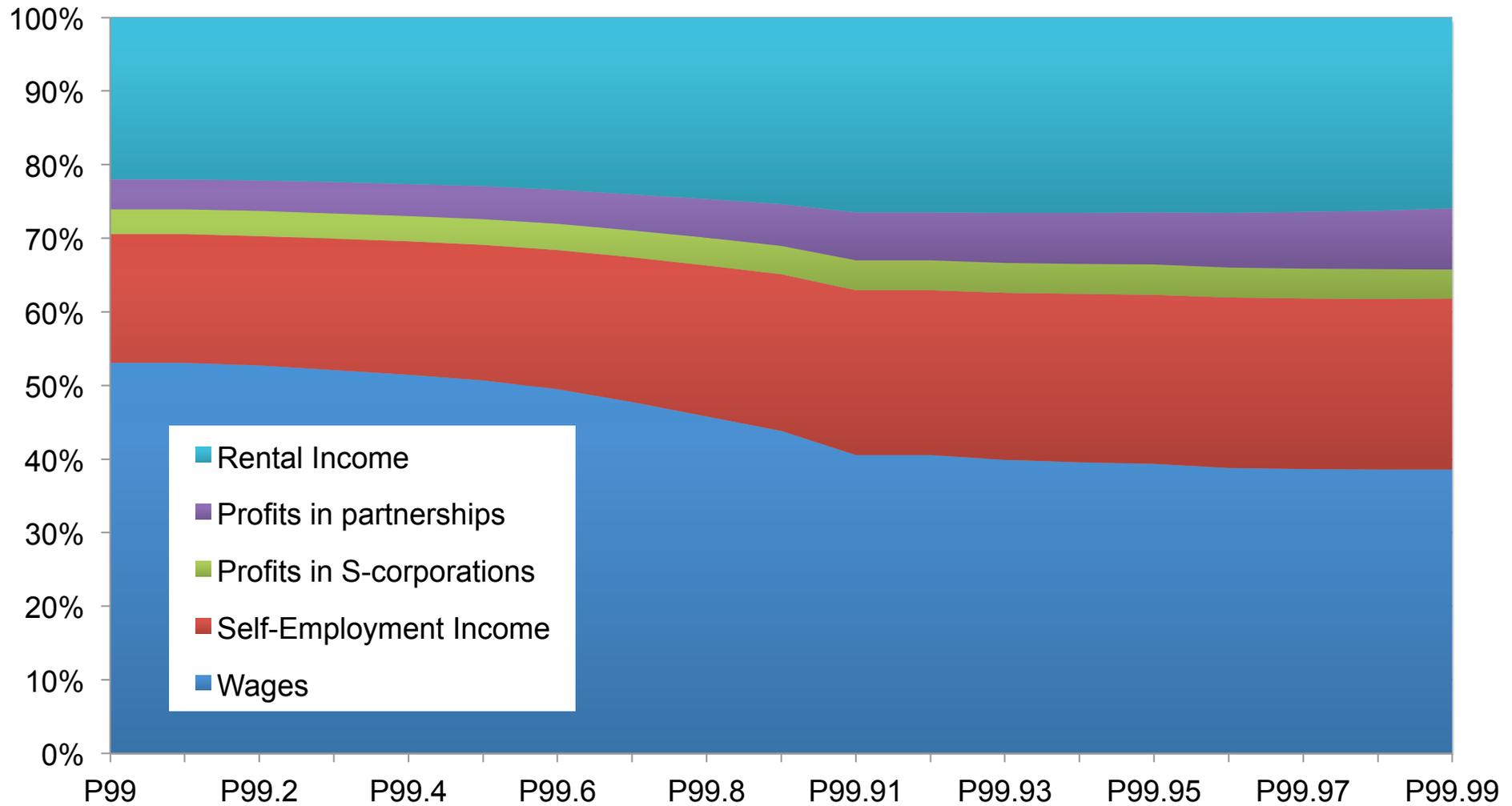# Figure 8a. Decomposition of top income by income categories, 2005

Legend:
- Rental Income
- Profits in partnerships
- Profits in S-corporations
- Self-Employement Income
- Wages

Figure 8b. Decomposition of top income by income categories, 2010

Legend:
- Rental Income
- Profits in partnerships
- Profits in S-corporations
- Self-Employement Income
- Wages

X-axis: P99, P99.2, P99.4, P99.6, P99.8, P99.91, P99.93, P99.95, P99.97, P99.99

Y-axis: 0% to 100%

Figure 8c. Decomposition of top income by income categories, 2014

Legend:
- Rental Income
- Profits in partnerships
- Profits in S-corporations
- Self-Employment Income
- Wages

Source: Author's computation using the fiscal micro files.

Table 1: Income thresholds and income shares in Lebanon 2014

Income group	Number of adults	Income threshold	Average income	Income share
Full Population	3,717,891	0 €	14,281 €	100.0%
Bottom 50%	1,858,946	0 €	3,039 €	10.6%
Middle 40%	1,487,156	5,946 €	11,517 €	32.3%
Top 10%	371,789	29,219 €	81,546 €	57.1%
incl. Top 1%	*37,179*	*123,001 €*	*334,163 €*	*23.4%*
incl. Top 0.1%	*3,718*	*451,314 €*	*1,585,240 €*	*11.1%*
incl. Top 0.01%	*372*	*2,213,178 €*	*8,548,434 €*	*6.0%*
incl. Top 0.001%	*37*	*11,720,846 €*	*47,116,808 €*	*3.3%*

Notes: This table reports statistics on the distribution of income in Lebanon in 2014 (expressed in PPP € 2016). The unit is the adult individual (20-year-old and over; income of married couples is splitted into two). In 2016, 1 euro = 1641 Lebanese pound (market exchange rate) or 172.7 pound (purchasing power parity). Income corresponds to pre-tax national income. Fractiles are defined relative to the total number of adult individuals in the population. Corrected estimates (combining survey, fiscal, wealth and national accounts data).

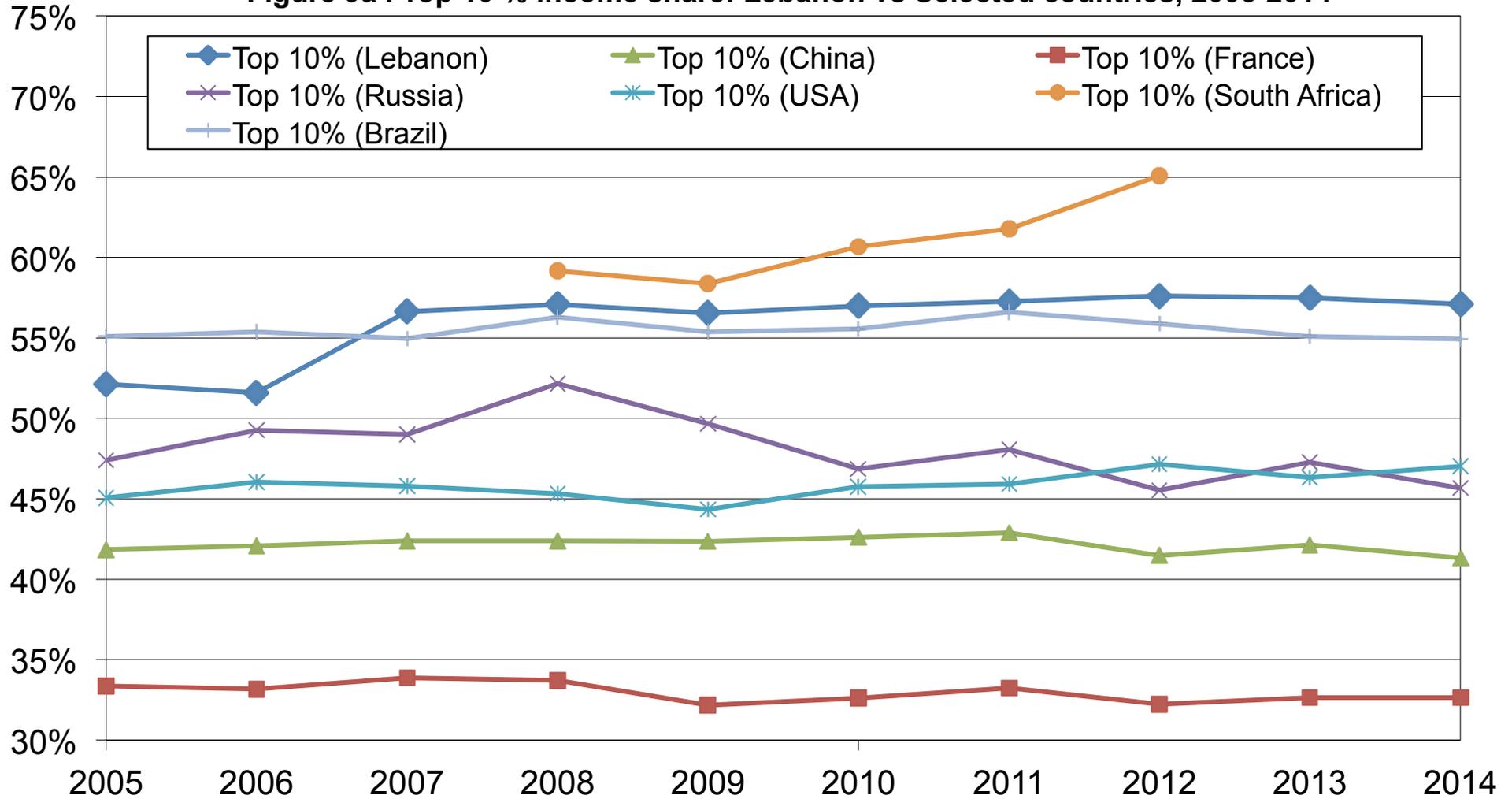**Table 2: Income thresholds and income shares in France 2014**

Income group	Number of adults	Income threshold	Average income	Income share
Full Population	51,721,510	0 €	35,220 €	100.0%
Bottom 50%	25,860,755	0 €	15,849 €	22.5%
Middle 40%	20,688,604	28,029 €	39,534 €	44.9%
Top 10%	5,172,151	59,144 €	114,816 €	32.6%
incl. Top 1%	*517,215*	*170,180 €*	*380,371 €*	*10.8%*
incl. Top 0.1%	*51,722*	*574,156 €*	*1,303,123 €*	*3.7%*
incl. Top 0.01%	*5,172*	*2,110,799 €*	*4,578,540 €*	*1.3%*
incl. Top 0.001%	*517*	*7,355,648 €*	*14,087,815 €*	*0.4%*

Notes: This table reports statistics on the distribution of income in France in 2014 (expressed in PPP € 2016). The unit is the adult individual (20-year-old and over; income of married couples is splitted into two). Income corresponds to pre-tax national income. Fractiles are defined relative to the total number of adult individuals in the population. Corrected estimates (combining survey, fiscal, wealth and national accounts data). Source: WID.world
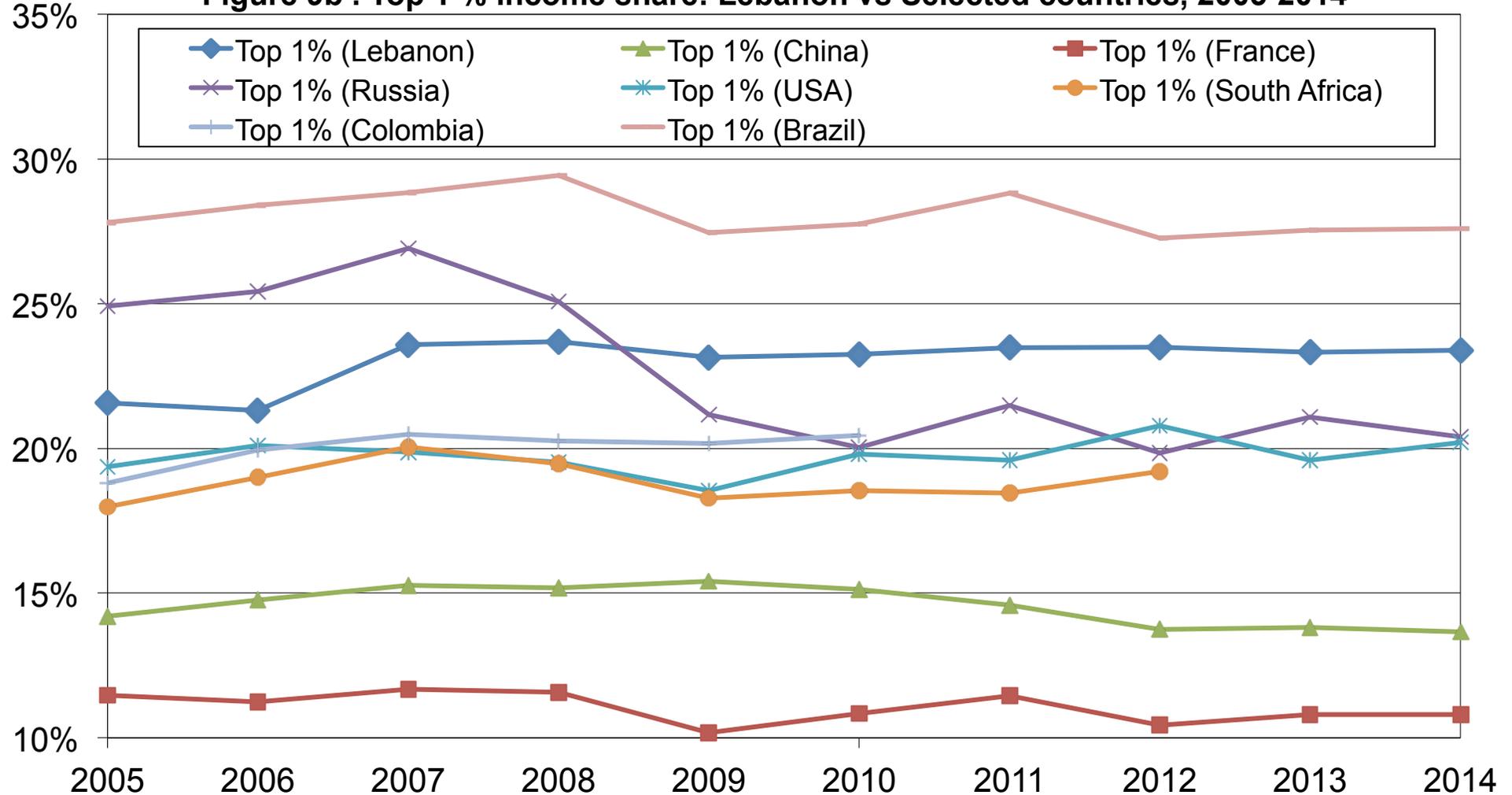
Figure 9a . Top 10 % income share: Lebanon vs Selected countries, 2005-2014

Legend:
- Top 10% (Lebanon)
- Top 10% (Russia)
- Top 10% (Brazil)
- Top 10% (China)
- Top 10% (USA)
- Top 10% (France)
- Top 10% (South Africa)

Distribution of pretax national income (before taxes and transfers, except pensions and unempl. insurance) among equal-split adults (income of married couples divided by two) for all countries except South Africa. For South Africa, distribution of fiscal income.
Sources for Brazil, China, Colombia, France, Russia, South Africa and USA: WID.world.

Figure 9b . Top 1 % income share: Lebanon vs Selected countries, 2005-2014

Legend:
- Top 1% (Lebanon)
- Top 1% (China)
- Top 1% (France)
- Top 1% (Russia)
- Top 1% (USA)
- Top 1% (South Africa)
- Top 1% (Colombia)
- Top 1% (Brazil)

Distribution of pretax national income (before taxes and transfers, except pensions and unempl. insurance) among equal-split adults (income of married couples divided by two) for all countries except South Africa. For Colombia and South Africa, distribution of fiscal income. Sources for Brazil, China, Colombia, France, Russia, South Africa and USA: WID.world.

# Figure 10a. Wealth Shares in Lebanon, averages over 1990-2016
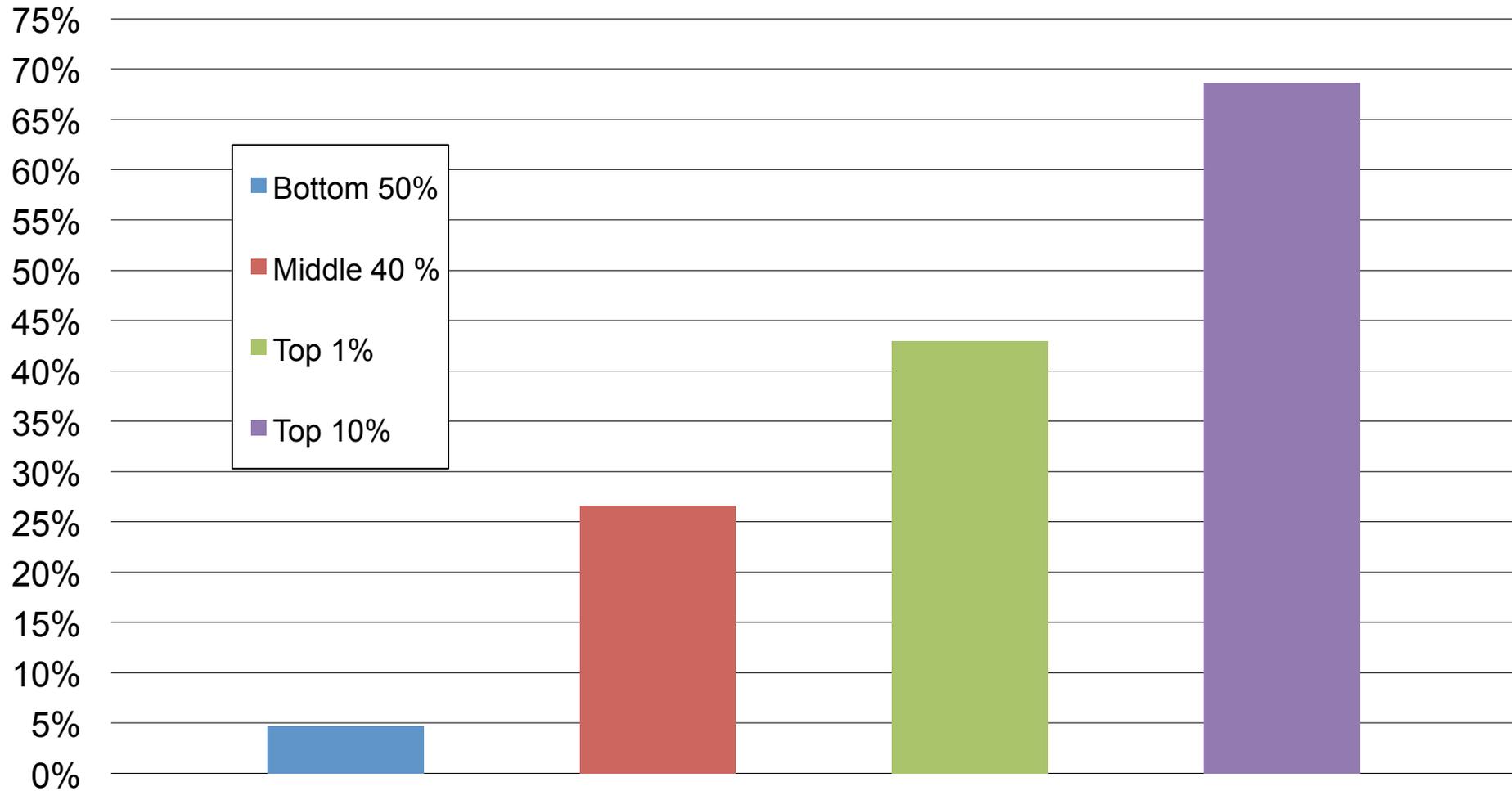
Distribution of personal wealth among adults. Estimates obtained by combining billionaire data for Lebanon, generalized Pareto interpolation techniques and normalized WID.world wealth distributions.

Figure 10b. Top 1 % wealth share: Lebanon vs selected countries
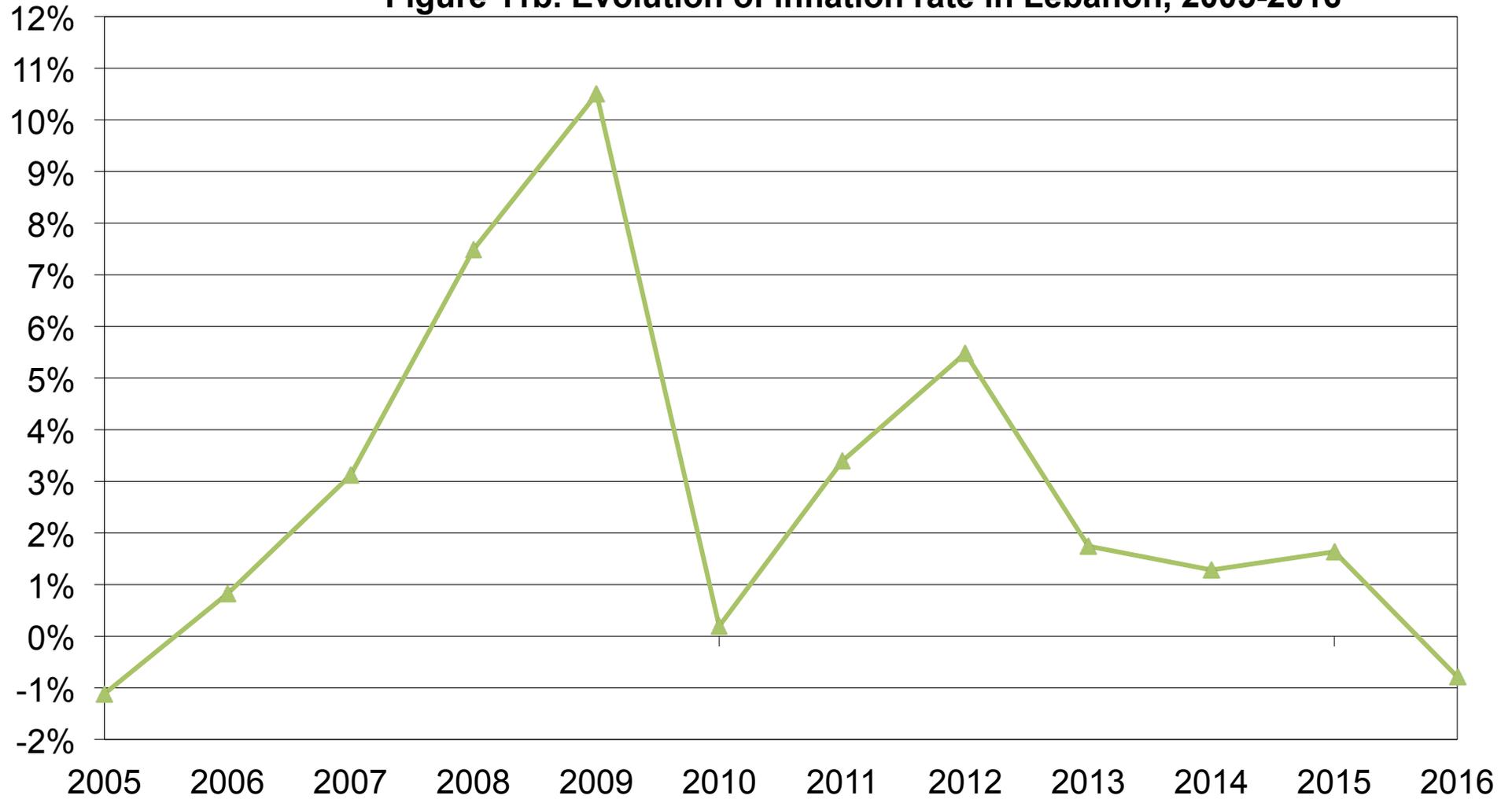## Average over 2005-2014
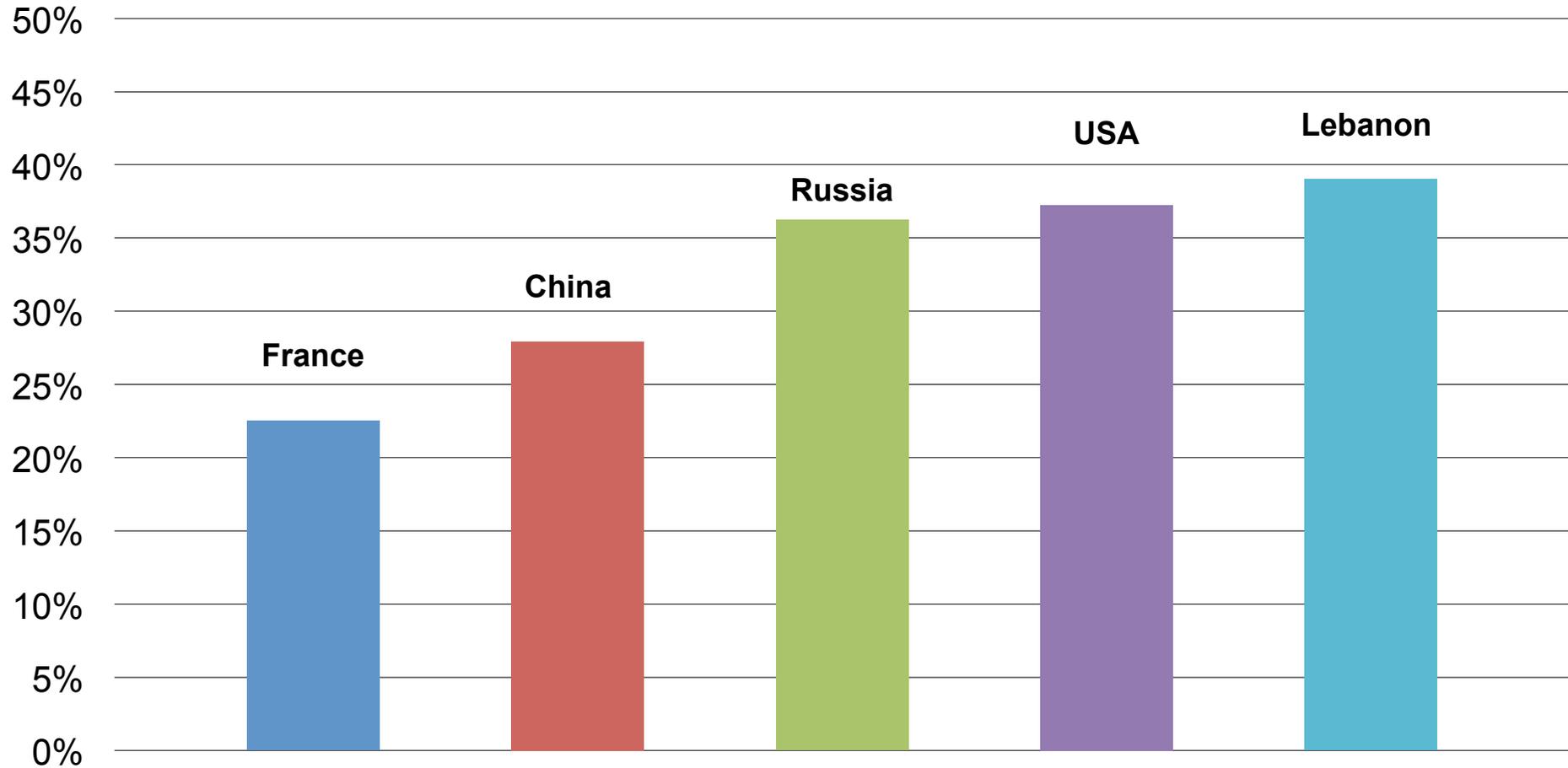
Distribution of personal wealth among adults aged 20 and more. Estimates obtained by combining billionaire data for Lebanon, generalized Pareto interpolation techniques and normalized WID.world wealth distributions. Sources for other countries: WID.world

Figure 11a. Evolution of inflation rate in Lebanon, 1990-2016
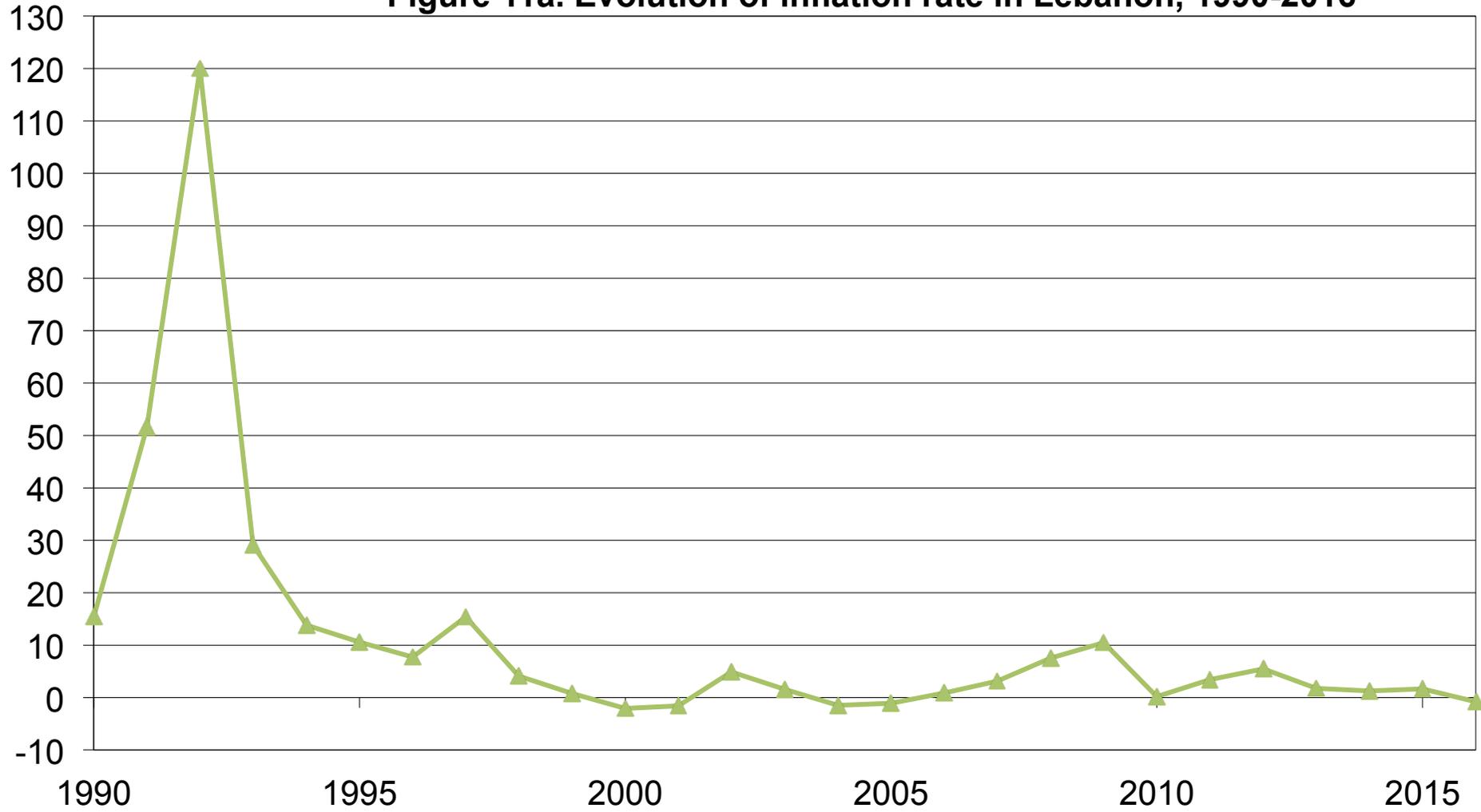
GDP deflator (annual %). Source: World Bank Data

Figure 11b. Evolution of inflation rate in Lebanon, 2005-2016

GDP deflator (annual %). Source: World Bank Data