Wealth Inequality and Cost of the Poverty Gap in Arab Countries:

The Case for a Solidarity Wealth Tax

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The notoriously high inequality of wealth in the Arab region, and unrelenting poverty especially amid the onslaught of COVID-19, highlights the need for a stronger civic solidarity and the shared responsibility of the public, the private sector and the state for uplifting the marginalized people out of poverty. This study undertook to measure the dispersion of wealth within and across Arab region countries, estimate the extent of poverty in the pre and post COVID-19 states, and assess the feasibility of eradicating poverty by introducing a solidarity wealth tax.

We apply advanced parametric methods to wealth statistics from the Forbes billionaires lists and Credit Suisse wealth reports, and to poverty projections from PovcalNet and UNDESA, to identify the incidence of wealth and poverty, and compute the required poverty-eradicating tax on top wealth.

This analysis offers many important estimates for the regional wealth distribution. The region's 37 billionaires (all men) hold nearly 108 billion in 2019 current USD. This is 4% of the region's GDP and is comparable to the GDP of Morocco, or higher than the combined GDP of the Arab region's two largest LDCs, Yemen and the Sudan. We also estimate this is equivalent to the real wealth of the region's poorest 110 million adults (46% of the adult population).

The Arab region holds $5.8 trillion worth of household wealth according to our calculations from Credit Suisse data in 2019. The top 10% of the population account for $4.4 trillion of that according to our calculations. The bottom 46% have an average wealth of $975 while the top 10% have an average wealth of $182,939. The bottom 46% are made up primarily of the nationals of LDCs, while the top 10% largely hail from GCC countries.

The pre COVID-19 cost of covering the poverty gap in 2019 using most recent nationally defined poverty lines was $38.6 billion per year for the 13 countries in the region where data is available and whose population constitutes over 90% of the non-GCC Arab population. Most of the cost is in Sudan, Egypt, Yemen and Syria. Factoring in the poverty impact of COVID-19, this figure rises to $45.1 billion in 2020. These numbers imply a solidarity wealth tax of around 2.6% would cover the cost of closing the poverty gap in these countries in 2019. However, our proposal is mainly relevant for middle income countries where our estimates of the required wealth tax averages 0.9% in 2019 and rises to 1.2% in 2020 when the COVID-19 impact on headcount poverty and wealth is taken into account.

Since tax buoyancy in the region is low relative to other regions of the world with similar income per capita, there is potential for the implementation of this tax. High debt and widening deficits in these countries also make tax reforms an urgency. Efforts in mobilizing revenues have largely relied on regressive indirect taxation or broadening the tax base. Most tax reforms across the region do not target wealth and tend to

burden the poor and the middle class more than the richest part of population. Assessing the wealth of the ultrawealthy and the potential of a solidarity wealth tax is thus still unexplored (ESCWA 2019b).

Tax authorities should implement inspection and enforcement mechanisms to design appropriate wealth tax policies with a focus on property taxes and mitigate rampant tax evasion. A key entry point for this is the filing of individual income taxes for all eligible individuals and designing the tax forms in a way to capture estimates of taxable wealth. This would improve poverty targeting as ministries of finance, social affairs and related domains could target their support systems with consideration for the subjects' accumulated wealth, not only income streams. The current COVID-19 crisis makes these measures all the more relevant. They would help securing fiscal space to support rising social and economic costs of recession and compensate for recent fiscal responses relaxing taxes on small businesses and the middle class.

I. Introduction

The juxtaposition of extreme wealth and destitution is notoriously on display in the Arab region due to, on the one hand, the concentration of oil wealth and, on the other hand, natural adversities, lack of public infrastructure and safety nets, and the recurrence of conflict (ESCWA and ERF, 2019). Wealth differences between the Gulf Cooperation Council (GCC) countries and the conflict-stricken neighbors including Sudan, Syria and Yemen are severe. At the same time, information on wealth distribution is sparse, not least because of rampant wealth hiding and tax evasion. The Panama Papers and Offshore Leaks offer a glimpse of the problem, linking thousands of regional residences, entities and officers to offshore accounts. Taking into account the hard-to-measure ultrawealthy, researchers have called the Middle East the most unequal world region (Alvaredo and Piketty 2014; Assouad 2017; van der Weide et al. 2018; Alvaredo et al. 2019).

In view of the lacking concrete information on top wealth, and the apparent between-country polarization of wealth in the region, our study contributes by estimating the full distribution of wealth for residents within and across countries, and report on wealth shares held by various quantile groups and on wealth incidence across countries. Secondly, we contribute novel estimates of the extent of poverty based on national poverty lines in the region and the cost of eradicating it, both pre and post COVID-19. Finally, we propose the introduction of a solidarity tax on the wealthiest residents to eradicate poverty, in recognition of the need for stronger civic solidarity and of the shared responsibility of the public, the private sector and the state for uplifting the marginalized people out of poverty. We estimate the appropriate tax rate across the region's MICs and LDCs.

The rest of the study is organized as follows. Section II introduces our data and methods for estimating wealth distribution in the region and the cost of closing the poverty gap. Section III presents the main results of estimation. Finally, section V concludes with a discussion of key lessons learnt and potential limitations.

II. Data and Methods

This study relies on several specialized sources of data on the distribution of wealth and incomes in the Arab region, and on two advanced parametric methods for estimating the distribution of wealth, and the cost of eradicating poverty. These data and methods are briefly introduced next.

Data sources

Information on people's wealth is notoriously poor. This is because of the heterogeneity of financial, material and intangible capital that individuals amass to hold their savings, and because of the poor inventory of these types of capital and uncertainty over their value. These measurement problems affect different parts of the wealth distribution differently. While the poor are often cut off from the formal

financial markets because of capital requirements, the ultrawealthy avail themselves of various schemes and instruments to optimize their capital portfolio, limit the risks of expropriation, and minimize their tax liability. The recent release of the so-called Offshore leaks and Panama papers has offered a glimpse at the extent of the wealth stow-away and tax evasion problems in the region. 3,963 postal addresses, 10,115 entities, 6,369 officers, and 354 intermediaries referenced in the leaked files hail from the Arab region.[1]

Because of these problems, neither national accounts nor tax authorities are reliable sources of data on national private wealth, particularly on the distribution of wealth across residential units. Household budget surveys, meanwhile, are typically not designed to provide a thorough inventory of households' asset holdings and their market values. The urgency of data confidentiality when it comes to wealth complicates matters.

That is why existing research has typically used a small number of authoritative data sources on individuals' wealth. The Forbes magazine's annual rich lists have emerged as reliable snapshots of the tops of the global and national wealth distributions, facilitating the tracking of the fortunes of the ultrawealthy over time. Forbes relies on a variety of data sources including self-reporting, and measures wealth as "all types of assets: stakes in public and private companies, real estate, art, yachts, planes, ranches, vineyards, jewelry, car collections and more. We factored in debt and charitable giving [...] To value private businesses, we couple revenue or profit estimates with prevailing price-to-sales or price-to-earnings ratios for similar public companies and apply a 10% discount, or more in cases where information is scarce." Wealth belonging to a member's immediate family is included "if the wealth could be traced to a living founder of the fortune" (Wang 2019). In this study we use Forbes' data to survey the Arab region's billionaires as of 2019.

According to the Forbes Billionaires list dated March 2019, there were 27 billionaires in the Arab region, excluding ruling families and heads of states, who are omitted by design. To this count we can add the 10 Saudis who were included in the year-2017 billionaires list but were subsequently removed for logistical reasons. These 37 billionaires – notably all men[2] – hold among themselves $107.6 billion (real year-2019 USD). This figure amounts to 4.0% of the region-wide annual gross domestic product (GDP of $2.7 trillion in 2018), and compares to the GDP of Morocco ($117.9 billion) and is significantly higher than the combined GDP of the region's two largest LDCs, Yemen and Sudan ($26.9 billion and $40.8 billion in 2018, respectively).

Unfortunately, Forbes lists are restricted to the several dozen ultra-wealthy, and are known to be selective and non-representative. For our study of the full distribution of wealth and the prospect of wealth taxation, we need more consistent data on countries' all private wealth. In 2010 Credit Suisse started compiling descriptive statistics of aggregate private wealth in all countries worldwide, and this annual effort has given rise to a balanced panel dataset tracking the year-to-year evolution of the level and distribution of national wealth. Credit Suisse defines wealth as "marketable value of financial assets plus non-financial assets (principally housing and land) less debts" (Credit Suisse 2019b:4). According to this definition, the average national wealth Gini coefficient is 73.6 in Arab countries compared to 73.1 across other world countries. Meanwhile, two Arab countries are reportedly among the top 20 wealth-unequal countries globally.[3]

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[1] This represents 2.6% of the total 149,807 addresses, 3.3% of the 307,181 entities, 3.0% of the 212,540 officers, and 1.6% of the 21,730 intermediaries with a known country referenced in the files.
[2] In 9 of the 37 cases, wealth is attributed to the man and his immediate family.
[3] The wealth Gini coefficient is 81.9 in Lebanon and 83.4 in Saudi Arabia. Other top countries are: Antigua and Barbuda (82.3); Bahamas (82.8); Brazil (84.9); Denmark (83.8); Dominica (82.3); Germany (81.6); Grenada (82.7); India (83.2); Indonesia (83.3); Netherlands (90.2); Philippines (83.7); Russia (87.9); St. Vincent and the Grenadines (81.8); Suriname (83.2); Sweden (86.7); Thailand (84.6); Ukraine (84.7); USA (85.2).

In this study we use Credit Suisse data to impute the full distribution of national private wealth in the Arab region. This imputed distribution is linked it to the Forbes' actual observations for the ultrawealthy, and to our estimates for the extent of poverty – and the resources needed to eradicate it – in the region. In agreement with the Credit Suisse methodology, the unit of analysis in our study is taken to be adults 20 years old or above, since 1) personal assets and debts are typically owned by named individuals, and may be retained by those individuals if they leave the household; 2) household members may have an unequal say in the management of assets; and 3) children have little formal or actual wealth ownership (Credit Suisse 2019b:5).

To estimate the cost of closing the poverty gap we first need to estimate headcount poverty and poverty gap ratios. In this study these are based on the most recent national poverty lines for 14 non-GCC Arab countries comprising the vast majority of the region's middle and low income population.

We estimate the country level and regional baseline headcount poverty and poverty gap ratios in 2018 using the World Bank's PovcalNet which calculates poverty headcounts and poverty gaps by imputing full national income distributions parametrically (Datt 1998; Minoiu and Reddy 2009). Next, we use UN forecasts of GDP and population growth to project these ratios to 2019 and 2020 based on the growth and distribution elasticities derived from the earlier procedure.

Our projected cost of the poverty gap in 2019 and 2020 is simply the product of these estimated headcount poverty and poverty gap ratios and the size of population.

Wealth imputation

Using the Credit Suisse descriptive statistics of national wealth, we can approximate the entire distribution of wealth across adult individuals in each Arab region country as well as region-wide. This is done by the means of parametric modeling of the wealth distribution in a country using two-parametric distribution functions commonly used in inequality research: the lognormal or the Pareto. These distributions are suitable for the task, because they are fully characterized by two statistics describing the empirical level and dispersion of wealth: the mean ($\overline{w}$) and the Gini coefficient (G) of wealth.

The estimation involves imputing wealth ($\widehat{w}$) for individuals at each percentile of the wealth distribution, $x \in \mathbb{R}(0; 1)$, using the appropriate inverse cumulative distribution function $F'(\cdot)$. For the Pareto distribution, the inverse cumulative distribution function takes the form:

$$\widehat{w} = F'(x, w_0, \alpha) = {w_0}/{(1 - x)^{\alpha^{-1}}} ,$$

where w_0 is the scale or location coefficient marking the lower threshold of the distribution, and α is the Pareto shape coefficient dictating the rate of decay of wealth. α is estimated as:

$$\widehat{\alpha} = {(1 + G)}/{2G} .$$

From this we can also derive the corresponding inverted Pareto coefficient β, which is often reported as an inequality measure in its own right:

$$\widehat{\beta} = {\widehat{\alpha}}/{(\widehat{\alpha} - 1)} .$$

The lower threshold for modeling the Pareto distribution, w_0, is selected following Hruschka et al. (2015) as:

$$w_0 = (1 - \widehat{\alpha}^{-1})\overline{w} .$$

Under the lognormal distribution, wealth imputation is undertaken analogously from the inverse lognormal cumulative distribution function, $F'_{lognormal}(x, \mu, \sigma)$, which is a function of the standardized mean μ and

standard deviation σ. This standard deviation can be estimated from the inverse standard-normal cumulative distribution function (aka., Gaussian or probit) $F'_{normal}(x)$:

$$\hat{\sigma} = \sqrt{2}\, F'_{normal}\left(\frac{G+1}{2}\right),$$

and mean is derived as

$$\hat{\mu} = \log(\overline{w}) - \frac{\hat{\sigma}^2}{2}.$$

Finally, individuals' wealth is imputed as $\hat{w} = F'_{lognormal}(x, \hat{\mu}, \hat{\sigma})$. In these expressions country and year subscripts are omitted for clarity of presentation.

The log-normal distribution function is adopted for all but the highest 0.5% of wealth values, in consideration of the voluminous prior evidence of its relevance to the full domain of incomes and its ease of estimation (Aitchison and Brown 1957; Jäntti et al. 2015; Hlasny 2020a). The top 0.5% of wealth values in each country are imputed using the Pareto distribution in agreement with the methodology of Credit Suisse (2019b:114) and academic evidence (Harrison 1979; Cowell and Van Kerm 2015; Jäntti et al. 2015; Eckerstorfer et al. 2016; Vermeulen 2016). Convex combination of the two distributions was considered following Hruschka et al. (2015), but in the absence of anchoring information that would help us calibrate the combined distribution, we follow prior literature on using the distribution functions in their pure form, on different income ranges.[4]

Imputed wealth is reported in year 2019 international dollars. However, top decile wealth which is used to compute the solidarity wealth tax is adjusted in 2020 to capture potential impact of COVID-19. For the year 2020 we use the rule of thumb that the wealth level of the highest wealth decile has declined by 8 percent from its October 2019 level. This is consistent with the most recent ESCWA estimate of the wealth impact of the COVID-19 (ESCWA, 2020). It is also consistent with the estimate that the billionaire wealth in the region has declined by 16 percent year on year.[5]

Poverty gap cost

Money-metric poverty can be measured using various indexes. The most common measures are the headcount ratio (the ratio of those with consumption expenditure below the poverty line to total population) and the poverty gap (the ratio showing the mean shortfall with respect to the poverty line, across the entire population). The fundamental determinants of money metric poverty are the mean per capita consumption expenditure, the poverty line, and the distribution of consumption expenditure. The poverty headcount ratio is expected to decline (increase) as per capita consumption expenditure increases (decreases), or as the dispersion of consumption expenditures about the mean decreases (increases). Any change in the poverty rate over time can thus be linked to an economic growth component and a distribution component. Holding the growth in per capita consumption constant, the poverty rate is expected to increase as the degree of inequality increases.

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[4] Hruschka et al. (2015) use the geometric mean of the Pareto and the log-normal (Cobb-Douglas function with exponent 0.32). However, these distributions tend to perform poorly on lower incomes (Hlasny and Intini 2015; Hlasny 2020a,b), and underestimate the dispersion of lower incomes in our exercise. Instead, we use the lognormal distribution alone for the bottom 99.5% of individuals by wealth, and the Pareto (type I) distribution alone for the top 0.5%. The shape and scale parameters of the lognormal and Pareto distributions are fitted based on wealth Gini and mean wealth per adult in each country. For completeness, other candidate parametric choices for the modeling of wealth include the Dagum and gamma distributions (Dagum 1999; Jenkins and Jäntti 2005; Chakraborti and Patriarca 2008; Brzezinski 2014; Kennickell 2019).

[5] The March 2020 Forbes update indicates that there may be 31 billionaires in the region jointly holding $92.1 billion, representing a 16 percent reduction in real terms from the year-2019 value of $109.7 billion (2020$).

With economic growth the mean consumption changes in conjunction with changes in inequality. This means that the growth elasticity of poverty does not remain fixed. Following Kakwani and Son (2006), the methodology presented here takes account of changes in the growth elasticity of poverty over time by focusing on two measures: headcount ratio and poverty gap ratio.

Suppose r is the growth rate of per capita mean consumption, and it is accompanied by a $kr\%$ growth in the Gini index of consumption (Kakwani 1980:174). If everyone received the same proportional benefits of growth, the inequality of per capita consumption would not change over time. In practice, not everyone receives the same proportional benefits. Economic growth may be called pro-poor (anti-poor), if it is accompanied by a decrease (increase) in inequality – k is negative (positive). Growth is distribution neutral if k is 0.

Suppose x_{it} is the per capita consumption of the ith household in year t, and μ_t is the per capita mean consumption of all households. We can thus approximate:

$$x_{it} = [x_{it-1} + kr(x_{it-1} - \mu_{t-1})](1 + r)$$

where $\mu_t = \mu_{t-1}(1 + r)$.

Suppose z_i is the per capita poverty line for the ith household, assumed fixed over time. In this paper we adopt absolute poverty lines set at nationally defined levels.[6] These are superior to PPP-based poverty lines in three important respects. First, as they are household-specific, they are tailored to the local food consumption patterns of the poor. Second, they consider the demographic and other characteristics of the household in determining minimum caloric requirements and basic non-food needs. Third, they evaluate the cost of these basic needs using prices at the local level. From a policy point of view, adopting national poverty lines tends to be more practical to Arab governments as it applies nationally defined lines that are consistent with their own definitions; hence the results are more relevant for estimating the impact of the COVID-19 crisis at the country level and thus for forging national responses.

Given these arguments in favor of using the national poverty lines, this paper uses the most recent household budget surveys to compute the relevant poverty headcount ratios in Arab countries in 2018 based on the PPP equivalent of these national poverty lines using Povcalnet.[7] The poverty headcount ratios are projected to 2019–2020 based on grouped data using 1) the projected growth rates in mean per capita household expenditure (UN DESA GDP forecasts) and 2) assuming a 1% increase in the Gini index and using country level elasticities of headcount poverty to the Gini as estimated in PovcalNet.

The headcount measure of poverty in year t is given by:

$$H_t = 100 \sum_n Prob[x_{it} < z_i] = 100 \sum_n 1(x_{it} < z_i)$$

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[6] Absolute poverty lines can be divided into two groups: nationally defined poverty lines which vary depending on the cost of basic needs evaluated in local prices; or poverty lines fixed (in real terms) by holding their value constant over time and across countries using purchasing power parity exchange rates (PPPs), as in the literature on global poverty comparisons. For the calculation of the poverty line see for example Ravallion et al. (2008) and the references cited therein. Also refer to Deaton (2008), Reddy (2009) and Abu-Ismail, Abou Taleb and Ramadan (2012) on whether fixed poverty lines based on PPPs produce consistent and comparable results for extreme poverty across countries.

[7] In cases where only grouped data is available, PovcalNet bases its poverty estimates on parameterized Beta Lorenz Curve or General Quadratic Lorenz Curve, proposed by Villasenor and Arnold (1989) and Kakwani (1980), respectively. Further details on the computational application and methods used in PovcalNet is documented in Datt (1998). The performance of the methods relative to microdata is reviewed in Minoiu and Reddy (2009).

This expression, without calling for any probability relation, simply identifies people as falling under the poverty line or not with probability 1 or 0. (Population weights attached to the ith sample household are omitted for clarity.) The poverty gap ratio in year t can then similarly be obtained as:

$$gap_t = \sum_n 1(x_{it} < z_i)[\frac{z_i - x_{it}}{z_i}]$$

H_t and gap_t depend on the growth rate r and Gini elasticity k. Thus, we can impute poverty measures each year for any value of r and k.

Using the poverty gap ratio for the nationally defined poverty lines, and given information on mean consumption expenditure, we can easily cost the resources required to fill the gap for eradicating poverty using national definitions, one of the main indicators for meeting the Sustainable Development Goal 1. Multiplying a country's poverty gap ratio by both the poverty line and the total population in that country (pop_t) yields an estimate of the resources required to bridge this gap between the expenditure of the poor and what is required to lift them out of poverty. The cost of the poverty gap is converted to current international dollars. The solidarity wealth tax required to eradicate poverty (τ_t) is computed as the ratio of the aggregate current cost of the poverty gap to the cumulative wealth of the wealthiest-decile adults ($\sum_{i \in top\ 10\%\ w} W_i$).[8]

$$\tau_t = \frac{gap_t \times z_t \times pop_t}{\sum_{i \in top\ 10\%\ w} W_i}$$

III. Results

By imputing the entire wealth distribution for each country and by extension for the region at large we can first estimate the regional Gini coefficient of wealth. This stands at 83.9 for the 20 countries evaluated. We can also estimate, say, the share of the poorest population collectively holding an equivalent amount of wealth as the 37 richest Arab men. We find that those 37 richest Arab men hold the equivalent of the real 2019 wealth of the poorest 110.4 million (46%) of regional adult population.[9]

As Table 1 shows, the 37 billionaires in 2019 consist of 6 Egyptians, 7 Lebanese, 10 Saudis, 7 UAE nationals, 2 from Morocco and Oman each, and one from Algeria, Kuwait, and Qatar. By contrast, the poorest 110.4 million are estimated to be composed of 24.6 million Egyptians, 19.9 million Sudanese, 14.4 million Algerians, 11.3 million Moroccans, 10.6 million Yemenis, 7.9 million Syrians, 6.1 million Saudis, 4.6 million Iraqis, 3.0 million Tunisians, 1.8 million Mauritanians, 1.2 million Jordanians, and 1.1 million Lebanese. Most notably, 22% of the poorest are thus Egyptians, 18% are Sudanese, 13% are Algerians, 10% Moroccans, 10% are Yemenis, and 7% are Syrians (Figure 1). As observed globally, the region's richest come from very different places than the region's poorest. Figures 1–4 illustrate. The Lorenz curve

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[8] One caveat on the use of this methodology is important to highlight. Generally, the smaller the inequality as measured by the Gini index, the larger is the rate of poverty reduction with respect to the mean income. For a given level of mean income, the incidence of poverty generally increases with the Gini index but there is one exception. As highlighted by Kakwani and Son (2004) when the mean income is higher than the poverty line, the head count ratio decreases if the Gini index increases. This can be counter-intuitive because, at a given income level, poverty is expected to rise as inequality worsens. Thus, the poverty lines should not exceed the mean income but this may occur in conflict affected countries such as Yemen and Syria where successive shocks to income have significantly lowered the mean expenditure over time relative to their fixed pre-conflict national poverty lines.

[9] If we expand this list by 2 men who were on the Forbes list in 2018 but who were dropped since (1 from Lebanon and 1 from Qatar), and if we increase the wealth of one of the Saudis using a year-2019 estimate instead of the year-2017 official figure, we obtain a sum total of $117.26 billion (real year-2019 USD using the US GDP deflator). This amounts to the real wealth of the poorest 113.6 million (47.4%) of regional adult population.

for the region, showing the cumulative wealth shares at different adult-population percentiles, confirms that there is little overlap between the least-developed, middle-income and GCC countries.

A regional divide exists separating countries into a comfortably high- or middle-income group, and a materially deprived group (ESCWA 2019a). The poorest 110.4 million adults in the region consist of 97% of all adults in Sudan, three quarters of Comorians, Djiboutis, Mauritanians, Syrians and Yemenis (70, 78, 80, 82 and 73%, respectively), one half of Algerians, Egyptians and Moroccans (53, 42 and 48%), and one quarter of Lebanese, Libyans, Iraqis, Omanis and Tunisians (27, 23, 23, 25 and 37%). These large population shares of just 14 countries jointly hold an equivalent stock of wealth as the region's 37 billionaires – who incidentally reside in a different group of countries. Wealth density curves across the least-developed, middle-income and GCC countries (Figure 2) illustrate that the population of the least-developed countries is bundled at the bottom of the region's wealth distribution. By contrast, the middle-income and GCC countries exhibit a more dispersed distribution of wealth (Hlasny and AlAzzawi 2018).

Our estimates show that the Arab region population holds $5.8 trillion worth of wealth, which is comparable to the Credit Suisse (2019) figure of $5.9 trillion. The top 10% of population account for $4.4 trillion, or 75.8%, of this total wealth. The bottom 46% of population (as discussed above) have the average wealth of $975, while the top 10% hold on average $182,939.

Alongside this picture of extreme wealth inequality, we find that in 2019 101.4 million people (29.2% of the population of the 14 countries included in our assessment) live in poverty using the nationally defined money metric poverty lines (Table 2).[10] Although countries set their national poverty lines using different methods, for many Arab countries the value of the national poverty lines according to most recent national poverty estimates reported by the World Bank are close to $3.5 per day in 2011 PPP terms (population weighted average of national poverty lines is 3.51). As shown in Table 2, the bulk of the poor population (nearly 84 million), reside in four countries, Egypt, Yemen, Syria and Sudan.

For the 13 Arab countries where poverty and wealth data are available, the cost in 2019 is approximately $38.6 billion in current prices ($40.3 billion including Palestine). Table 3 shows the distribution of this estimate among the 13 countries. As expected, the bulk of the resource requirement is in Yemen ($9.0 billion), Egypt ($9.0 billion), Syria ($7.4 billion) and Sudan ($8.6 billion). In order of magnitude, these numbers imply that an annual solidarity tax rate of 2.6% on the wealth of the region's top decile group would cover the annual cost of eradicating poverty in 2019. However, for the group of middle-income countries, the tax rate is only 0.9%. Our forecasts for 2020 show the poor population rises to 114.9 million, an increase of 13.5 million from 2019. The annual cost of closing the poverty gap also rises significantly, reaching $45 billion in 2020 (Table 3; $47 billion including Palestine). This causes the proposed solidarity tax rate to rise to 3.2% for the group of 13 countries. However, it did not exceed 1.2% in the middle-income countries making it a feasible policy option.

IV. Policy Implications

The extreme degree of concentration and polarization of wealth ownership in the Arab region revealed by these figures should serve as a wakeup call to regional administrators across different mandates. Household wealth – and the lack thereof – has implications for various socioeconomic outcomes including children's health and education (ESCWA 2019a), labor force participation, and earnings (AlAzzawi and Hlasny 2018, 2020). Moreover, the COVID-19 pandemic is expected to exacerbate these figures. The economic slowdown caused by COVID-19 is expected to negatively impact wages and the flow of remittances. The consequences of this crisis could be particularly severe on vulnerable groups, especially women and young

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[10] Earlier estimates reported a figure of 93 million people in poverty, based on revised poverty lines for conflict affected Arab countries.

adults, and those working in the informal sector who have no access to social protection schemes and unemployment insurance. The challenge is further compounded by a lack of social protection floors in some Arab countries (ESCWA 2020). These development challenges put together with our findings on wealth inequality and the cost of poverty reduction lead to our main policy recommendation for a solidarity wealth tax to support poverty reduction.

Nonetheless, it is important to recognize at the outset that this proposal is not suitable to all Arab countries. The high cost of poverty reduction in LDCs relative to their wealth level makes it a less feasible policy option. Given relatively limited fiscal space external development assistance is indispensable to meet the rising cost of poverty reduction in this group of countries and is confirmed by earlier studies.[11] This makes our proposal for a solidarity wealth tax from the onset of more practical relevance to the MIC group of countries included in this paper.

Introducing a wealth tax cannot take place in absence of the current developmental and institutional context in Arab countries. To resolve the current economic crisis and maintain political stability, institutional reforms must be undertaken to redefine social contract, and ensure social and economic inclusion (Kinninmont 2015). Traditionally in the region, even in the most fiscally redistributive regional countries such as Qatar, oil revenues were used to fund welfare provision, but the programs were channeled through distortionary tools such as fuel and food subsidies (El-Katiri et al. 2011). In the current economic climate, this is unsustainable or plain infeasible.

The good news is that direct taxation in general is low in the majority of Arab countries suggesting significant untapped resources for financing development expenditures. This well-established stylized fact is due to tax collection efforts focusing mainly on raising regressive indirect taxes, such as the value added tax, thus placing a higher burden on the poor than on the rich (Abu-Ismail, Ramos and Roy, 2012, ESCWA (2017a) and ESCWA (2019).

For reference, the share of taxes to GDP in Arab countries is less than half of the EU's 40.3% (Eurostat 2019). Moreover, wealth and property taxes constitute a negligible share of total tax revenue in the region even in oil-poor ones (Figure 5). Globally, taxes on property form around 7% of total tax revenue (Adly 2020). As reported by the most recent IMF data, the share of property tax to total revenue was less than 1% in Egypt and Tunisia (2016 and 2017, respectively). Morocco was an exception, with 5% in 2017. As a result, the real estate sector attracts substantial investment but contributes very little to the tax revenues. The higher return on property assets from low taxation also fosters a Dutch disease giving rise to chronic balance-of-payments deficits, fiscal crises, especially in non-oil states, and increasing inequality in income and wealth distribution (ESCWA 2019a).

Why does the region tax so little relative to its income level? This outcome is not difficult to explain. A prominent feature of "rentier states" is that the bulk of their public revenues are generated from external sources such as oil-exports. But as noted by Sarangi and Abu-Ismail (2018), while this may make sense for resource-rich countries, it does not explain why there is a persistently low tax to GDP ratio in Arab resource-poor countries such as Egypt, Syria, and Jordan. The broad explanation is that most Arab middle-income countries avoid high taxation in order not to stir popular demands for fiscal governance reforms which would necessarily entail higher transparency, and voice and accountability. Such a trade-off is no longer economically feasible, especially as the intra-regional spillovers from the oil-rich countries to oil-poor ones that may have relieved budget pressure in the past (ODA, FDI and worker remittances) have significantly contracted for some countries after 2011 and their prospect for growth are minimal in light of projected decline in oil rents (Abu-Ismail and Nehme 2019).

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[11] See for example the UNDP study on investment requirements for halving poverty in Yemen by Abu-Ismail, Kakwani, Son and Roberts (2005).

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As a result of rentier growth patterns and lax fiscal policies in the Arab region, the real estate sector attracts substantial investment but contributes little to tax revenues. The higher return on property assets from low taxation gives rise to chronic balance-of-payments deficits, fiscal crises, especially in non-oil countries, and increasing inequality in income and wealth distribution. By contrast, the wealth tax is likely to have a positive impact on economic growth and decent work in the region, as it repatriates some of the wealth from abroad, empowers lower middle class, and raises domestic consumption and investment.

The relatively low tax burden on the top wealth decile, much less the top 1%, leaves much potential to improve equity by raising taxes on property and wealth. The policy relevant question is thus how to make the solidarity wealth tax happen. Below we outline some key policy shifts needed to reform current tax systems.

First, make tax systems more progressive, and simplify administrative procedures for better tax compliance. Governments need to consider improving tax fairness by establishing more equitable, progressive and transparent systems that clearly rationalize exemptions. Experience from other countries shows that this is possible if there is political will. Even among lower-income countries, direct tax collection could increase by 2 to 4% of GDP (ESCWA 2017a and ESCWA 2019b). More relevant to addressing the increasing wealth concentration, a well designed property tax can be an effective tool to increase revenue and improve equity. Currently, these taxes are low and largely evaded. Another important benefit of a well-designed property tax or wealth tax is that it would dampen rent-seeking and speculative activities, and thus channel funds to more productive investments.

Second, poor tax records and complex tax procedures complicate tax compliance and tax-fairness analysis. Improving tax and customs administration, simplifying coding and regulation, and investing in technology to improve transparency can enhance compliance and increase the potential tax base. This would require upfront investment in administrative infrastructure, but over a period, better tax administration would back a broader culture of tax compliance in addition to greater revenues. One way to improve transparency and accountability is the filing of income tax by every citizen, even if not everyone would actually pay tax – an approach encouraged recently in many developing countries such as India (Sarangi and Abu-Ismail 2018). As these tax forms would include questions on transfers and rents received from properties and other wealth sources, they would also constitute an important resource to effectively design and implement an appropriate property tax policy that would take into account the need to raise revenues against the ability of taxpayers to pay. A mandatory reporting of wealth and income sources would also take Arab countries a major step towards the *control of tax evasion, tax avoidance and illicit financial flows*, whereas in 2014 and 2015 illicit outflows from the Arab region outstripped the combined inflows of foreign direct investment and ODA (ESCWA 2017b).

Third, pick the appropriate tax rate. A variable tax rates can be useful to mitigate land and real-estate speculation which is rampant in some Arab countries. For example, higher tax rates on vacant or underdeveloped land can reduce short-term speculative investment (IGC, 2017). However, introducing variable tax rates can, like exemptions, increase complexity of the tax system, and raise associated administrative costs in its implementation. If administrative capacity is low, as in many Arab LDCs, a single rate may be the best option for policymakers. Countries can also collect tax rents from real-estate investment. In Egypt, real estate property is subject to a 10% rate on the annual rental value with exemptions for properties with a low rental value.

Fourth, and perhaps more importantly, governance reforms particularly in areas related to government and institutional effectiveness and increased accountability and transparency are a key priority and prerequisite to achieving the desired objective behind the imposition of a wealth tax. For example, minimizing the inclusion and exclusion errors related to any expanded program of social protection such as poverty

targeting requires well designed and regular program monitoring and evaluation over the implementation period. Such an outcome necessarily implies data gathering, transparency in sharing results and proper accountability mechanisms. Public trust required to support the implementation of a solidarity wealth tax depends on the implementation of these reforms.

V. Conclusions

This study has presented the results for 20 Arab region countries in various stages of economic development and in various political circumstances. We have relied on an assortment of data from Credit Suisse, Forbes, UN DESA and the World Bank – and by extension from household budget surveys – to estimate the distribution of private wealth and the depth of poverty in the region, and to assess the prospect of using top wealth to close the region's poverty gap. This exercise and its results have a number of limitations. The data providers readily acknowledge that data quality is poor in some of the countries. Combining the data across data sources, and across countries, may not withstand the test of reliability. Illicit financing may also be rife in regional economies as the Panama and Offshore leaks indicate, given that the countries remain disconnected from the global investment markets.

On the side of estimation of the cost of the poverty gap, evidence about the short- and long-term implications of the COVID-19 pandemic is being continuously revised. From the initial draft of this paper we have strived to incorporate the most updated projections, and so the precise results may change somewhat across successive versions of the study. For example, an earlier ESCWA brief based on the more optimistic UN and World Bank growth projections in March suggested a significantly lower estimate of the regional poverty impact (ESCWA 2020a). Therefore, it is important to emphasize that as the main purpose of this paper is to advocate for a regional level intervention our primary concern is to get the correct order of magnitude of the impact based on these given growth projections, rather than provide a precise figure. In any case, that would not be possible without a proper data infrastructure and further analysis at the national level.

We acknowledge there remains much speculation on the real economic impact of the pandemic even for 2020. We make two restrictive assumptions. First, that the current GDP per capita growth forecasts accurately reflect changes in the macroeconomy. As we know, given high volatility of economic growth in 2020 and uncertainty surrounding the potential impact of COVID-19, current forecasts should be considered with caution. Second, that these are an adequate reflection of the change in mean consumption at the household level, which is a relatively strong assumption given that in many countries one may expect the impact to be more amplified at the household level.

Another major limitation is that no one really has an idea how the COVID-19 crisis will affect inequality. Although the COVID-19 crisis is expected to affect all income groups, we assume the lower earning group is more directly and significantly subjected to consumption losses. This is due to the well-established stylized fact that low-income households have a larger share of their heads employed in informal service sector activities that are strongly affected by the current recession. Low earning households are less able to rely on their savings and wealth to smooth consumption during the current crisis relative to higher income households. Thus, we conservatively assume that the current crisis will lead to a mild increase in the population weighted Gini – to reach 33.9% in 2020 for the 14 countries under this assessment. We acknowledge that this may reflect the best-case scenario in the actual change in income distribution.

Likewise and more directly related to our proposed solidarity wealth tax, based on recent capital market price data, our estimated mean wealth and distribution in 2019 is expected to change significantly as a result of the COVID-19. Although we have factored this in by adjusting the wealth level of the top decile in 2020, the high volatility of capital market prices witnessed recently may also lead to significant changes in our estimated solidarity tax rate over the next few months.

Moreover, for various reasons related to rampant tax evasion and wealth underreporting in the region which are discussed elsewhere,[12] it is probable that we are underestimating rather than over-estimating top wealth in many Arab countries. A case in point is the group of LDCs and conflict-affected countries included in our analysis, such as Sudan and Syria. Wealth distribution is unlikely to be represented well in these countries given that the risk of violence or international sanctions prevent their citizens from disclosing their wealth. For this reason, we highlight in particular the need for better tax data collection and our principal practical recommendation is that Arab countries consider implementing a mandatory annual tax reporting as implemented in many developed and developing countries. This would also have significant impact on enhancing national efforts to achieve other development objectives such as reducing informality and achieving better targeting of the poor and vulnerable groups.

Notwithstanding these limitations related to data sources and methodology, our findings offer important insights for further regional and national policy dialogue. The fact that that the region's 37 billionaires hold real wealth equivalent to the wealth of the region's poorest half of the population should by itself be a wake-up call for policy action with or without the COVID-19 crisis. In order of magnitude our estimates are encouraging. The introduction of a solidarity wealth tax of 1.2% on the wealthiest 10 percent is all that is required to eradicate poverty in middle income countries even when the potential impact of COVID-19 on poverty and income and wealth distribution is considered.

Finally, fiscal reforms are never a purely technical matter. Their effective implementation is contingent on foundations of solid governance should be accompanied by wide social dialogue. It is easy to introduce a wealth tax, but its ultimate success will depend on the strength of existing governance systems, including trust in government, institutional effectiveness and the existence of sound accountability frameworks.

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[12] See for example ESCWA 2019 report on Rethinking Fiscal Policies in Arab Countries

Table 1. Countries' billionaires, and adult population shares among the region's poorest 46% and richest 10%

Country	Forbes billion-aires (#)	Billionaire real wealth (2019$bil.)	Real wealth per adult (2019$)	Adults ('000)	Gini (%)	Adults among region's poorest 46% ('000 [%])	Share of countries' adults appearing among region's poorest 46% (%)	Adults among region's richest 10% ('000 [%])	Share of countries' adults appearing among region's richest 10% (%)
Algeria	1	3.7	9,348	26,983	74.9	14,368.5 [13.0]	53.3	1,113.0 [4.6]	4.2
Bahrain			87,108	1,219	74.7	117.3 [0.1]	9.6	441.9 [1.8]	36.3
Comoros			5,155	423	78.3	297.7 [0.3]	70.4	7.9 [0.03]	1.9
Djibouti			2,936	583	72.9	453.3 [0.4]	77.8	3.6 [0.02]	0.6
Egypt	6	15.8	15,395	58,309	75.6	24,562.7 [22.3]	42.1	4,446.1 [18.5]	7.6
Iraq			16,540	19,788	63.3	4,551.2 [4.1]	23.0	1,706.7 [7.1]	8.6
Jordan			26,475	5,512	69.6	1,164.4 [1.1]	21.1	819.9 [3.4]	14.9
Kuwait	1	1.4	131,269	3,086	76.3	227.6 [0.2]	7.4	1,357.8 [5.7]	44.0
Lebanon	7	13.4	55,226	4,205	81.9	1,124.8 [1.0]	26.8	893.6 [3.7]	21.3
Libya			19,473	4,169	65.9	943.2 [0.8]	22.6	448.2 [1.9]	10.8
Mauritania			2,397	2,310	68.1	1,839.3 [1.7]	79.6	8.7 [0.04]	0.4
Morocco	2	3.8	12,929	23,613	76.6	11,304.7 [10.2]	47.9	1,475.8 [6.1]	6.3
Oman	2	4.3	43,291	3,608	78.6	911.0 [0.8]	25.3	708.1 [2.9]	19.6
Qatar	1	1.6	147,745	2,223	63.3	16.7 [0.0]	0.8	1,419.9 [5.9]	63.9
SAU	10	43.9	67,032	23,208	83.4	6,121.1 [5.5]	26.4	5,337.8 [22.2]	23.0
Sudan			534	20,474	68.7	19,859.8 [18.0]	97.0	0.0 [0.00]	0.0
Syria			2,179	9,664	69.9	7,936.6 [7.2]	82.1	36.2 [0.2]	0.4
Tunisia			13,853	8,111	70.5	3,021.3 [2.7]	37.3	557.6 [2.3]	6.9
UAE	7	19.7	117,060	7,874	79.6	954.7 [0.9]	12.1	2,942.9 [12.2]	37.4
Yemen			4,926	14,580	79.8	10,588.7 [9.6]	72.6	273.4 [1.1]	1.9
Total	**37**	**107.6**	**24,759**	**239,942**	**83.9**	**110,390.3**	**46.0**	**23,999**	**10.0**

Source: Authors' analysis of Forbes (2019), Credit Suisse (2019), and World Bank data. Palestine is notably missing in the Forbes and Credit Suisse (2019) data.

Table 2: Projected headcount poverty rates (%) using national poverty lines

	2018	2019	2020
Mauritania	30.9	28.9	31.6
Comoros	41.4	41.4	43.0
Djibouti	20.7	19.6	20.1
Algeria	3.1	3.1	4.0
Egypt	32.7	29.2	31.9
Iraq	18.0	17.9	23.2
Jordan	17.7	19.6	23.2
Lebanon	7.8	7.8	12.7
Morocco	3.1	2.3	3.3
State of Palestine	38.4	38.4	44.3
Sudan	46.0	48.2	53.4
Syrian Arab Republic	78.8	76.8	78.8
Tunisia	12.7	12.7	15.4
Yemen, Rep.	73.6	73.7	79.0
Region	30.0	29.2	32.4

Source: Authors estimates based on PovcalNet using most recent reported National Poverty Lines and World Bank population projections from the World Development Indicators.

Table 3. Countries' cost of closing the poverty gap and wealth of richest 10%

| Country	Mean wealth of top national decile, 2019 (2019$)	Adults in the top national decile, 2019 ('000)	Top decile wealth in 2019 (2019 $million)	Top decile wealth in 2020 (current $million)	Cost of poverty gap in 2019 (current $million)	Cost of poverty gap in 2020 (current $million)	Wealth tax on top decile needed to eradicate poverty, 2019	Wealth tax on top decile needed to eradicate poverty, 2020
Algeria	60,342	2,698	162,821	149,795	362	468	0.2%	0.3%
Egypt	99,771	5,831	581,755	535,214	8,952	10,075	1.5%	1.9%
Iraq	93,705	1,979	185,423	170,590	1,735	2,431	0.9%	1.4%
Jordan	163,214	551	89,964	82,766	816	1,031	0.9%	1.2%
Lebanon	360,069	421	151,409	139,296	381	643	0.3%	0.5%
Morocco	84,181	2,361	198,777	182,874	120	180	0.1%	0.1%
Tunisia	86,227	811	69,939	64,344	584	752	0.8%	1.2%
MICS	**98,285**	**14,652**	**1,440,087**	**1,324,880**	**12,950**	**15,580**	**0.9%**	**1.2%**
Comoros	33,734	42	1,427	1,313	211	226	14.8%	17.2%
Djibouti	18,685	58	1,089	1,002	49	50	4.5%	5.0%
Mauritania	14,521	231	3,354	3,086	529	609	15.8%	19.7%
Sudan	3,258	2,047	6,670	6,137	8,559	10,197	128.3%	166.2%
Syria	13,477	966	13,024	11,982	7,365	8,015	56.5%	66.9%
Yemen	32,270	1,458	47,050	43,286	8,951	10,391	19.0%	24.0%
LDCs	**15,117**	**4,803**	**72,615**	**66,806**	**25,665**	**29,489**	**35.3%**	**44.1%**
Total	**77,752**	**19,456**	**1,512,702**	**1,391,686**	**38,615**	**45,069**	**2.6%**	**3.2%**

Source: Authors estimates based on PovcalNet using most recent reported National Poverty Lines and World Bank population projections from the World Development Indicators. Palestine, with the cost of poverty gap at $1.7 billion in 2019 and $2.0 billion in 2020, is notably missing in the Credit Suisse (2019) data, so the required tax cannot be computed.

Table 4: Number of poor based on headcount poverty ratio using national poverty lines, millions

	2018	2019	2020
Mauritania	1.4	1.3	1.5
Comoros	0.3	0.4	0.4
Djibouti	0.2	0.2	0.2
Algeria	1.3	1.3	1.7
Egypt	32.1	29.3	32.6
Iraq	6.9	7.0	9.3
Jordan	1.8	2.0	2.4
Lebanon	0.5	0.5	0.9
Morocco	1.1	0.8	1.2
State of Palestine	1.8	1.8	2.1
Sudan	19.2	20.6	23.4
Syrian Arab Republic	13.3	13.1	13.8
Tunisia	1.5	1.5	1.8
Yemen, Rep.	21.0	21.5	23.5
Region	102.4	101.4	114.9

Source: Authors estimates based on PovcalNet using most recent reported National Poverty Lines and World Bank population projections from the World Development Indicators.

Figure 1: Countries' share among region's wealthiest 10% and poorest 46% (% share)
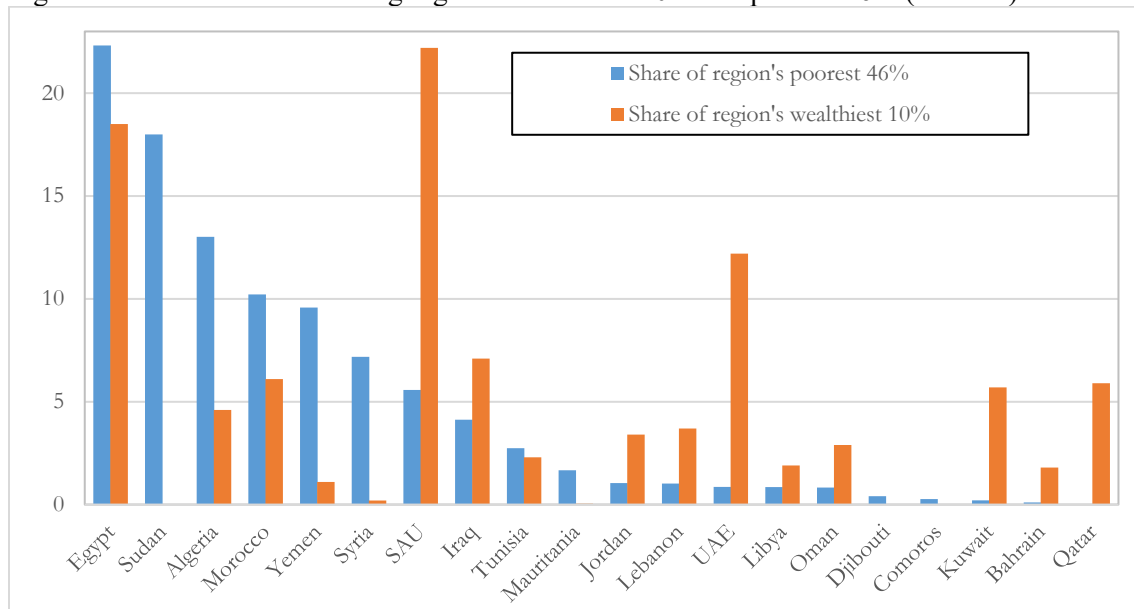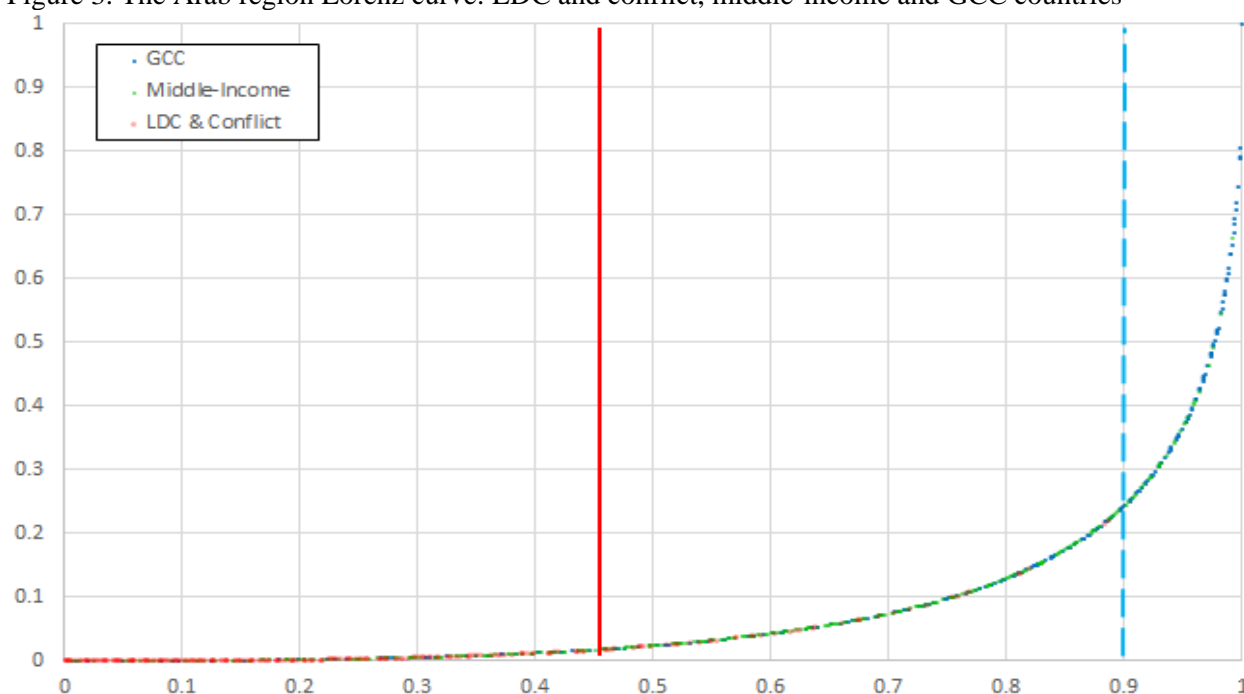

Notes: Authors' imputation based on Credit Suisse (2019) data. Countries sorted by their share among the region's wealthiest 10% of adults in a descending order.

Figure 2. Income density curves: LDC and conflict, middle-income and GCC countries
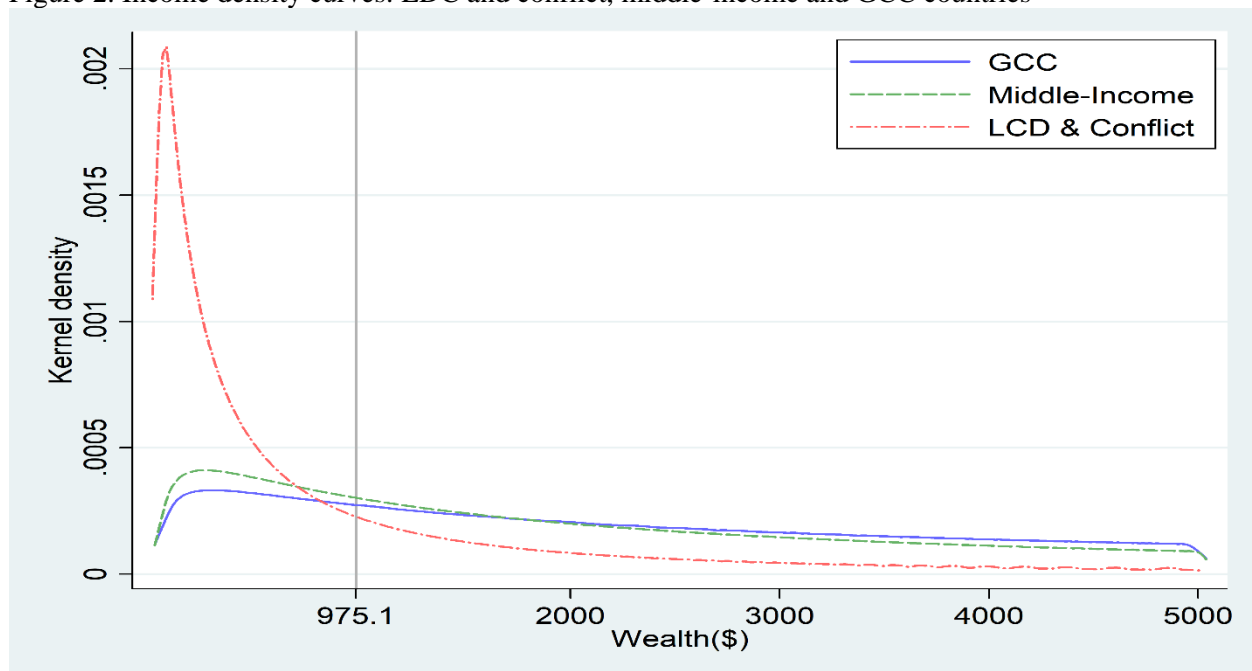

Notes: Density plots weighted by national population (Epanechnikov kernel, bandwidth 30), vertical line drawn at the 46th percentile. Authors' imputation based on Credit Suisse (2019) data. GCC countries include Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, UAE. Middle-Income countries include Algeria, Egypt, Iraq, Jordan, Lebanon, Libya, Morocco, Tunisia. LDC & Conflict countries include Comoros, Djibouti, Mauritania, Sudan, Syria, Yemen.

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Figure 3. The Arab region Lorenz curve: LDC and conflict, middle-income and GCC countries


Notes: Authors' imputation using log-normal (bottom 99.5%) and Pareto (top 0.5%) parametric distributions based on Credit Suisse (2019) data. The vertical solid red line demarcates the bottom 46% of the region's adult population; the dashed blue line demarcates the top 10%. GCC countries include Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, UAE. Middle-Income countries include Algeria, Egypt, Iraq, Jordan, Lebanon, Libya, Morocco, Tunisia. LDC & Conflict countries include Comoros, Djibouti, Mauritania, Sudan, Syria, Yemen.

Figure 4. Share of countries' adults among the Arab region's wealthiest 10 percent and poorest 46 percent (% of countries' adult population)
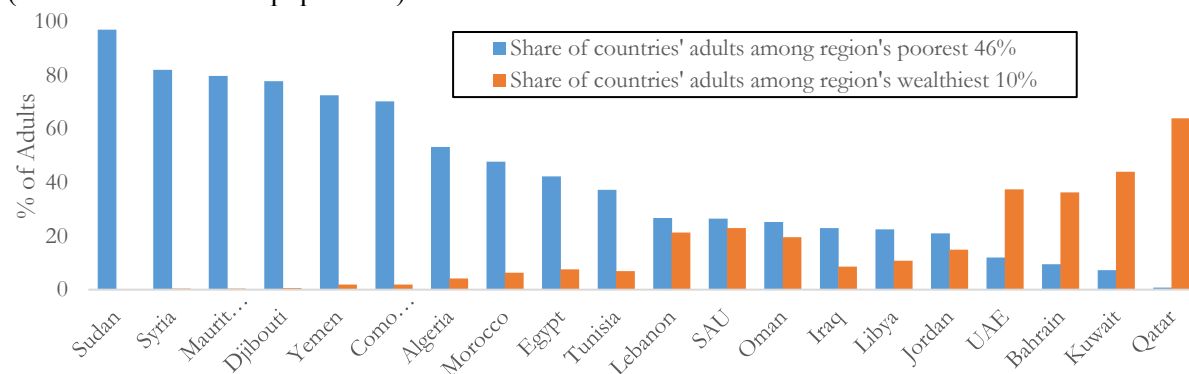
Notes: The poorest 46%, or 110 million adults, hold as much as the 37 Arab billionaires. Authors' imputation based on Credit Suisse (2019) data. Countries sorted by the share of their adults among the region's wealthiest 10% of adults in a descending order.

Figure 5: Composition of tax revenue in selected 'oil-poor' countries (% share)
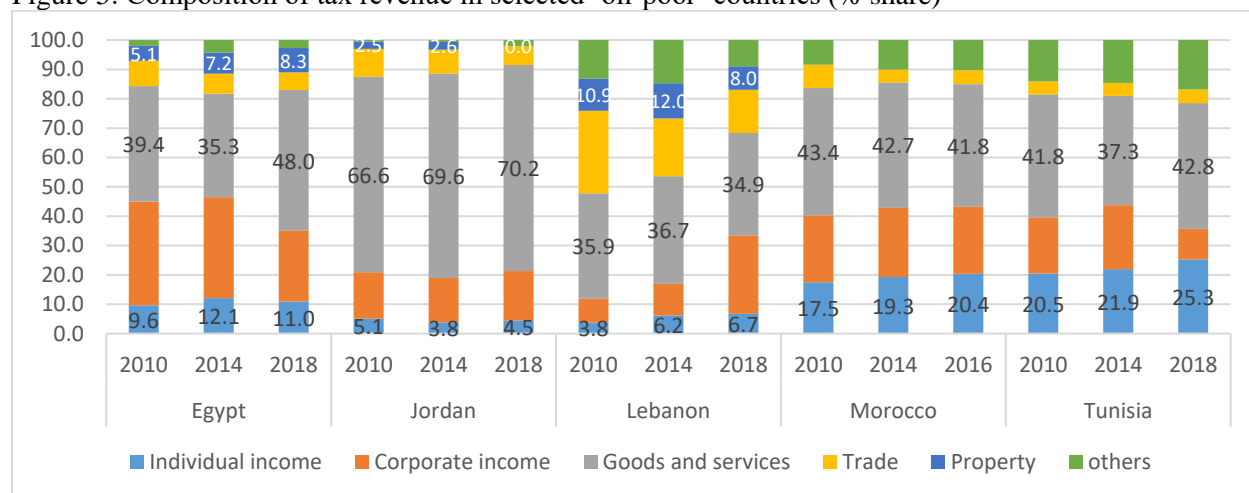
Source: Fiscal Policy Review in Arab States (ESCWA 2019a)

Note: Property tax in Morocco and Tunisia were not available. Part of others tax is property tax.

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