

Inequality in Morocco: An International Perspective

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Uri Dadush
Hamza Saoudi

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Policy Center for the New South

Suncity Complex, Building C, Av. Addolb, Albortokal Street, Hay Riad, Rabat, Morocco.
Email : contact@policycenter.ma
Phone : +212 5 37 54 04 04 / Fax : +212 5 37 71 31 54
Website : www.policycenter.ma

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Uri Dadush
Hamza Saoudi

About the Authors

Uri Dadush

Uri Dadush is a Senior Fellow at the Policy Center for the New South who focuses on International economics, trade and financial flows, migration, economic policy and governance, as well as a non-resident scholar at Bruegel, based in Washington, DC. He is also Principal of Economic Policy International, LLC, providing consulting services to the World Bank and to other international organizations as well as corporations. He teaches courses on globalization and on international trade policy at the OCP Policy School and at the School of Public Policy at the University of Maryland. Dadush works mainly on trends in the global economy and on how countries deal with the challenge of international integration through flows of trade, finance, and migration. His recent books include “WTO Accessions and Trade Multilateralism” (with Chiedu Osakwe, co-editor), “Juggernaut: How Emerging Markets Are Transforming Globalization” (with William Shaw), “Inequality in America” (with Kemal Dervis and others), “Currency Wars” (with Vera Eidelman, co-editor) and “Paradigm Lost: The Euro in Crisis.”

Hamza Saoudi

Hamza SAOUDI is an Economist at the Policy Center for the New South (PCNS). He is a graduate engineer from the National Institute of Statistics and Applied Economics (INSEA). He is currently working on topics related to business cycles, unemployment, inequality and poverty in developing countries. Hamza is also interested in macroeconomic stabilization policies, International Trade and long-term economic development. Prior to joining the Policy Center for the New South, he contributed to the conception of quantitative models for bank credit risks management.

Summary

Income inequality is high in Morocco. In 2013, the share of national income⁰ of the richest 10% in Morocco stood at nearly 32%, 12 times higher than the share of national income of the poorest 10% of the population. This paper argues that, drawing on international experience, there is much more that Morocco's government can do to reduce inequality while at the same time enhancing growth and – possibly – doing so in a manner that is budget-neutral or even budget-positive. Top of the list are reform of Morocco's dysfunctional educational system, and action to promote the participation of women in the labor force. Insufficient numbers of qualified workers are a key constraint on Morocco's growth and more Moroccan women are qualified and free to work. Availability of health services needs to be more equitable across Morocco's regions and social classes, enhancing not only the quality of life but also productivity. Morocco's tax system can be made more progressive, inclusive and efficient, i.e. without unduly affecting incentives to work and invest. Increased competition in key sectors would both promote equality and stimulate growth. Actions to reduce corruption could have similar effects. Far better access to data on tax collection and household surveys would greatly improve understanding of inequality in Morocco and is essential for an effective government response.

0. It should be noted that given the unavailability of income data, the High Commission for Planning of Morocco uses household expenditures as a proxy for income.

Introduction

Income inequality is high in Morocco. In 2013, the share of national income¹ of the richest 10% in Morocco stood at nearly 32%, 12 times higher than the share of national income of the poorest 10% of the population.

Inequality is a natural and even desirable aspect of the incentives required to operate a market economy, especially one that is amid a rapid transformation. However, recent empirical work suggests that, beyond a certain threshold, high levels of inequality are not only associated with deprivation at the bottom of the distribution and reduced social cohesion but can also have a negative impact on economic growth (IMF, 2017). This research implies that action to reduce inequality, if carried out appropriately, can support growth even at low levels of development. High inequality can mean inadequate domestic purchasing power in the mass of the population implying insufficient demand for many domestic services and less-traded manufactures. In some countries, low demand can encourage excessively loose monetary policy, and lead to inflation or excessive credit creation, and ultimately to macroeconomic instability (Stiglitz, 2011). High inequality can also be associated with crime and political instability, depressing investment.

Perhaps most important, high inequality leads to the underutilization of human capital, since Inequality of outcomes is nearly always associated with inequality of access to health, education, social networks, and jobs. Even though it turns out that inequality in Morocco is not out of line with its level of development, underutilization of human capital is certainly a feature of Morocco – denying many individuals the possibility of living up to their full potential.

Unfortunately, analysis of the drivers of inequality in Morocco is hampered by the unavailability of data from standard sources, such as tax return statistics, and from household surveys. The most recent household survey was conducted in 2014, but the data publicly available from the survey is limited to household expenditure by decile, without the wealth of detail (by age, gender, region, level of education, etc.) needed for proper evaluation of the drivers and nature of inequality. Within the bounds set by these serious limitations, this brief examines the state of Morocco's unequal distribution of income, education, job opportunities, etc. in comparison to global averages and more specifically to a sample of countries. The sample includes countries that are more unequal than Morocco and some of which are more equal. Drawing on this comparison and on the growing reservoir of data about inequality across the world, we aim to shed some light on the key causes of inequality in Morocco and, where possible, draw some policy conclusions.

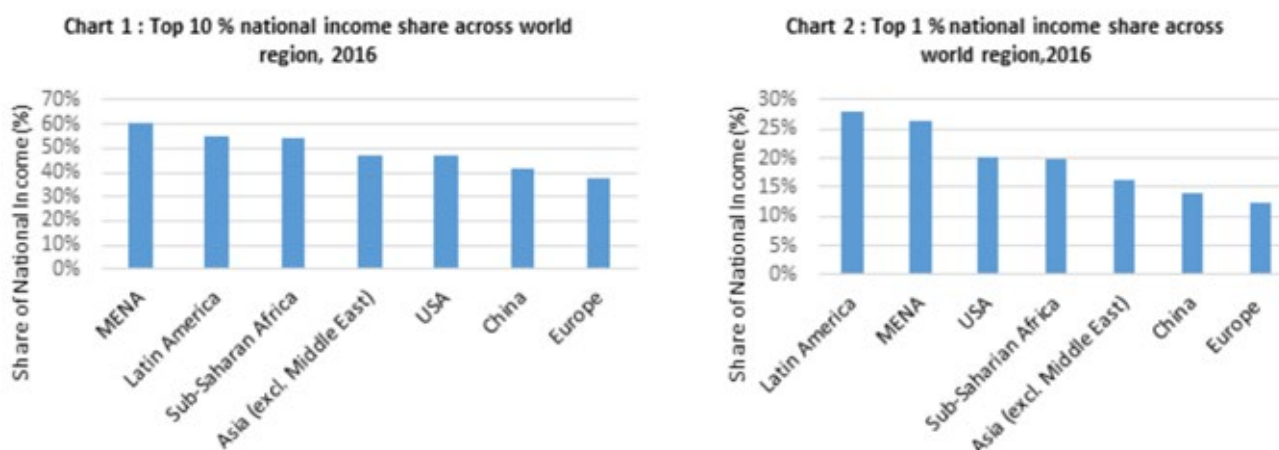
This paper will argue that, drawing on international experience, there is much more that Morocco's government can do to reduce inequality while at the same time enhancing growth and – possibly – doing so in a manner that is budget-neutral or even budget-positive. Top of the list are reform of Morocco's dysfunctional educational system, and action to promote the participation of women in the labor force. Insufficient numbers of qualified workers are a key constraint on Morocco's growth and more Moroccan women are qualified and free to work. Availability of health services needs to be more equitable across Morocco's regions and social classes, enhancing not only the quality of life but also productivity. Morocco's tax system can be made more progressive, inclusive and efficient, i.e. without unduly affecting incentives to work and invest. Increased competition in key sectors would both promote equality and stimulate growth. Actions to reduce corruption could have similar effects.

1. It should be noted that given the unavailability of income data, the High Commission for Planning of Morocco uses household expenditures as a proxy for income.

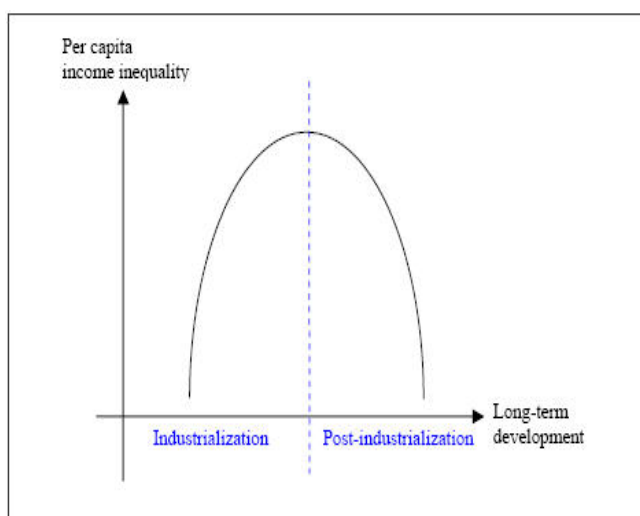
To provide context to the inequality trends in Morocco, this paper begins by briefly surveying the global picture on inequality drawing mainly on the World Inequality Database. We then examine the dimensions of Morocco’s inequality, including those at the regional level. In comparison with a sample of countries, we review Morocco’s performance on human development, jobs and gender and on education, all crucial aspects of inequality. Drawing on international comparisons we also attempt to evaluate the effect of Morocco’s government action on reducing inequality. Finally, we draw some tentative policy conclusions. As more data from household surveys and tax returns is made publicly available, researchers should be able to refine these conclusions.

Global Inequality: Trends of Relevance to Morocco

Inequality in developing countries like Morocco is usually higher than in advanced countries, whether measured as the share in total income of the top 1% or top 10% (chart 1 & 2).



Source: World inequality database, 2019

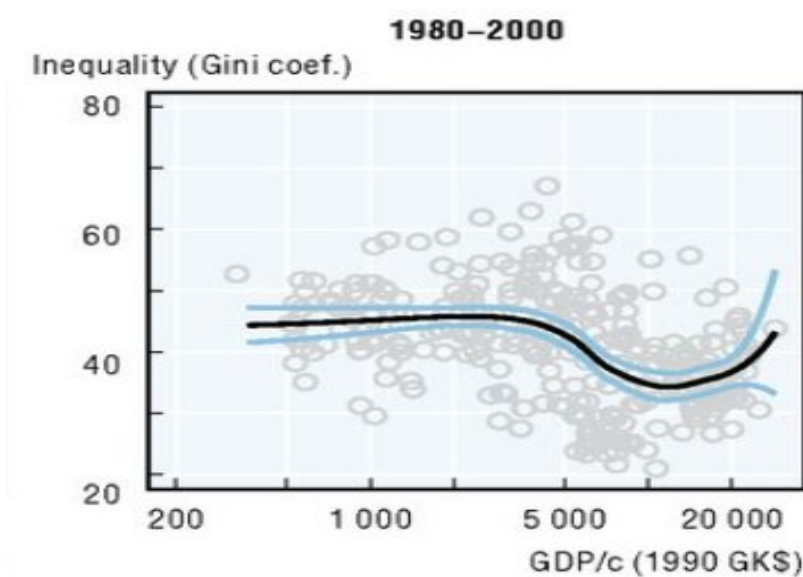


This is in line with the Kuznets curve (Kuznets, 1955), which describes how, during the early stages of a country’s economic development (the industrialization phase), economic growth is accompanied by an increasing levels of inequality, needed to attract workers from the countryside to the cities and factories, a process ongoing in Morocco, and when the country reaches a high level of development, inequality begins to decrease, partly because of the country’s capacity to increase social spending, adopt progressive taxation, etc. Kuznets’ simple construct is helpful in some respects, but it does not explain, for example,

markedly different levels of inequality across countries at similar levels of income, and rising levels of inequality in recent decades across many developing and advanced countries, even after the initial industrialization phase is completed, and as their average income levels continued to rise.

Recent empirical evidence on the cross-country correlation between per capita income and inequality, measured by the GINI index², over 1980-2000 shows that there is a slight positive correlation until an income level of around 5000 \$ (1990 international dollars), not far from Morocco lies today, and a sharp decline at higher income levels. Income inequality rises again among the wealthiest nations (Moatsos et al., 2014)

Chart 3: Correlation between Gini coefficients and GDP per capita between 1980-2000

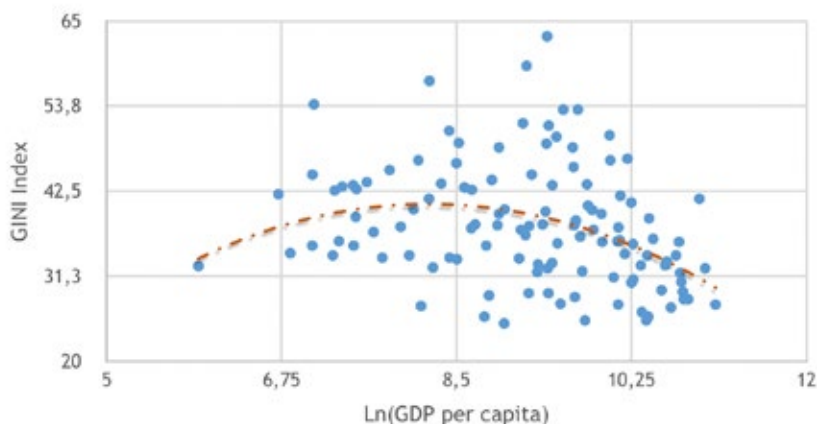


Source : Moatsos et al. 2014

Inequality in Morocco as measured by the GINI index and ranked internationally is not far from Morocco's rank in PPP adjusted income per capita, a rank near 100 out of some 200 countries.

2. Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality. (<https://datacatalog.worldbank.org/gini-index-world-bank-estimate-4>)

Chart 4 : Correlation between Gini coefficients and GDP per capita in 2017³



Source: Authos' calculations based on WDI. * 2017 or most recent available data

Review of income inequality trends over the period 1980-2016 shows that it varies considerably from one region to another. These inequalities are highest in Latin America, the Middle East and sub-Saharan Africa, and lowest in Europe, mainly due to the existence of a strong social protection system. The United States is the advanced country with the highest income inequality, higher even than many developing countries.

It is a remarkable fact that in 2016, the richest 1% of the population earned 2.6 times more income than the poorest 50% did in total in the Middle East and North Africa, the region to which Morocco belongs in the World Bank classification. Many of the wealthy individuals in the Middle East and North Africa region reside in the oil-rich Gulf states, and it is unlikely that such extreme levels of inequality apply within Morocco, for which comparable data on the top 1% is not available. Another way of illustrating the extreme situation within the Middle East and North Africa region is to note that were the top 1% to forego, for example through increased progressivity of the tax system, 20% of their income, the standard of living of the bottom 50% could be increased by 50% through increased transfers and social spending. The 1%/50% ratio is 2.3 in Latin America, 1.64 in sub-Saharan Africa, 1.61 in the United States, 0.94 in China and 0.65 in Europe (chart 5 to 10).

Chart 5 : Top 1% vs. Bottom 50% Share of National Income, MENA

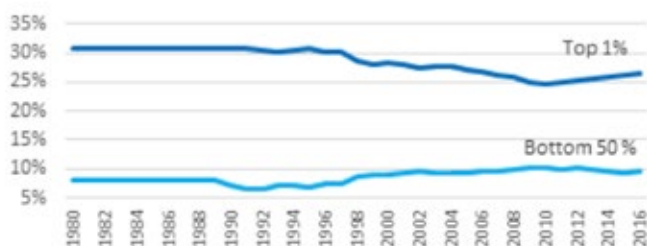
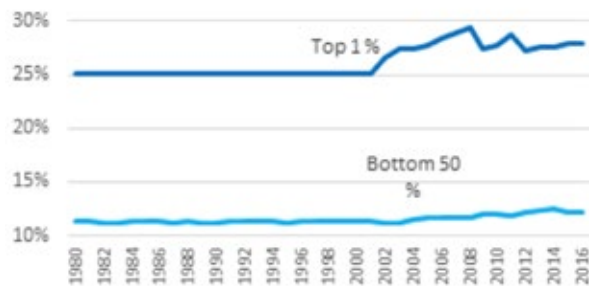
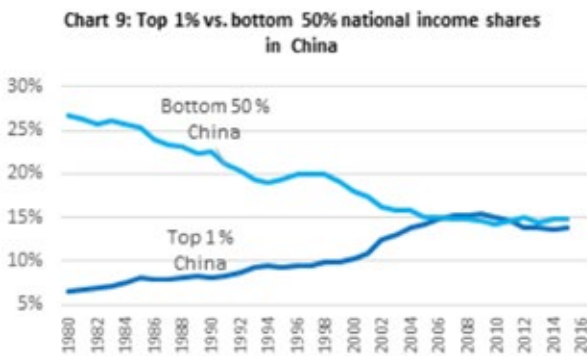
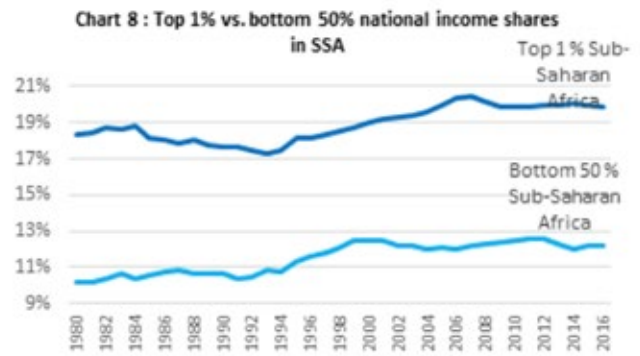


Chart 6 : Top 1% vs. Bottom 50% Share of Income in Latin America

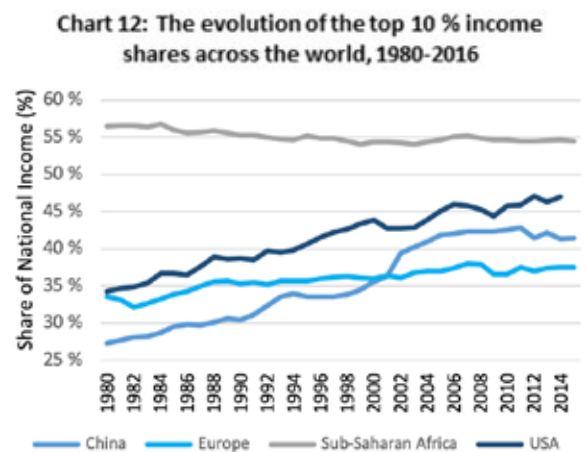


3. In this chart we represent the correlation between Gini Index and GDP per capita PPP for 118 countries for which we have data.



Source: World Inequality Database, 2019

As can be seen from the graphs, the 1%/50% ratio has seen very different trends across countries since 1980, with this measure of inequality increasing markedly in China and the United States and showing a less marked trend in other regions. In the United States inequality so measured is greater than it had been before the 1980s (Dadush, Dervis, et al. 2012). High and rising inequality is a greater problem when it is associated with stagnant or falling incomes among the bottom 50%, as in the case of the United States, and is less of a problem when the incomes of the bottom 50% are rising quite rapidly as in China. Income inequality has increased in most countries, but at different speeds between 1980 and 2016 (chart 11 and 12), highlighting both common forces and the crucial role played by national policies and institutions in managing and shaping inequalities. The limited available data for Morocco shows relatively little change over the last three decades.



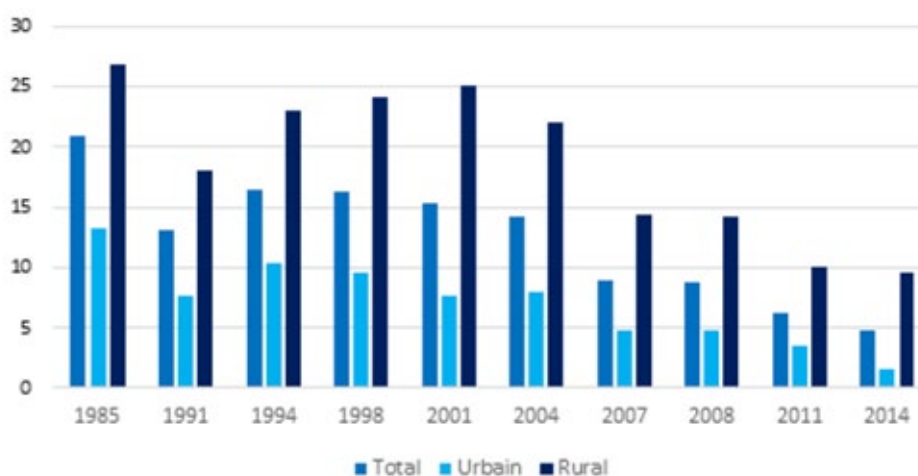
Source: World Inequality Database, 2019

Several factors are believed to explain the increasing levels of inequality within and across world regions. The most important of these is likely to be skill-biased technological change, or technologies that save on unskilled labor and require more skilled labor, such as automation (Jiancai & Pengqing, 2018). Globalization contributes to the trend by also placing a premium on skills even in countries which have an abundance of unskilled labor, and by creating many winner-takes-all opportunities⁴ (Maskin, 2014). As will be discussed below, there is little doubt that skill-biased technological change and globalization have been important features in Morocco. In addition, since around the mid-1980s, policies in many countries (though it is unclear whether that is the case in Morocco) have become more liberal, entailing reduced progressivity of taxation, deregulation, privatization, and, in many countries, reduced social transfers of various kind. Recently, evidence has emerged that in the advanced economies for which historical data sets are available, the rate of return on capital has been higher than the growth rate of GDP over very long periods, decades and centuries, accentuating wealth and, ultimately, income inequality (Piketty, 2014). The long data series needed to verify this hypothesis are usually unavailable in developing countries, and certainly in Morocco. However, since advanced countries are more capital intensive than developing countries such as Morocco (Berlemann and Wesselhoft, 2014), it is difficult to imagine that the gap between the risk-adjusted return to capital and the GDP growth rate is any less in developing countries than in advanced countries.

Inequality in Morocco: Dimensions

Though inequality remains high and stable in Morocco, it is important to recognize from the outset that, reflecting sustained and moderate economic growth rates, Morocco has been able in recent years to make significant progress in economic and social development, while significantly reducing poverty. Supported by GDP growth of 4.2% a year over the period 2000-2014 (over 2% per capita), a combination of rising market incomes and increased social spending helped reduce the poverty rate in Morocco. The share of people living on less than to 2.15 USD/day PPP in the population fell from 15.3% in 2001 to 4.2% in 2014 (chart 13).

Chart 13: The Evolution of Poverty Rate in Morocco



Source : Haut-Commissariat au Plan

4. See <http://www.worldbank.org/en/news/feature/2014/06/23/theorist-eric-maskin-globalization-is-increasing-inequality> for further information on the impact of globalization on inequality.

Indicators of multidimensional poverty⁵, which account for the various deprivations of the poor such as lack of access to education, has also decreased significantly in Morocco, from 24.5% of the population in 2001 to 6% in 2014.

How to characterize the income distribution in Morocco in an intuitive way? The latest household survey results, for 2014, lacks detail but enable us to identify four main groups of households based on our knowledge of the country and our previous work on the middle class in Morocco (Arbouch and Dadush, 2019). Chart 14 shows the distribution of expenditure by deciles expressed in \$ PPP updated to 2017 to reflect inflation. The bottom decile, with incomes under 4\$ a day includes all or nearly all the poor people as defined by income using the World Bank's poverty line as well as some people who are living just above the poverty line. The next 4 deciles of the population spend between \$4 a day and \$10 a day. Most of these people reside in the countryside and the typical main income earner is a man who works in agriculture (with help from the family) or works informally in the urban service sector. These households are not technically defined as poor, but they suffer some of the deprivations identified in multidimensional poverty and are very vulnerable to the vagaries of weather, to changes in their health, or to losing their job without compensation.

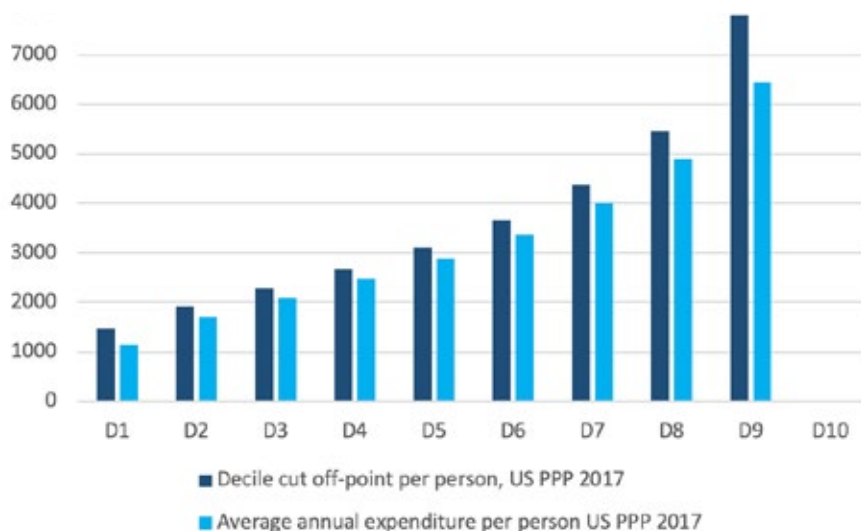
The next 4 deciles, those earning between \$10 a day and \$21 a day represent the middle class in Morocco, and thus belong to families that may be able to afford a used economy car or better, and various household appliances (See Arbouch and Dadush, 2019); some in this group are vulnerable to falling back into poverty or near-poverty but most will have resources and connections to fall back on in hard times. A part of this group, though certainly not all, is covered by social security, pensions, and formal health care coverage.

The last group is the top decile which is composed of the more affluent middle-class population and a small group of relatively well-off families whose living standard is not materially different than that of middle class and higher middle-class European families. The better off in this group are families that can, for example, afford a luxury automobile. In fact, luxury automobiles represent 7% of the cars used in Morocco and are probably owned by about 2.5-3% of families⁶. It is among them that one can find the top 1%, for which data is not available. If the Moroccan income distribution is similar to the average of developing regions, and there is no reason to believe that it is vastly different, one can speculate that the top 1% in Morocco earns about 1.5 times more income in total than the bottom 50% of the population does in total.

5. "Multidimensional poverty encompasses the various deprivations experienced by poor people in their daily lives – such as poor health, lack of education, inadequate living standards, disempowerment, poor quality of work, the threat of violence, and living in areas that are environmentally hazardous, among others" "visit for further information <https://ophi.org.uk/policy/multidimensional-poverty-index>").

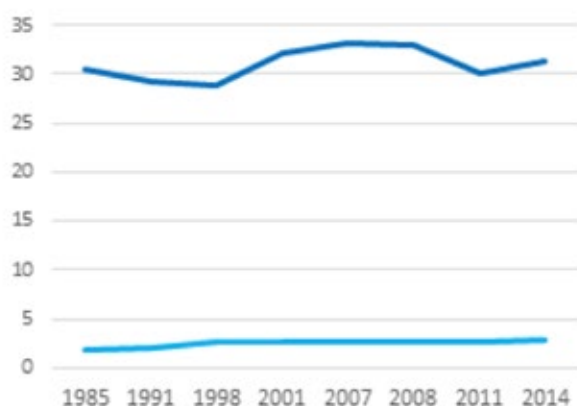
6. Approximately 40% of Morocco's population belongs to families which own a car., and 7% of this group owns a luxury automobile (Arbouch and Dadush, 2019)

Chart 14: Decile cut off-point per person and annual average expenditure In Morocco per Decile, US PPP 2017



Source : Author’s calculation, Haut-commissariat au Plan

Chart 15: Evolution of the share of average household expenditure top 10 % vs bottom 10 %

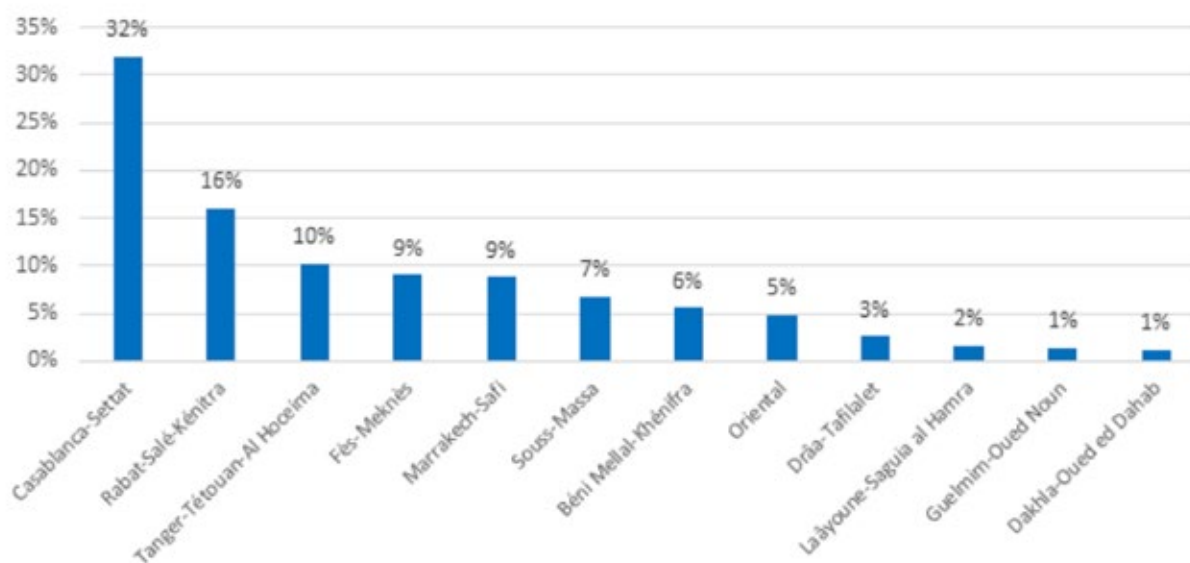


Casablanca-settat, Rabat-Salé-Kénitra and Tangier-Tetouan-Al Hoceima alone concentrate 58% of the total wealth created in Morocco, far higher than their 44% share of the total population (General Population and Housing Census of 2014, HCP).

Despite the progress made in recent years, high inequality and low living standards among the mass of the population generates much frustration. According to a recent survey conducted by the European Training Foundation entitled “Migration and Skills”, 59% of young Moroccans between 18 and 29 years old, would like to leave Morocco, with a large part of them definitively.

Inequality in Morocco is an especially complex phenomenon, as it reflects gender and regional inequality as well as social/income inequality.

Regional inequalities in Morocco are marked. Indeed, as chart 16 shows, the three regions of

Chart 16: The contribution of Morocco's regions to gross domestic product, 2016

Source : Author's calculation, Haut-Commissariat au Plan

There are also large differences in access to health care across regions, and between rural and urban areas as well as across social strata. Health human resources are unevenly distributed and do not correspond to the needs of the population particularly in rural areas. The average number of people per doctor in Morocco at the national level is 1513; this figure is doubled in the region of Drâa-Tafilalet (3342), while it is reduced by 42 % in the Rabat-Salé-Kénitra region. In 2016, about 52% of doctors are concentrated in the two regions of Rabat-Salé-Kénitra and Casablanca-Settat (Ministry of health (Morocco)) alone even though it is home to only 34% of the population.

Table 1: Number of doctors by region in Morocco in 2016

	Number of doctors by region	Number people by doctor and by region
Drâa-Tafilalet	489	3342
Béni Mellal-Khénifra	879	2866
Souss-Massa	1136	2352
Tanger-Tetouan-Al Hoceïma	1582	2244
Eddakhla-Oued Eddahab	70	2030
Guelmim-Oued Noun	219	1979
Marrakech-Safi	2296	1965
Oriental	1305	1770
Laayoune-Sakia El Hamra	211	1739
Fès-Meknès	2521	1678
Grand Casablanca-Settat	6390	1069
Rabat-Salé-Kénitra	5214	875

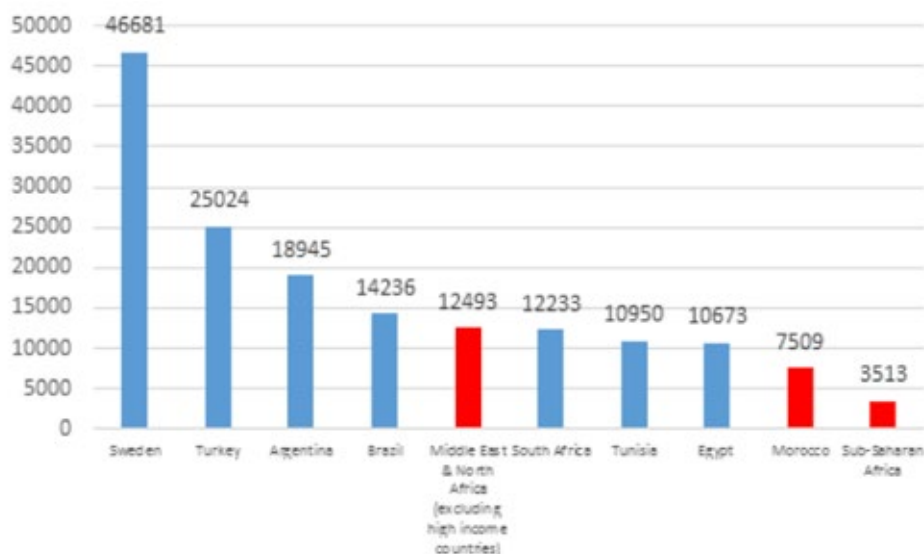
Source: Ministry of Health, Morocco

Inequality in provision of public services and in public investment in infrastructure contributes to the lack of attractiveness for investors, both domestic and foreign, of backward regions, reinforcing a vicious circle. Disparities in access to education and to employment opportunities across regions and social groups are crucial issues that will be taken up further below.

The International Perspective on Morocco’s Inequality

To gain a better understanding of what drives inequality in Morocco in this section we compare Morocco with four developing countries that are more unequal, namely Argentina, Brazil, South Africa and Turkey and two countries that are more equal and in the MENA region, Egypt and Tunisia, with which Morocco is often compared in other contexts. We also include Sweden in the comparison. Sweden is widely regarded an example of best practice since it has achieved a relatively equal income distribution, but also enjoys a favorable business climate, high income and solid economic growth compared to the world’s most advanced economies. As chart 17 shows, the countries in the sample exhibit widely different levels of development as measured by income per capita, where Morocco ranks lowest. It is also useful to compare Morocco to countries whose income is lower; such a comparison with a brief commentary can be found in the Annex to this paper.

Chart 17: GDP per capita, PPP (constant 2011 international \$),2017



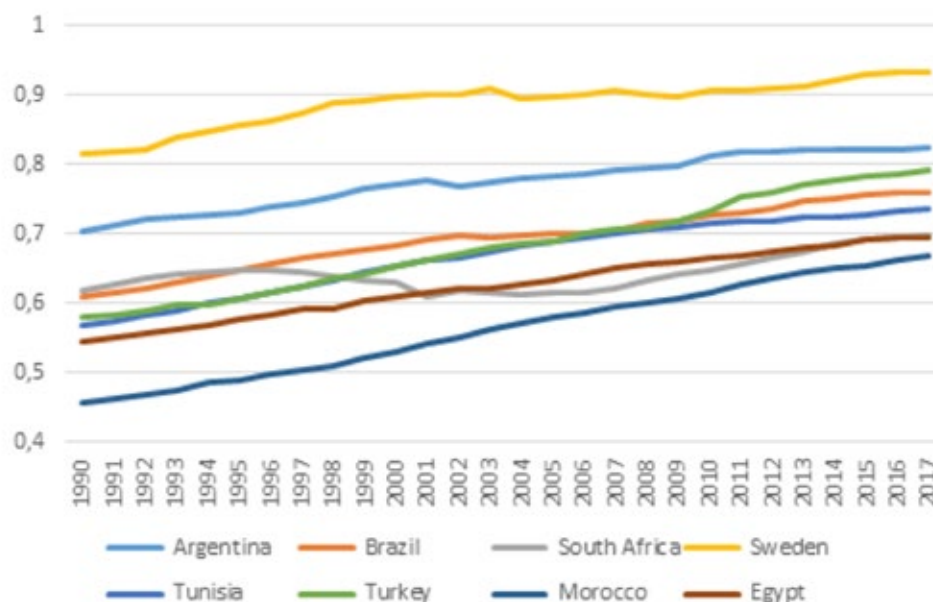
Source: WDI, World Bank Database

Broad Measures of Inequality

Before comparing across the sample countries using income and expenditure measures of inequality, we examine Morocco’s relative performance on the United Nations’ Human Development Index (HDI). This widely used and broad measure of human achievement includes per capita income but also covers education and health indicators which helps us see how the typical Moroccan is doing. Morocco has made significant progress in terms of human development in recent years. The Human development

index⁷ (HDI) of Morocco has increased significantly from 0.46 in 1990 to 0.67 in 2017 but, as chart 18 shows remains the lowest in the sample by a considerable margin, in line with its low income.

Chart 18: The Evolution of HDI by Country



Source: Human development Data, United Nation

However, Morocco is gradually closing the gap. The improving trend is seen in Table 2, which shows that between, 1990 and 2017, life expectancy at birth in Morocco increased by 11.4 years, the average number of years of schooling increased by 3.3 years, the expected number of years of schooling increased by 5.9 years and the GNI per capita increased by about 93.2% in real terms.

Table 2: The Evolution of Human Development Index in Morocco

	Human development Index	Life expectancy at birth	Mean years of schooling	Expected years of schooling	GNI per capita (2011 PPP\$)
1990	0,46	64,70	2,20	6,50	3800
1995	0,49	66,80	2,80	7,30	3788
2000	0,53	68,70	3,40	8,50	4394
2005	0,58	71,50	3,90	10,10	5337
2010	0,62	74,00	4,20	11,10	6353
2017	0,67	76,10	5,50	12,40	7340

Source: Human Development Indices and Indicators, United Nation, 2018

7. The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living. The HDI is the geometric mean of normalized indices for each of the three dimensions. See <http://hdr.undp.org/en/content/human-development-index-hdi> for further information.

Still, Morocco’s human development performance remains below that of North African countries and is ranked 123 out of 189 countries and at the bottom of the sample of the selected countries.

Morocco continues to lag on Human Development despite its respectable rate of growth and its progress in reducing poverty. The poverty rate which best applies here is defined at \$ 3.2 a day by the World Bank and in Morocco it is at 7.7 %, below that of Brazil, and well below that of Egypt and South Africa. Morocco’s poverty rate is, however, twice that of Tunisia and 4 times higher than that of Turkey (chart 19).

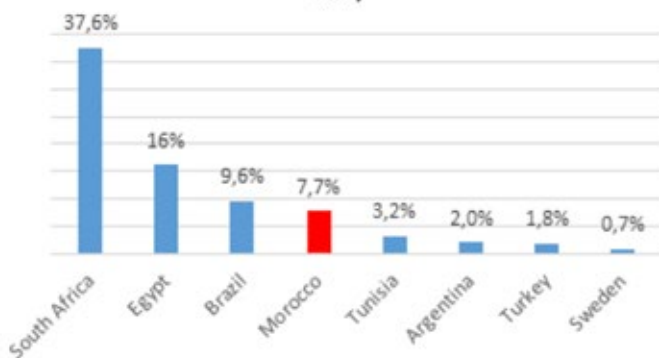
Poverty reduction, on which Morocco has made progress, crucial as it is, is only one aspect of inequality. The broadest and most widely used measure of inequality, the GINI index, shows that inequality is high in Morocco relative to sample countries in North Africa and there has been little change over the past three decades. Still, as chart 20 shows, Morocco is far less beset by inequality than Brazil and Argentina which are among the world’s most unequal nations, if not the most unequal.

Another widely used measure of inequality is the ratio of income derived by the top 20% and that derived by the bottom 20%. This measure broadly confirms Morocco’s high inequality. As Chart 21 shows, Morocco’s ratio is, at 7.4, far higher than Egypt’s 4.6, but bears no resemblance to South Africa’s 28.4.

Jobs and Gender

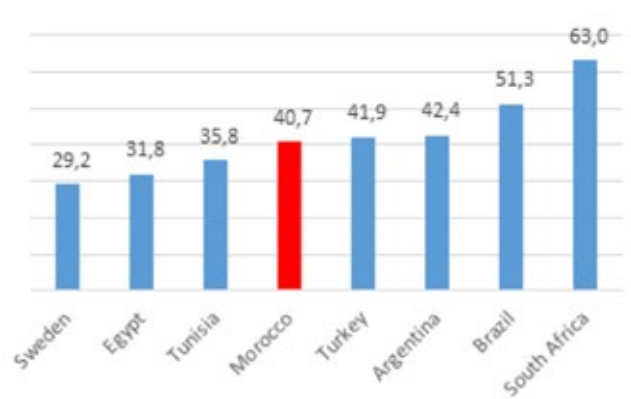
A very important contributor to inequality in Morocco is uneven access to the labor market. The official unemployment rate in Morocco stood at 9% in 2018, lower than Egypt and Tunisia and is among the lowest in the sample of selected countries (Chart 22).

Chart 19 : Poverty headcount ratio at \$3,20 a day (2011 PPP) (% of population) (2017 or most recent available data)



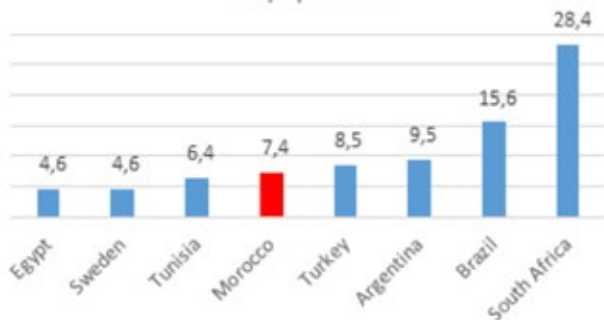
Source : WDI, World Bank, 2018

Chart 20 : Gini coefficient : 2010-2017



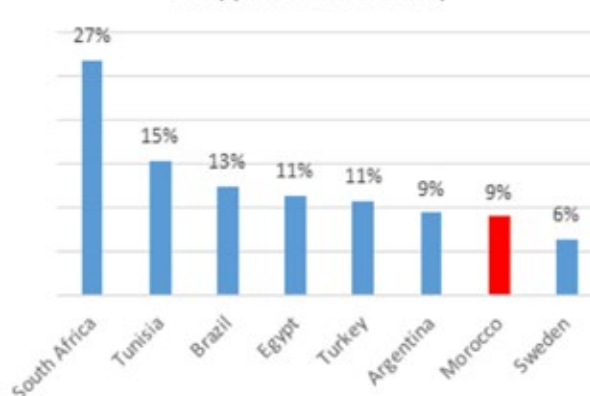
Source: Human Development Indices and Indicators, united nation, 2018

Chart 21: Ratio of the average income of the richest 20 percent of the population to the average income of the poorest 20 percent of the population



Source: Inequality-adjusted Human Development Index

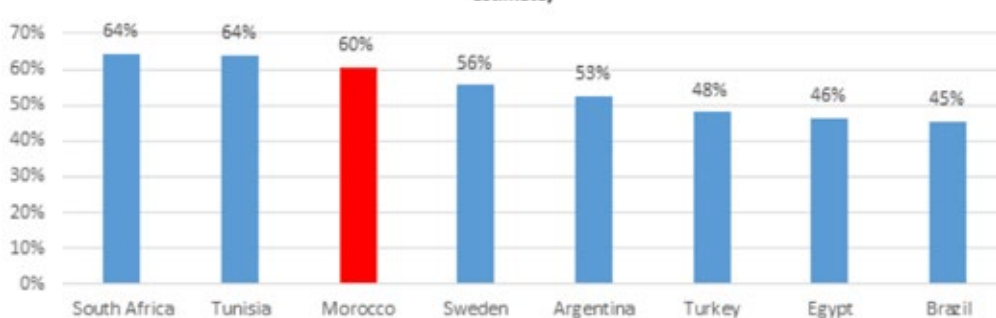
Chart 22 : Unemployment, total (% of total labor force) (modeled ILO estimate)



Source : WDI, World Bank, 2018

However, the official unemployment rate in Morocco gives only a very partial picture of the state of the labor market. The official unemployment rate relates mainly to the urban formal sector and fails to capture the complexity of job market developments that exhibit a high degree of informality. The measure also fails to capture underemployment (i.e. very low productivity activities) in the countryside, as well as in many urban services. The core reasons of the continued unemployment and underemployment in Morocco lies both in labor supply factors – rapid labor force growth and availability of surplus labor - and labor demand factors – a respectable rate of GDP growth but one that is job poor, i.e. associated with vastly improved labor productivity, a reflection of investments in physical and human capital as well as technology improvement. Cultural factors, expectations, and skill-matching also play a very important role in explaining unemployment and underemployment in Morocco. Most worrisome from the standpoint of equity and stability, youth unemployment is a major challenge facing the Moroccan economy. In 2018, this unemployment rate reached a very high level, nearly 26% of the population aged between 15 to 24 and about 43.2 % of urban youth in that age group. Almost one in two young in urban areas is unemployed. The labor force participation rate in Morocco which stand at 60 % and is high compared to our sample of countries (Chart 23).

Chart 23 : Labor force participation rate, total (% of total population ages 15+) (modeled ILO estimate)



Source: WDI, World Bank, 2018

Gender inequality is a crucial dimension of the disparities in Morocco. The very low participation of women in the Moroccan labor market is striking and remains one of the lowest in the world. As table 3 shows, the labor force participation rate of woman in Morocco is just 18% in urban areas, while that of men is 3.7 times higher in 2017. The unemployment rate of women at the national level is 14.7% compared to 8.8% for men. According to the general census of population and housing, conducted by the high commissioner for planning in 2014, the time allocated by men to professional work is 4 times higher than that of women, while the time allocated to domestic work is 7 times lower than that of women. The time allocated by boys to professional work is 1.5 times higher than that of girls, while the time allocated to domestic work is 3 times lower than that of girls.

Table 3: Unemployment and participation rate in Morocco in 2017

		Participation rate	Unemployment rate
Female	Urban	18%	25%
	Rural	30%	3%
	Total	22%	15%
Male	Urban	68%	12%
	Rural	78%	4%
	Total	72%	9%
Both sexe	Urban	42%	15%
	Rural	54%	4%
	Total	47%	10%

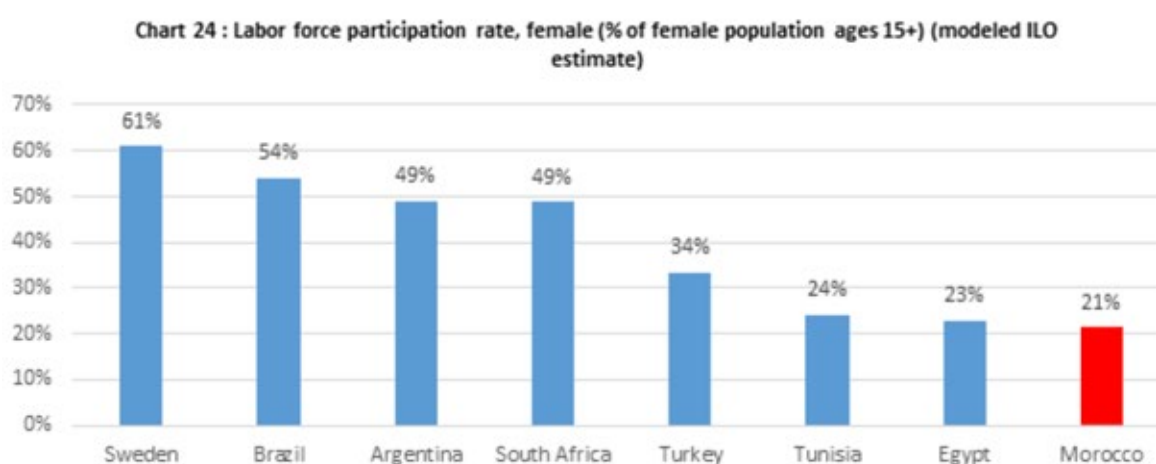
Source : Haut commissariat au Plan

The low participation rates of women in the labor market in Morocco can be explained by a combination of cultural norms, historically high fertility rates, lack of child-care structure, skill-mismatch (widespread girls' secondary and tertiary education is relatively recent in Morocco), decline of industries such as garments which employ large numbers of women, and insufficient growth and job-creation. According to a recent PCNS policy report, policies⁸ or autonomous shifts that encourages increased participation of women in the labor force could boost the annual growth⁹ rate of Morocco's GDP by between 0.2 and 1.95 percentage points over an indefinite period (Agénor et al., 2017). Although the effect on income distribution is not discussed in the aforementioned report, it is highly likely in our view that increased participation of women in the labor force would not only reduce gender inequality directly, raise the incomes of many least well-off families in the cities, and reduce poverty, but also reduce income inequality across households.

8. These anti-discrimination policies or shifts would reduce gender bias in the labor market.. They could take the form of either legal constraints (e.g. mandatory parity in hiring) or incentives (e.g. awareness campaigns on the economic cost of gender bias, or an obligation to publish the distribution of wages in companies by gender and type of activity). The direct result are to increase the family's income. This increase is reflected not only in an increase in household spending but also in higher private savings and investment, which has a positive effect on growth and tax revenues. Higher tax revenues contribute to higher public spending on education, which helps to promote human capital accumulation during childhood and (through the persistence effect) into adulthood. This effect (which operates in the same way for men and women) also contributes to promoting growth. The total effect is to accelerate the economic growth rate.

9. The variables of the model used to simulate the impact of anti-discrimination policies in the labor market are: women's time allocation; men's time allocation; family decision variables, including fertility rate, share of total family income spent on each child, savings rate, ratio of men's and women's time spent in paid employment, gender bias in the workplace, and women's intra-family bargaining power; and finally, the annual growth rate of market production.

The gender contribution to Morocco's inequality compared to the sample countries is best illustrated using the World Economic Forum's Global Gender Index¹⁰, which accounts for various dimensions of inequality beyond labor force participation¹¹. On this index, Morocco ranks 137th out of 149 countries, much lower than the worst-ranked country in the sample (see table 2 in the Annex), Egypt at 135. Sweden, which ranks 3rd in the world, has highly educated women who are not only nearly fully employed but also well represented in government and parliament. Sweden has shown that a better economic integration of women carries many benefits, not the least of which is reducing inequality among households directly, and, by boosting tax payments which can finance social expenditure, reducing inequality indirectly.



Source: WDI, World Bank, 2018

Education

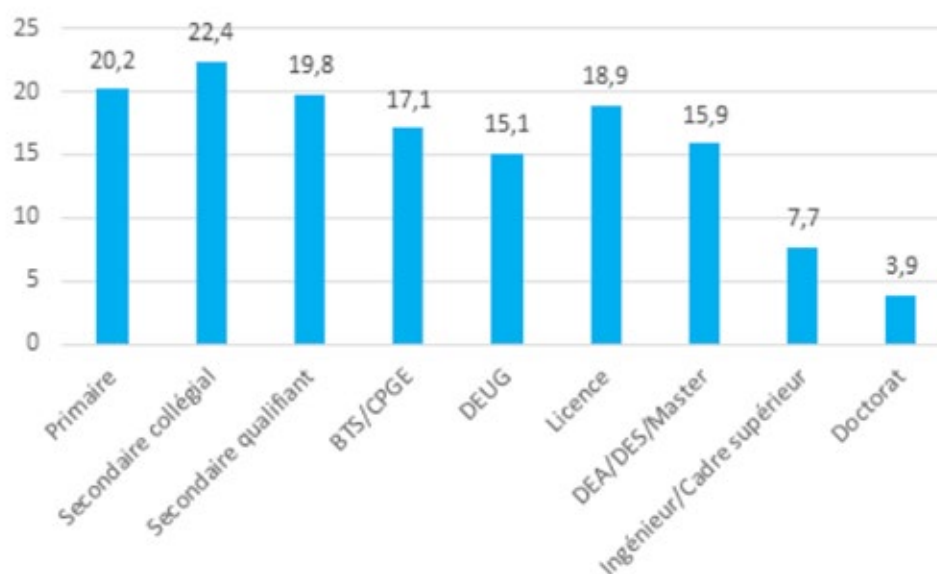
Here we focus on an issue that is perhaps the most critical to mitigating inequality in Morocco. The current situation of the Moroccan educational system is alarming; its low quality is a source of both high inequality and economic growth that is insufficient to tackle the nation's chronic unemployment problem – especially that of young people. Moreover, standardized test scores show that the situation has hardly changed since the early 2000s. The problem is not so much that of resources – as Morocco invests in education at rates not dissimilar than comparators as a share of GDP and an even larger share of its public spending – but of effectiveness of resource use.

The weak outcomes of Morocco's educational system are evident:

#Two-thirds of 20-year-olds Moroccan (nearly 400 000 out of 600 000) do not obtain the Baccalaureat, and out of 200 000 who have passed their Baccalaureat, only 50 000 receive training that meets their employment expectations. Moreover, only 2% of the 20-year-old age group will obtain highly qualified diplomas that will facilitate their integration in the labor market (Chauffour, 2017). University graduates in Morocco have a high unemployment rate (Chart 25).

10. This Index is developed by the world economic forum and take into consideration four main factors: Economic participation and opportunity, Educational Attainment, Health and survival and political empowerment.

11. (See table 1 in the appendix for more detail information on the four dimension of gender inequality and the ranking of morocco in each dimension compared to the sample of selected countries)

Chart 25: Unemployment rates by educational attainment in Morocco, 2014

Source: Haut-Commissariat au Plan

Although illiteracy has declined, at 30.6% of the population, it remains very high. Illiteracy is a major cause of marginalization and leads to a wide income gap between this category and the more educated.

#The weaknesses of the Moroccan educational system are also confirmed through the international TIMSS (Trends in International Mathematics and Science Study) and PIRLS (Progress in International Reading Literacy) tests¹². In mathematics, Morocco has a score of 377 for primary and 384 for middle school; in science, it has a score of 352 for primary¹³ and 393 for middle school (Chart 26 and 27).

12. "TIMSS and PIRLS are international assessments that monitor trends in student achievement in mathematics, science, and reading". TIMSS and PIRLS results include:

- Measuring the effectiveness of their educational systems in a global context
- Identifying gaps in learning resources and opportunities
- Pinpointing any areas of weakness and stimulating curriculum reform
- Measuring the impact of new educational initiatives
- Training researchers and teachers in assessment and evaluation

See <https://timssandpirls.bc.edu/> for further information.

13. See the chart 1 and 2 in the appendix that shows the TIMSS tests results for primary school in Morocco, compared to world averages.

Chart 26: Average mathematics scores of 8th-grade students, by education system 2015

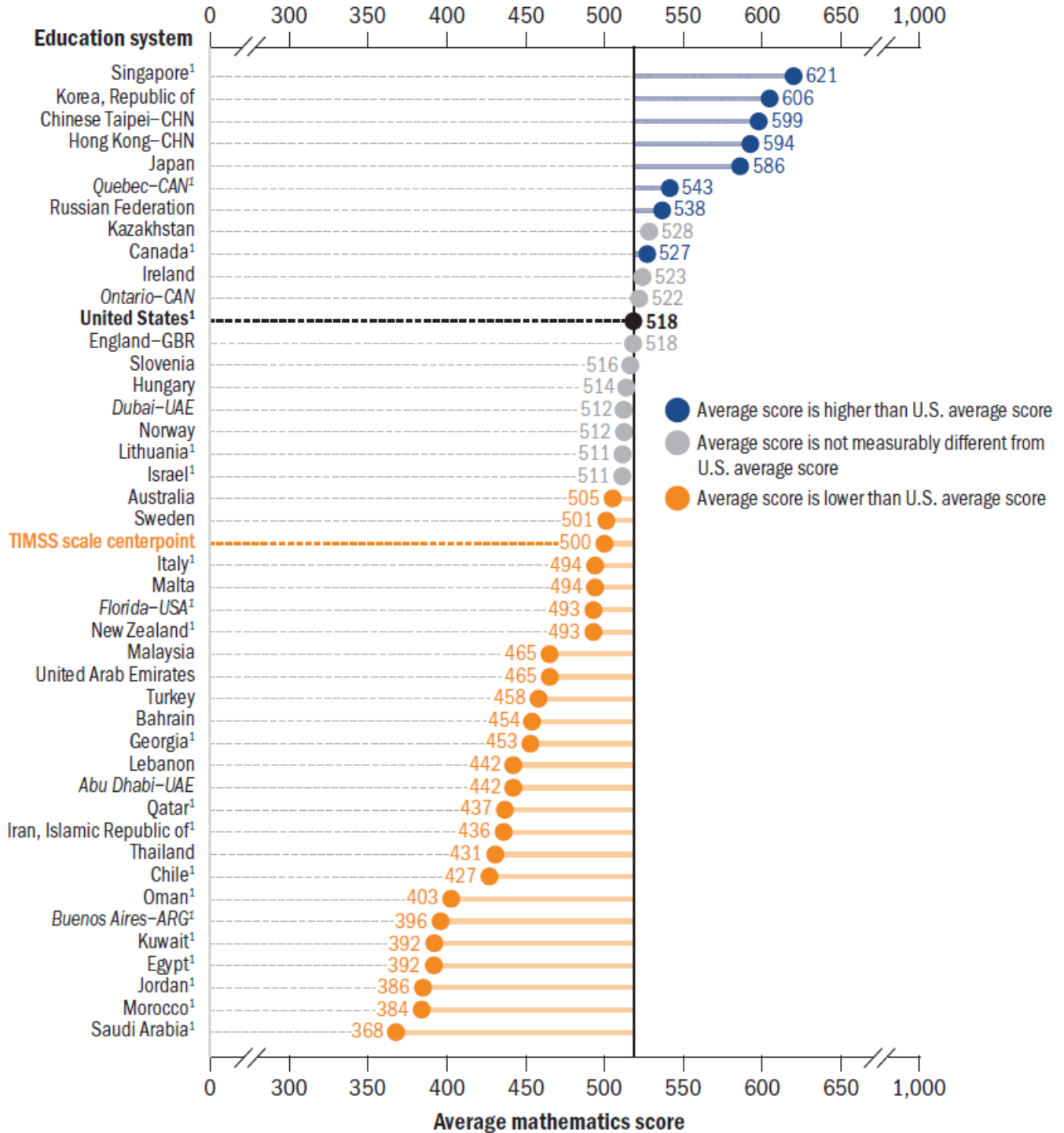
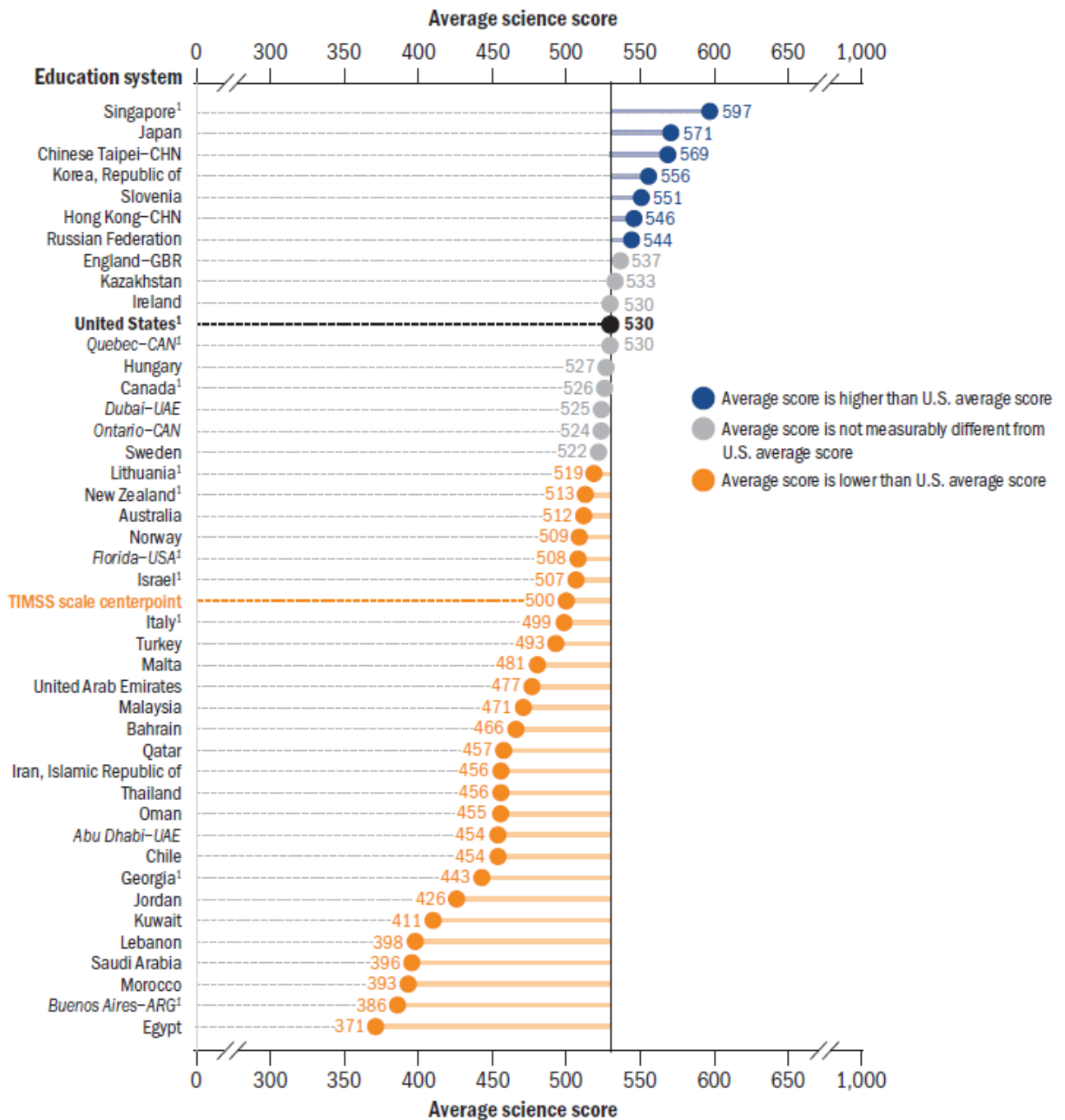


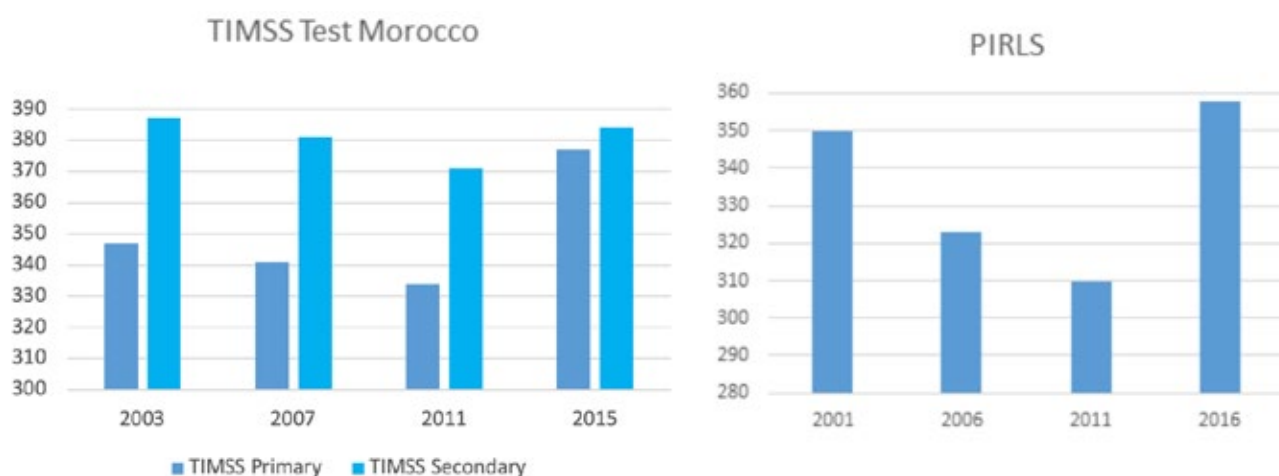
Chart 27: Average science scores of 8th-grade students, by education system: 2015



Source: National Center for Education Statistics, TIMSS results

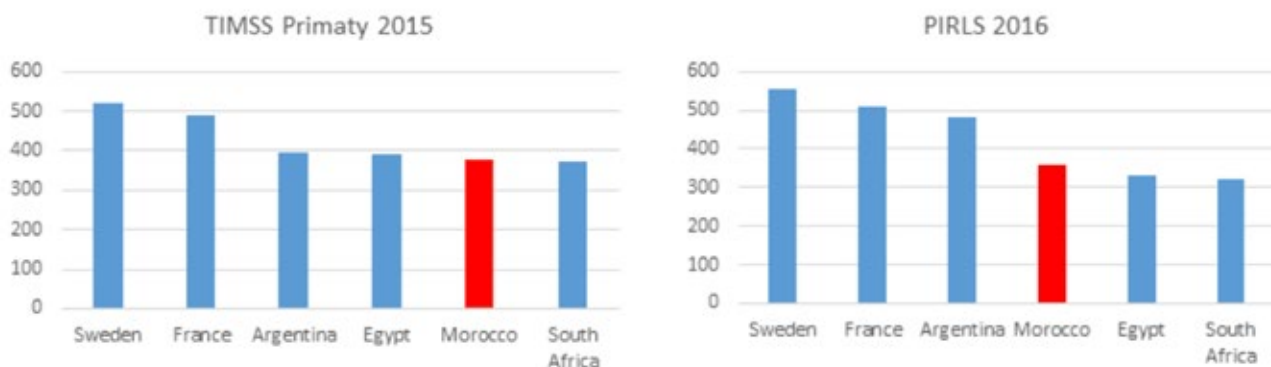
Despite the recent improvement in 2015 for the TIMSS test and in 2016 for the PIRLS test as shown in graph 31, the results remain low, like those of Egypt. As shown in chart 28, Morocco's results remain far from those of Sweden, which has a mathematics score of 519 for primary and 501 for secondary; and a score in science of 540 for primary and 522 for secondary.

Chart 28: Evolution in Score of PIRLS and TIMSS in Morocco



Source: PIRLS and TIMSS

Chart 29: Evolution in Score of PIRLS and TIMSS in Morocco



Source: TIMSS and PIRLS

The results of the PIRLS and TIMSS surveys also show that the level of educational inequality is extremely high in Morocco compared to the other countries of the world. Thus, the top 10 % most successful students score 2.5 times higher than those at the bottom 10 %. These learning gaps are much higher than the world average of 1.5.

Instead of promoting social mobility, schools tend to reproduce social inequalities according to the socio-economic background of parents. In a context of widespread mistrust of national education, the demand for enrolment in private education is growing rapidly. Young Moroccans now live in parallel educational worlds delimited by the socio-economic background and the financial capacity of their families.

The inequality of access to quality education is evident in pre-schooling, which experts believe is critical to the child's development as an adult, as shown, for example by the recent national survey on preschool education (ENEP, 2014). The likelihood of pre-schooling a child whose father has a higher level of education (78.6%) is 2.5 times higher than those of a child whose father has never been to school, and 1.5 times those of a child whose father has just the primary school level. Private preschool establishments in Morocco accounted for nearly 93.5% of preschool children in the 2000s, compared with 76.0% in the 1960s. On the other hand, the traditional preschool system is declining in favor of the private (or modern) sector. In the 1960s, the private preschool sector hosted 17.5% of preschool children, compared to 90.3% in the 2000s. Moreover, the yield of traditional preschool is far lower from the private preschool. This is an example of how income inequalities can translate in the future into educational inequalities and, as a result, can be transmitted from one generation to another. While pre-schooling improves school performance, it does not, on its own, eradicate inequalities in opportunities for academic achievement.

In summary, unequal access to high quality education is converted in the future into unequal access to the labor market and as result into income and wealth inequality. Especially important is investment in high quality early education, making it accessible to a large majority of small children. An overhaul of the Moroccan public education system is overdue. This takes us to the role of government in reducing inequality.

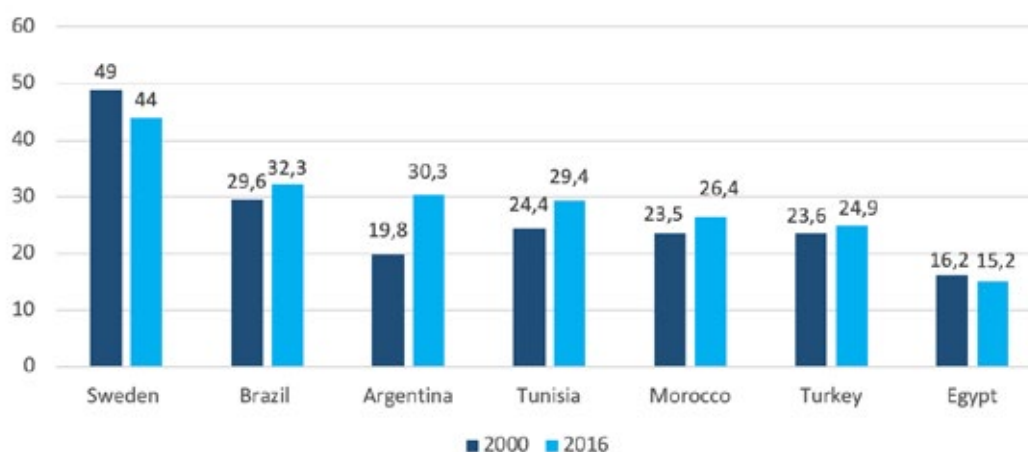
International Perspective on the Role of Morocco's Government in Reducing Inequality

Estimates of inequality before and after taxes and transfers show clearly that progressive taxation and social spending by government can play a very important role in reducing inequality across the world. For this reason, one needs to examine GINI coefficients as they measure the distribution of market incomes, i.e. before taxes and transfers and as they measure net incomes, i.e. income after taxes and transfers, including direct and indirect taxes, government spending on education, health, pensions, etc. For example, Lustig and her co-authors (Lustig, 2013) estimate that taxes and transfers reduced the GINI coefficient of Argentina and Brazil, countries in our sample, by about one quarter, i.e. from 0.497 to 0.369 and from 0.574 to 0.438, respectively. Longitudinal studies show that inequality can be reduced drastically by regime change, as in the case of communist Eastern Europe, which saw a decrease in GINI from 0.4 in 1929 to 0.27 in 1990, and an increase to 0.36 in 2000 after the fall of the Berlin Wall (Moatsos et al.2014). The adoption of Reagan-Thatcher reforms contributed to a sharp rise in the GINI index in the US and the UK after 1980 from already high levels.

The GINI coefficient for Morocco is derived from household expenditure data so a part of the government's taxes and transfers are already included and there is no available estimate of what the GINI would be before and after taxes and transfers to our knowledge. To evaluate the effect of government in reducing inequality in Morocco, the best we can do at this stage is to examine the size of the government's tax take as an indicator of resources available to cover social spending and the amount of social spending. How the tax revenue is levied matters a lot. Insofar as indirect taxes, duties and fees, play a large role taxation, as is the case in Morocco, their effect is likely to be regressive compared to taxes imposed on incomes. And social spending on primary education and health, for example, is likely to be more equalizing than social spending on universities which are disproportionately attended by the relatively well-off.

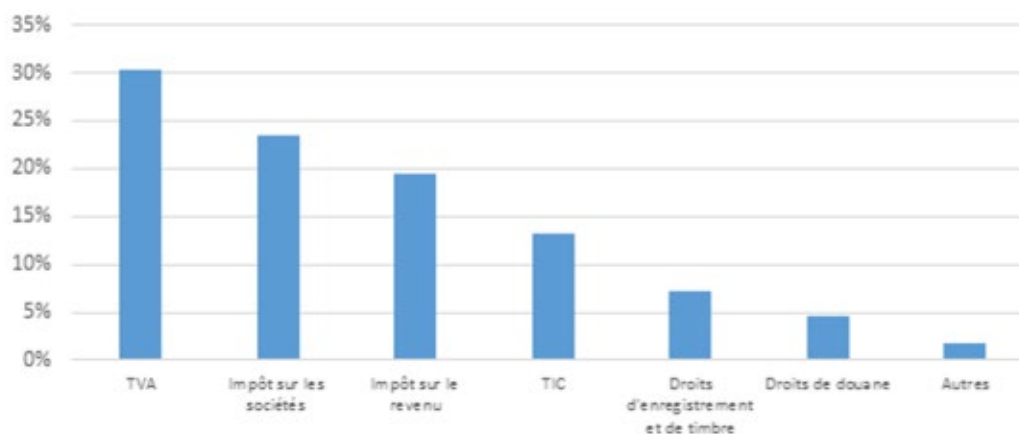
In 2016, Morocco's tax revenue represented 26.4% of GDP, not far out of line with the average of the sample of selected countries (chart 30). Tax revenue in Morocco as a share of GDP is far higher than in Egypt but less than Tunisia. Brazil and Argentina, where redistribution towards the lower deciles of the income distribution is considerable have higher tax revenue than Morocco by about 5% points of GDP. Sweden's tax revenue is a full 18 percentage points of GDP higher than in Morocco.

Chart 30: Tax revenue as % of GDP between 2000 and 2016



Source: Global Revenue Statistics Database, 2019

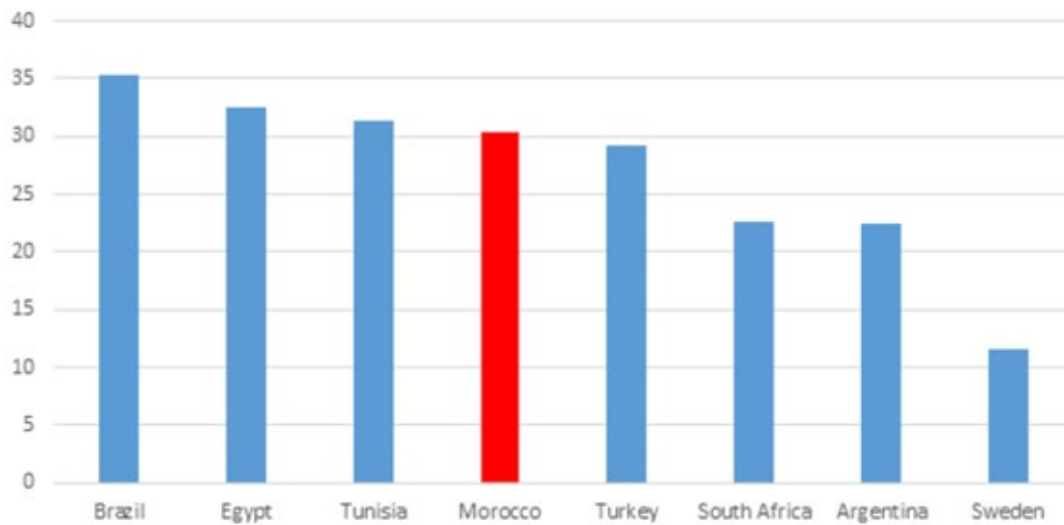
Chart 31: Direct and Indirect Tax in Morocco in 2018



Source: Trésorerie Générale du Royaume

To improve tax collection in Morocco and achieve levels of revenue in GDP comparable to those of the better performers in this regard in the sample, would require reducing the size of the informal sector. As shown in Chart 32. Morocco's informal sector is estimated to exceed 30% of GDP and is close to the highest in the sample. Informality not only reduces the tax take but is also associated with low productivity/low wage jobs, precarious employment and absence of benefits. According to a recent analysis, firms in the informal sector tend to exhibit low growth rates as well, and very few graduates into the formal sector (La Porta and Shleifer, 2014)

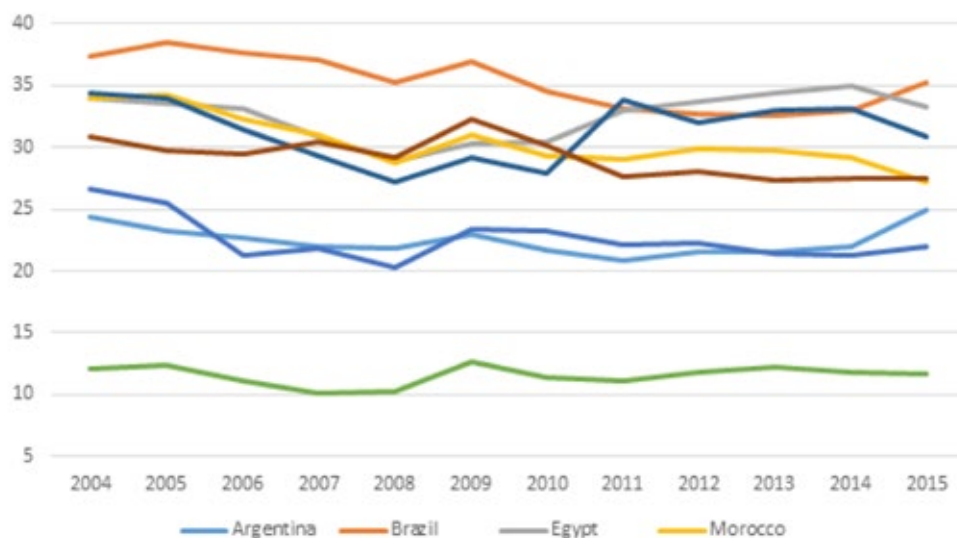
Chart 32: Average Size of Shadow Economy over the period 2004-2015



Source: Leandro Medina and Friedrich Schneider calculations, 2017

It is encouraging that the estimated size of Morocco’s informal (or shadow) economy has seen a moderate decline of 5% points as a share of GDP over 2004-2015 (Chart 33)

Chart 33: The evolution of the Size and development of the shadow economy over the period 1991 to 2015

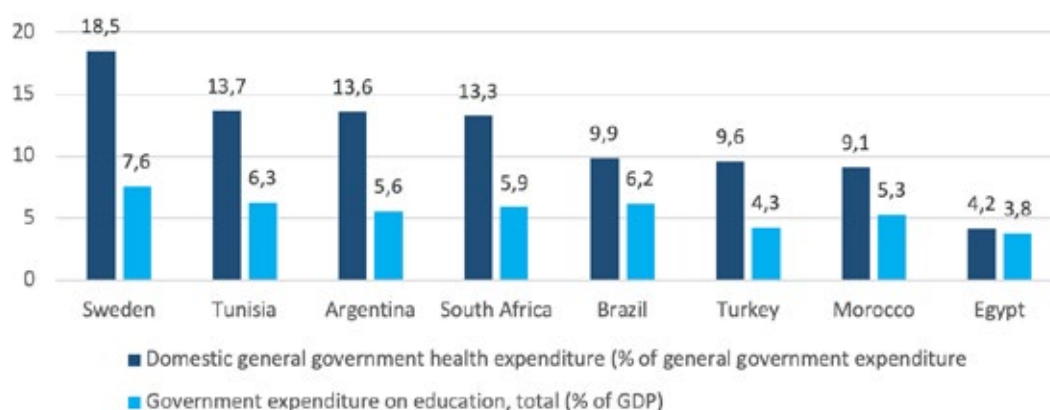


Source: Leandro Medina and Friedrich Schneider calculations, 2017

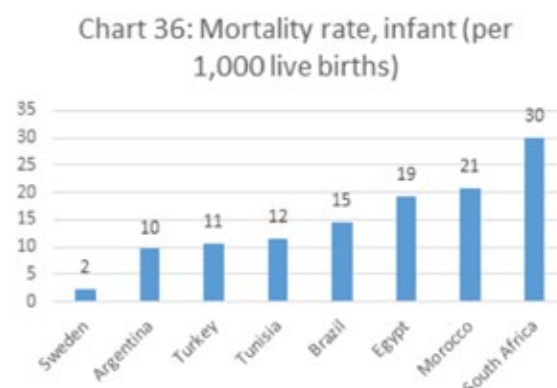
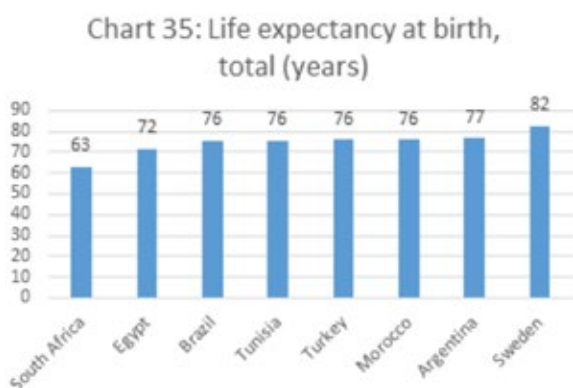
Spending on health and education in Morocco (Chart 34) is very much at the low end of sample. On education Morocco spends less than the other countries in the sample except Egypt and Turkey. Considering Morocco’s young population and the weak standardized test scores of Moroccans, it seems clear that government is not using education effectively as a tool to remedy inequality. The picture on health spending is hardly better.

Morocco spends less on health than all other countries in the sample except Egypt. Still, on average, life expectancy in Morocco stands at 76 years, the same level as that of Turkey, Tunisia, or Argentina. This average remains far lower than that of developed countries such as Sweden (82 years old), but higher than that of Egypt (72 years old) and South Africa (63 years old) (Chart 35). However, the infant mortality rate (per 1000 live births) in Morocco is the higher than all included in the sample, except South Africa.

Chart 34: Health and education expenditure by country, 2016*



Source: WDI, World Bank. * 2016 or most recent available data



Source: WDI, World Bank. * 2016 or most recent available data

No discussion of the role of government in affecting inequality is complete without a reference to corruption. The link between corruption and inequality can exist in two ways¹⁴. First, high inequality can be associated with state capture by the wealthiest classes who can use inordinate influence to receive favorable treatment on government contracts, land sales, regulation and taxation. Second, corruption can increase inequality since it is only the wealthier that can “buy” the most important favors (Gupta, Davoodi and Alonso-Terme, 1998; Jong-Sung and Kagam, 2004). It is true that petty corruption may help low-paid government officials improve their lot at the expense of other citizens who may be better-off, but it is just as likely to hurt those who can ill afford to pay bribes. As can be seen from the table 4 below based on Transparency International, corruption perceptions in Morocco place it at 73 out of 180 Countries, at the same level as South Africa and Tunisia, far below the Sweden benchmark, but better than other countries in the sample. Brazil and Egypt rank far lower than Morocco. Sweden, where incidents of corruption are rare, has a score 2.4 times higher than that of Morocco.

14. See Nieves Zuniga, Transparency International, 2017, for a useful survey of the evidence on the link between corruption and inequality.

Table 4: Corruption perceptions index

Rank 2018	Country	CPI score 2018	Average CPI score 2008-2017
3	Sweden	85	90
73	Morocco	43	36
73	South Africa	43	44
73	Tunisia	43	41
78	Turkey	41	44
85	Argentina	40	33
105	Brazil	35	39
105	Egypt	35	32

Source: Transparency International, 2018

The data used in this section is too incomplete to allow for definitive conclusions. It is likely, however, that Morocco's government plays a modest role in reducing inequality. Still, it would appear that – except for Egypt - governments in the other sample countries play a more important role in reducing inequality than does the government in Morocco.

The hypothesis that the role of Morocco's government in reducing inequality is modest is broadly reinforced by comparing Morocco with a sample of poorer countries (Annex Table 1). The comparison shows that income inequality in Morocco as measured by the GINI index is significantly higher than Asian countries such as Bangladesh, India and Vietnam despite Morocco's higher tax revenues which should enable a more active government role in reducing inequality. Morocco's inequality is generally only a little lower than that of African countries in the sample, including Cote d'Ivoire, Ghana, Madagascar and Uganda, despite the fact that its tax take as a share of GDP is much higher, and the share of the informal economy in its GDP is far lower. Morocco is clearly hampered, even in comparison to poorer countries, by its low rate of labor force participation and specifically that of women, and even though women's educational attainment is in line with that of other countries in the sample. Still, it is important to note that the poverty rate in Morocco is much lower than that of other countries, including the Asian countries in the sample, except Viet Nam. Government action in Morocco in reducing inequality sees its main effects at the very bottom of the income distribution, lifting the poorest, but does less for the less poor at the lower end and the middle of the distribution.

Policy

More can be done by government to reduce inequality in Morocco. The issue has become more pressing in recent years as economic growth in Morocco has decelerated from an average of 4.3% over the period 2000-2013 to 2.8% over the last five years. This low growth occurs despite high investment rates, about 32% of GDP on average, and reflects a combination of misallocated capital (excessive reliance on public investment) and insufficient and mis-matched skills (Agenor and El Aynaoui, 2015). Low growth, skill mismatch and gender imbalance, result in low labor participation persistent unemployment especially among the youth and women. Meanwhile, although the number of poor people has declined sharply, the poorest 10% of the population have not seen an increase in their share of consumption and income since 1985, which remains stuck at about 2.5%. The room for maneuver available to Morocco's government is limited by high public debt, now at 65.1 % of GDP and a high government deficit.

Given Morocco's slowing growth and fiscal constraints, actions to reduce inequality should, ideally, be both growth enhancing and budget neutral, a tall order. Still, any ordering of the reforms needed to reduce inequality would surely place better education and improved access to that education by the lower 50% of the income distribution at the top of the list. The reforms needed require not necessarily increased spending, although that would help, but more equitable distribution for that spending and, above all, greater effectiveness in managing the public education system.

Almost as important is improved access to the job market by the female population, which should be both growth-enhancing and budget-positive. Since Moroccan women are closing the gap with men on education and Morocco needs more qualified workers, improving the gender balance is increasingly possible and needed. As the fertility rate in Morocco continues its rapid decline, more women will be freed to work. Doubling the number of income earners among poor families in the cities by encouraging women to work, or freeing women from low-productivity work in the farms, would have a big effect on improving the lot of their families. Both education and gender reforms would not only reduce inequality but help accelerate economic growth in the long run. Investments in pre-school education could help improve educational outcomes overall and free more women to work.

Other reforms may appear lower on the list but could also have significant effects on inequality and be growth-enhancing. The regional and social disparities in access to quality health services must be reduced. A policy of decentralization with a correspondent and equitable reallocation of health spending across Morocco's regions would almost certainly help.

Morocco needs to make the tax system more progressive by reducing the reliance on indirect taxes and increasing that on income taxes. This would require, among other measures, improved collection of the corporate tax where just 2% of companies contribute 82%¹⁵ of the corporate tax paid. Placing an inordinate burden on a few firms in the formal sector is both inefficient and encourages informality. Redressing this imbalance by encouraging formalization could be growth-enhancing and budget-positive.

Reforms are also needed to reduce the incidence of corruption which contributes to inequality and inefficiency through various forms of uneven treatment, such as on land sales, granting of licenses,

15. See The ECONOMIC AND SOCIAL COUNCIL Of the Kingdom of Morocco report on Moroccan tax system, published in 2012. <http://www.ces.ma/Documents/PDF/Rapport-Fiscalite-VF.pdf>

etc. Ensuring that all sectors of the Moroccan economy are subject to a high level of competition will also help lower prices for all citizens, eliminate excess profit due to oligopolistic behavior, and enhance efficiency and growth. In a small economy such as Morocco enhancing competition usually requires greater openness. This has largely been achieved in trade in goods, but there is more to do open the service sector and facilitating foreign direct investment.

A more systematic effort to contain and reduce inequality in Morocco also requires much better data and freer access to it from household surveys and tax returns. Appropriate government action must be based on a better understanding of the characteristics of households at different points in the income distribution, including income sources, nature of occupation, level of education, health attainment, and so on. Information of this kind will enable policymakers to evaluate all manner of government policy in terms of their distributional effect.

Annex

Table 1: Morocco in comparison to seven other poorer countries, 2018¹⁶

	Morocco	India	Vietnam	Bangladesh	Ghana	Cote d'Ivoire	Uganda	Madagascar
GDP per capita, PPP (constant 2011 international \$)	7508,80	6899,21	6608,62	3879,16	4211,85	3733,05	1807,37	1452,59
GINI index (World Bank estimate)	39,50	35,70	35,30	32,40	43,50	41,50	42,80	42,60
Poverty headcount ratio at \$3.20 a day (2011 PPP) (% of population)	7,70	60,40	8,40	52,90	30,50	57,40	69,90	91,00
Human Development Index	0,67	0,64	0,69	0,61	0,59	0,49	0,52	0,52
Life expectancy at birth	76,10	68,80	76,50	72,80	63,00	54,10	60,20	66,30
Mean year of schooling	5,50	6,40	8,20	5,80	7,10	5,20	6,10	6,10
Mortality rate, infant (per 1000 live births)	22,10	32,00	18,90	28,90	39,40	71,20	39,00	36,00
Educational attainment score of women	0,94	0,95	0,97	0,95	0,94	0,82	0,91	0,95
Economic participation and opportunity score of women	0,40	0,39	0,74	0,44	0,75	0,62	0,70	0,71
Labor force participation rate, total (% of total population ages 15+) (modeled ILO estimate)	45,50	51,93	77,43	58,72	67,48	57,30	71,01	86,41
Labor force participation rate, female (% of female population ages 15+) (modeled ILO estimate)	21,43	23,60	72,65	36,00	63,63	48,28	67,15	83,59

16 2018 or most recent available data. The data available in this table came from different sources namely, WDI, world bank, United Nation, Transparency international (corruption) and Leandro Medina and Friedrich Schneider calculations, 2017 (the size of shadow economy)

Unemployment, total (% of total labor force) (modeled ILO estimate)	9,04	2,55	1,89	4,31	6,71	2,48	1,74	1,66
Government expenditure on education, total (% of GDP)	5,26	3,84	5,65	1,54	4,51	4,36	2,64	2,79
Domestic general government health expenditure (% of general government expenditure)	9,07	3,14	8,95	3,38	6,54	4,88	5,14	17,83
Tax revenue as % of GDP	21,80	11,20	19,10	8,80	18,30	16,20	13,70	7,70
Size of shadow economy	27,13	17,89	14,78	27,60	39,37	42,40	31,88	45,29
Corruption perception index	43	41	33	26	41	35	26	25

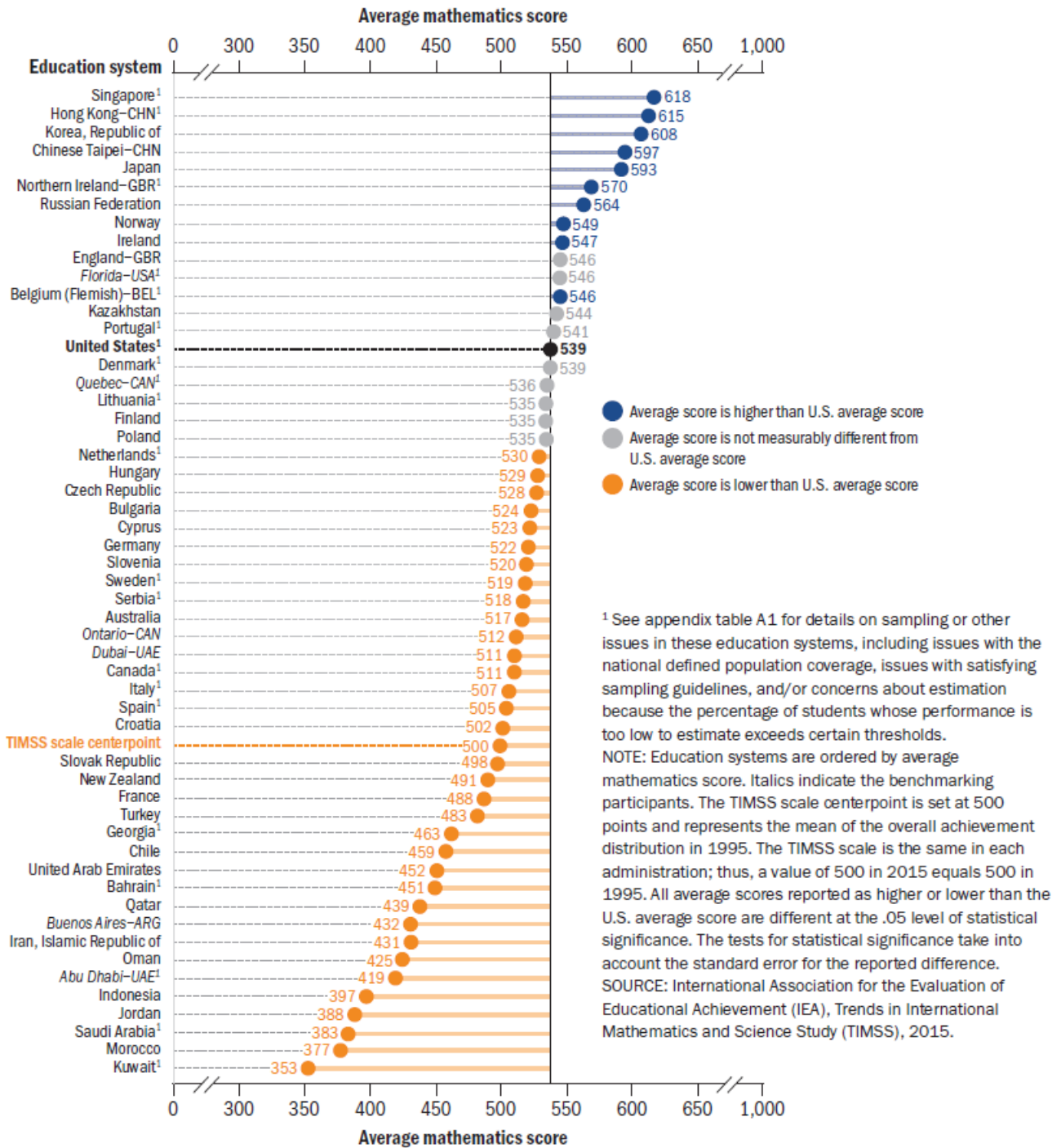
Source: WDI, World Bank, United Nation, Transparency International and Leandro Medina and Friedrich Schneider calculations, 2017

Table 2 : Gender Gap Index: 2018

Country	Global Index		Economic participation and opportunity		Educational Attainment		Health and survival		Political Empowerment	
	Rank	Score (0-1)	Rank	Score (0-1)	Rank	Score (0-1)	Rank	Score (0-1)	Rank	Score (0-1)
Sweden	3	0.822	9	0.808	52	0.998	115	0.969	7	0.512
South Africa	19	0.755	91	0.645	72	0.992	1	0.980	17	0.404
Argentina	36	0.733	114	0.599	63	0.995	1	0.980	23	0.356
Brazil	95	0.681	92	0.645	1	1.000	1	0.980	112	0.101
Tunisia	119	0.648	135	0.439	108	0.966	105	0.971	55	0.216
Turkey	130	0.628	131	0.466	106	0.968	67	0.976	113	0.101
Egypt	135	0.614	139	0.421	99	0.975	84	0.974	122	0.087
Morocco	137	0.607	141	0.404	117	0.942	135	0.963	102	0.117

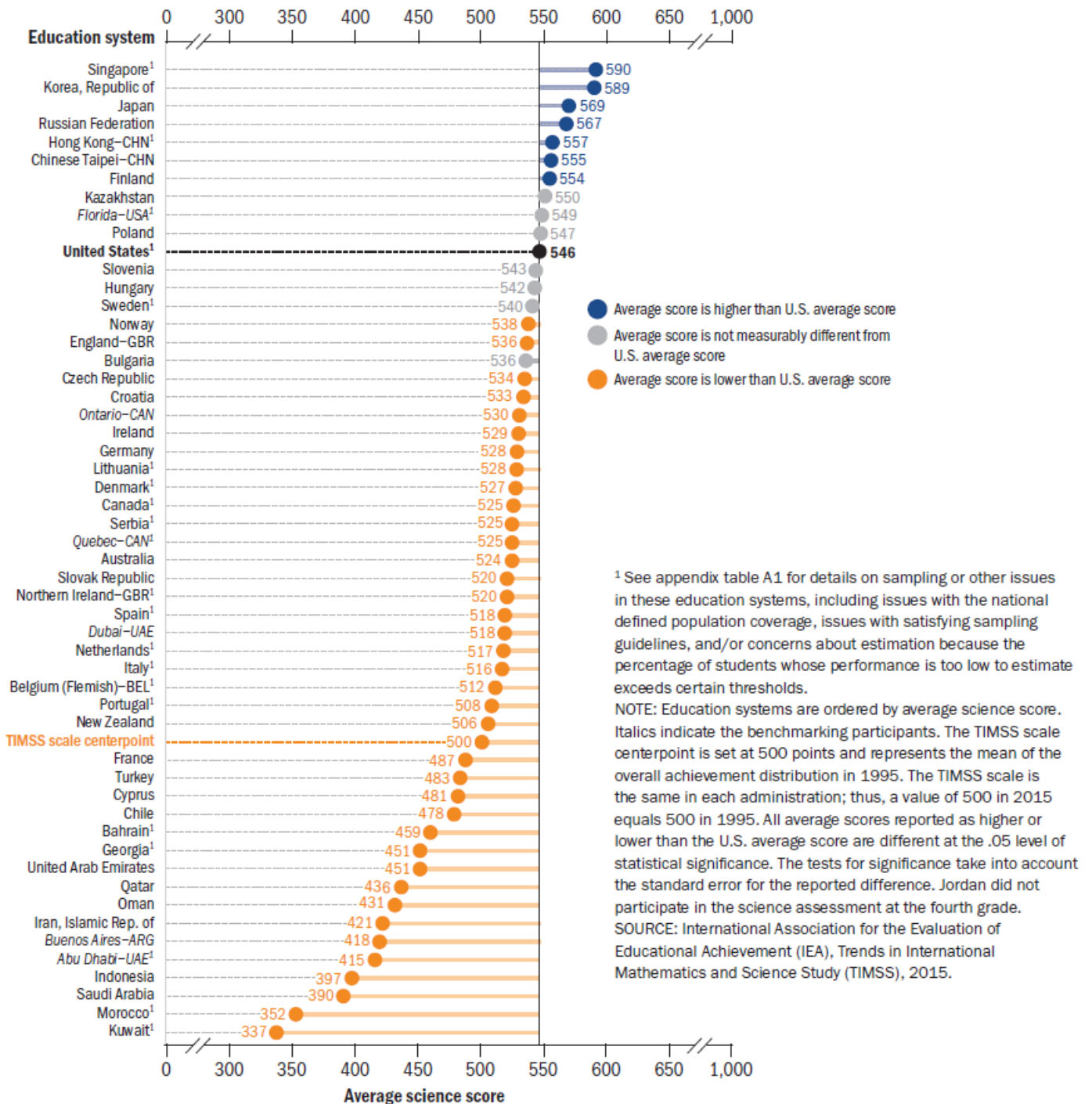
Source: The Global Gender Gap Report, 2018

Chart 1: Average mathematics scores of 4th-grade students, by education system 2015



Source: National Center for Education Statistics, TIMSS results

Chart 2: Average science scores of 4th-grade students, by education system: 2015



¹ See appendix table A1 for details on sampling or other issues in these education systems, including issues with the national defined population coverage, issues with satisfying sampling guidelines, and/or concerns about estimation because the percentage of students whose performance is too low to estimate exceeds certain thresholds.
 NOTE: Education systems are ordered by average science score. Italics indicate the benchmarking participants. The TIMSS scale centerpoint is set at 500 points and represents the mean of the overall achievement distribution in 1995. The TIMSS scale is the same in each administration; thus, a value of 500 in 2015 equals 500 in 1995. All average scores reported as higher or lower than the U.S. average score are different at the .05 level of statistical significance. The tests for significance take into account the standard error for the reported difference. Jordan did not participate in the science assessment at the fourth grade.
 SOURCE: International Association for the Evaluation of Educational Achievement (IEA), Trends in International Mathematics and Science Study (TIMSS), 2015.

Source: National Center for Education Statistics, TIMSS results

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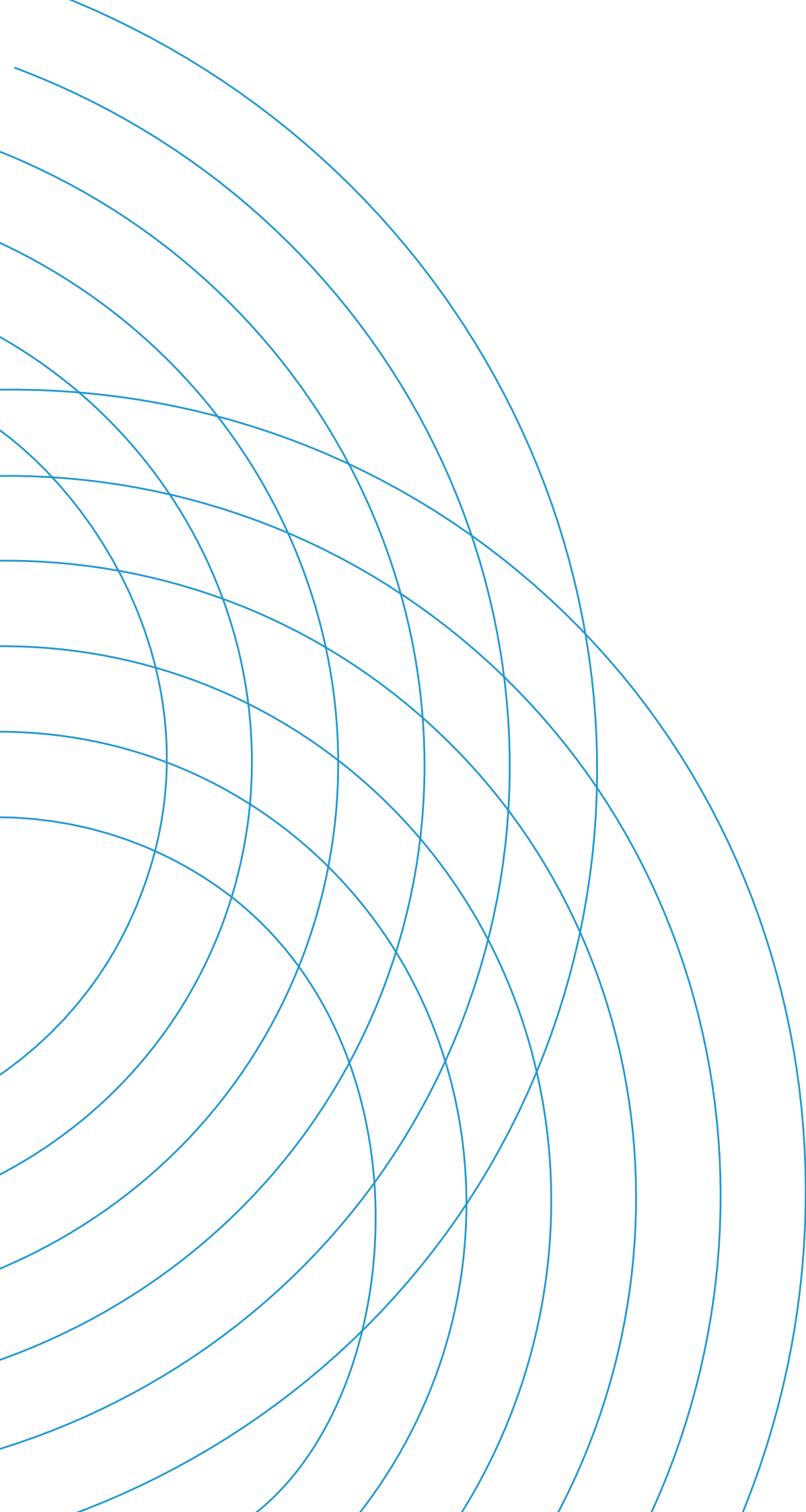
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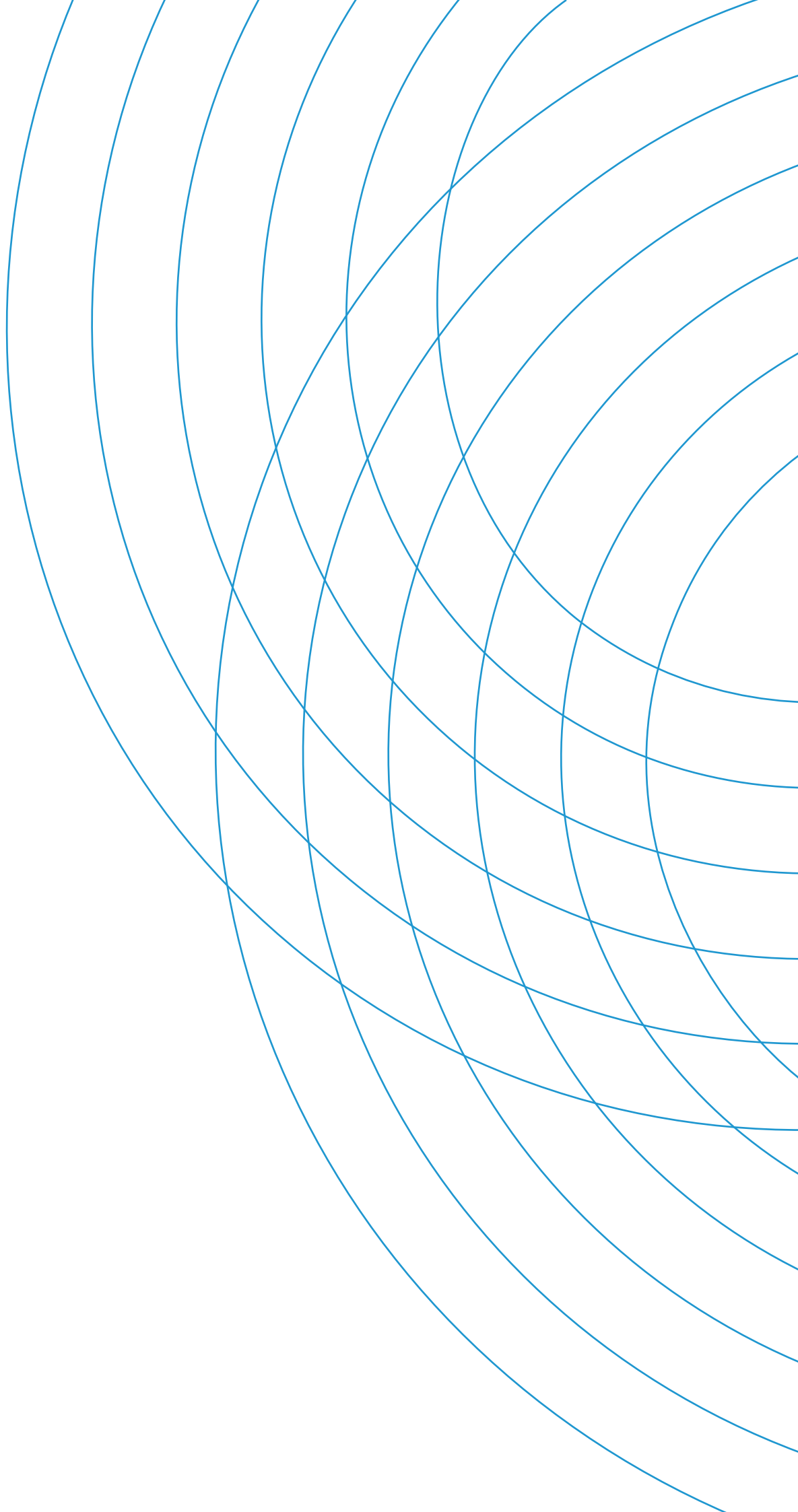
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Policy Center for the New South

Complexe Suncity, Immeuble C,
Angle Boulevard Addolb et rue Albortokal,
Hay Riad, Rabat - Maroc.

Email : contact@ocppc.ma

Phone : +212 5 37 27 08 08

Fax : +212 5 37 71 31 54

Website : www.policycenter.ma