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ASSESSING THE FINANCING GAP IN THE ARAB REGION

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Introduction

Financing is one of the core issues in international development. The Monterrey Consensus of the International Conference on Financing for Development is probably one of the most important milestones. Gathered in Monterrey, Mexico, in 2002, the Heads of State and Government stated in the declaration that:

*Mobilizing and increasing the effective use of financial resources and achieving the national and international economic conditions needed to fulfill internationally agreed development goals, including those contained in the Millennium Declaration, to eliminate poverty, improve social conditions and raise living standards, and protect our environment, will be our first step to ensuring that the twenty-first century becomes the century of development for all.*¹

Efforts to mobilize resources to finance development are common in the policy world, especially with regards to Official Development Assistance (ODA).² For instance, at the G8 Gleneagles Summit in 2005, an agreement was reached to write off the entire US\$40 billion owed by 18 highly indebted poor countries to the World Bank, International Monetary Fund and the African Development Fund. In the same vein, many wealthy countries have agreed on the need to allocate 0.7 per cent of their national income to financing development.

The pledges made by donors do not always materialize, however. In fact, it seems fairly common for these grand commitments to fail to translate into corresponding actions. For instance, the G8 were given grades of 'C' and 'B' on meeting their ODA commitments by the University of Toronto.³ Similarly, meeting the 0.7 per cent target has been a challenge for donors, as most of them have traditionally failed to achieve it. Sweden became the first country to meet its target in 1974. Since then, such Northern European countries as Denmark, Finland, the Netherlands and Norway are the most likely to achieve it; Luxembourg and France have also performed quite well.⁴

Beyond the issue of donors honouring their ODA commitments, there are two other vital questions, which form the object of this paper. First, how much should be mobilized? This normative question is difficult to answer because the response depends on the goal for which resources are mobilized: how much should be mobilized for what purpose? Furthermore, the answer will vary depending on the methodology used to assess the amount required.

Any response to this question should take into account the level of resources countries have available to finance development. This paper seeks to evaluate the gap between what is needed and the resources that countries have at their disposal.

The second question is: how should the gap be financed? Donor commitments relate to ODA because it is the type of assistance that donor countries offer. However, ODA is clearly not the only source of finance contributing to development. Remittances are also key to the alleviation of poverty, although they are more likely to be used for consumption than investment.⁵ Nonetheless, once the very basic consumption needs of the recipient household have been met, remittances often lead to long-term investments in human capital, with either a long-term (e.g. education) or shorter-term horizon (e.g. health care).

¹ Monterrey Consensus, p. 4. Available from <http://www.un.org/esa/ffd/monterrey/MonterreyConsensus.pdf>.

² ODA includes grants, loans that have a grant element of at least 25 per cent and debt relief. *Source:* World Development Indicators and OECD Development Assistance Committee.

³ Based on a North American grading system. Available from <http://www.g8.utoronto.ca/evaluations/assessments.htm>.

⁴ Available from <http://www.oecd.org/dac/stats/45539274.pdf>.

⁵ Remittances comprise personal transfers and compensation of employees. For more details, see: <http://data.worldbank.org/indicator/BM.TRF.PWKR.CD.DT>.

Another type of financial flows contributing to development is Foreign Direct Investment (FDI).⁶ FDI promotes job creation in the country that receives it, which, in turn, contributes to reduced poverty. It is generally accepted among economists that FDI promotes economic growth through the transfer of technology and/or know-how,⁷ and resulting from higher efficiency in managing the available resources (versus higher capital accumulation).⁸ In fact, some authors have argued that FDI contributes more to growth than domestic investment (which it complements).⁹

Finally, Portfolio Investment (PI) includes financial investments on equity and debt. To the extent that portfolio investments are connected to the real economy, they also contribute to development. A well-functioning financial sector allocates resources to the most valuable uses, contributing to value creation and economic growth. For example, in a well-developed financial sector, entrepreneurs will be more likely to access financing to start their companies and/or develop their products, thereby creating employment opportunities.

This paper sets out to answer the two vital questions noted above with regards to the Arab region. It first provides an estimate of the financing gap in the Arab region for the economy to grow at 7 per cent in 2009. It is estimated that between US\$54.5 and US\$57.9 billion were necessary to facilitate that growth.

The paper then goes on to describe the several types of financial flows contributing to development, their characteristics, mechanisms of work and effects. It concludes that Arab countries require the very solid growth of their FDI inflows. To achieve this, serious progress must be made in the region towards political stability and an attractive climate for investment. Governments should play a very active role in increasing ODA and using it to achieve reforms in those areas. At the same time, the drivers of remittances and portfolio investments seem to go beyond the direct influence of the state. This does not mean that governments do not have any influence on those financial flows; remittances and PI are stimulated by well-functioning financial markets. Much can be done to improve the efficiency of financial markets in the region, from promoting higher financial inclusiveness, to expanding and promoting depth in the region's stock markets.

The structure of the paper is as follows: in section 2, the countries used for the analysis are briefly described, while section 3 shows the level of financial flows that those countries received. In section 4, the technical aspects regarding what a financing gap is and how to calculate it are explained. Using the methodology described, the financing gap is estimated in section 5. Policy recommendations are discussed in section 6, followed by concluding remarks in section 7.

The objective of this study is to encourage the exchange of ideas about development issues in the Arab region. It comes at a critical time, when several Arab countries are experiencing significant instability, and as the timeframe for the Millennium Development Goals is about to be achieved. The paper is the result of research undertaken by the Economic Development and Globalization Division of the Economic and Social Commission for Western Asia (ESCWA).

A. GEOGRAPHICAL SCOPE

The paper focuses on two types of economies in the Arab region: first, those countries known as "more diversified economies" (MDEs) due to their lower percentage of oil rents to the gross domestic

⁶ FDI is the net inflows of investment to acquire a lasting management interest (10 per cent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. Available from <http://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD>.

⁷ ESCWA, 2011.

⁸ Borensztein et al., 1998.

⁹ Borensztein et al., 1998.

product (GDP) (e.g. Morocco). For the purposes of analysis, this group is combined with those countries with a significant percentage of the economy based on oil revenues¹⁰ and a low per capita income (e.g. the Sudan). While often these two groups are considered MDEs, comparing Yemen and Bahrain can serve to illustrate the difference: their oil rents as a percentage of GDP in 2008 were 33.4 per cent and 26.5 per cent, respectively, but their per capita incomes were US\$1,190 and US\$20,813 (table 1 below).

The resulting sample is composed of Algeria, Egypt, Iraq, Jordan, Lebanon, Morocco, Palestine, the Sudan, the Syrian Arab Republic, Tunisia, and Yemen. However, some of the required variables for the calculation were missing for Algeria, Iraq and Palestine, and they were therefore dropped from the sample.

A third group of countries (not included in the analysis) is composed of oil-rich countries with high or very high levels of income per capita. These countries are not taken into account because they are considered to have the resources necessary to finance development. In this group, the GDP per capita would range from US\$15,150 (Libya) to US\$82,389 (Qatar). As a benchmark, the world GDP per capita in 2008 was US\$9,086.

Several additional economic indicators are shown in table 1 to better describe the sample. In 2008, the Middle East and North Africa (MENA)¹¹ countries had a GDP per capita of US\$6,713, making it the second poorest region in the world (after Sub-Saharan Africa, for which results are not shown), even though wealth in the region was considerably above the world average. The two poorest countries in the region were Yemen and the Sudan, while the wealthiest were Qatar and the United Arab Emirates.

TABLE 1. SELECTED SOCIOECONOMIC INDICATORS IN THE ARAB REGION (2008)

Country or region	2008		2000-2008 (Average)		
	GDP/capita (current US\$)	Oil rents (% of GDP)	Gross domestic savings (% of GDP)	Average cash surplus/deficit (% of GDP)	Central govt. debt (% of GDP)
Algeria	4 967	23.1	49.6	9.1	-
Arab world	5 965	38.4	33.8	-	-
Bahrain	20 813	26.5	43.9	4.5	29.5
Egypt	2 079	11.1	15.1	-6.1	85.8
Iraq	2 867	85.1	-	-	-
Jordan	3 797	0.0	-3.5	-2.9	80.8
Lebanon	7 219	0.0	0.3	-11.9	-
Libya	15 150	56.7	46.6	-	-
MENA (all income levels)	6 713	35.7	32.5	-	-
MENA (developing only)	3 507	30.7	28	0.5	-
Morocco	2 793	0.0	23.5	-0.8	53.6
Oman	22 968	40.4	43.2	-3.6	19.5
Qatar	82 389	23.6	65.1	11.1	-
Saudi Arabia	18 203	64.3	44.5	-	-
Sudan	1 401	25.4	18.3	-	-
Syrian Arab Republic	2 678	22.6	24.6	-	-
Tunisia	4 345	5.9	21.5	-2.1	52.0
United Arab Emirates	50 727	25.1	31.6	-	-
World	9 086	3.7	21.6	-1.8	-
Yemen	1 190	33.4	18.3	-	-

Source: World Development Indicators.

Note: (-) indicates that data are not available.

¹⁰ As defined by oil rents as a percentage of GDP (table 1).

¹¹ This paper refers to the Arab region. It is acknowledged that the correspondence of the MENA region with that of the Arab region may not be totally exact. However, it is usually accepted as a good proxy, and since the data available relate to the MENA region, those data are used here for convenience.

Table 1 also shows that the highest savings were achieved in such oil-rich economies as Algeria, Bahrain, Libya, and Qatar. Of the countries considered for this study, the Syrian Arab Republic, Morocco and Tunisia had the highest savings, while Jordan, Lebanon, Egypt, the Sudan, and Yemen had the lowest rates of savings relative to their GDP. With regard to their public finances, many data are missing, but Tunisia and Morocco seemed to have healthy accounts, while Jordan and, in particular, Egypt and Lebanon had much weaker performances.

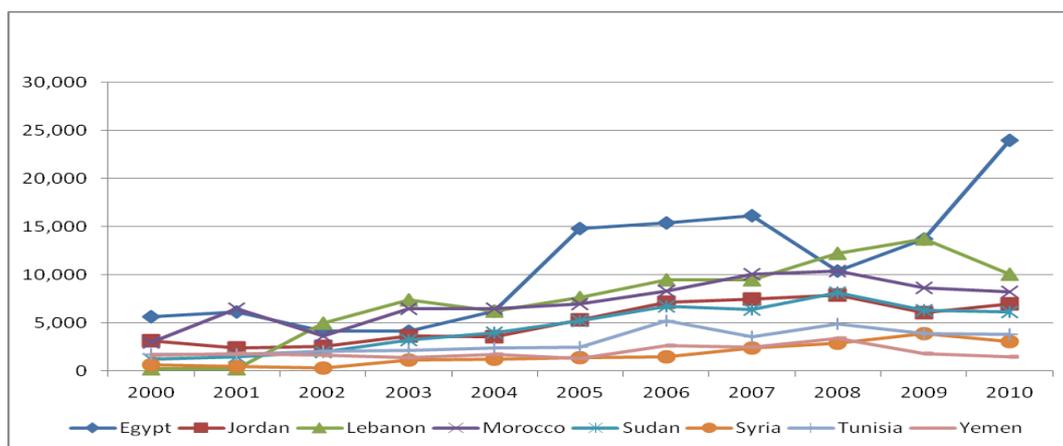
B. FINANCIAL INFLOWS IN THE ARAB REGION

Figure I shows the evolution of the total net financial flows received in the Arab countries considered. The figure aggregates ODA, FDI, remittances and portfolio investments (including both equity and debt). Out of the countries taken into account, the Egyptian economy had the highest capital inflows, while the Syrian Arab Republic and Yemen had very low levels of net financial inflows overall.

A slightly positive trend can be appreciated, particularly between 2004 and 2008. All the countries analysed saw a decrease in financial inflows at some point between 2007 (e.g. Egypt) and 2009 (e.g. Lebanon). Such diminution was a result of the global financial crisis which began during that period.

Beginning in 2010, numerous countries in the region were affected by the outbreak of popular uprisings. While the degree of responsiveness differs across financial flows, such flows as FDI are typically very sensitive to political instability. Thus, the uprisings resulted in a sharp reduction of FDI, which saw its lowest levels in the region since 2004.¹²

Figure I. Total net financial inflows
(Million, current United States dollars)



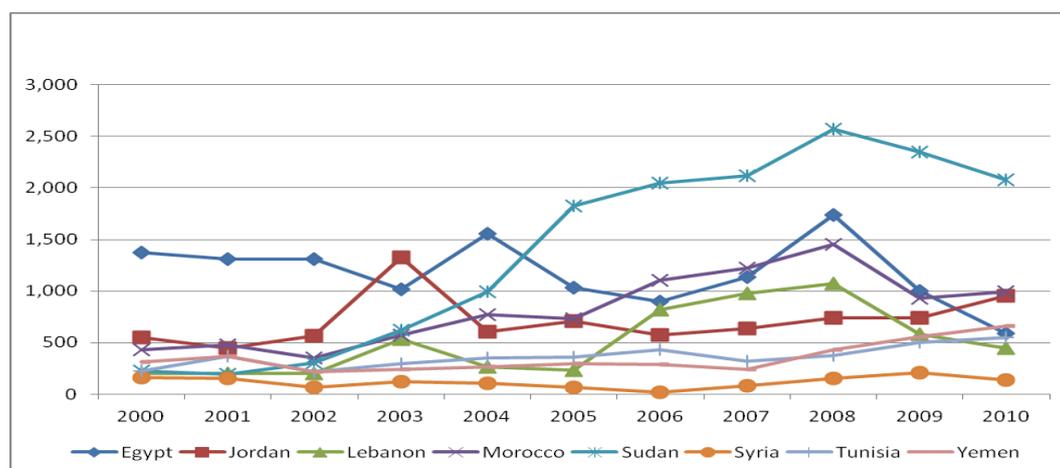
Source: World Development Indicators.

Figure I is broken down into the different financial flows that compose it. Figure II shows the evolution of ODA between 2000 and 2010.

Most countries show a stationary pattern in the ODA flows they received. The major exception is the Sudan, which had a very significant growth from 2004 onwards. Its level of ODA peaked at above US\$2,500 million in 2007, but remained very high thereafter as the country started to prepare for the referendum in 2010 that would eventually lead to the secession of South Sudan.

¹² Masetti et al., 2013.

Figure II. Total net ODA received
(Million, current United States dollars)



Source: World Development Indicators.

Figure III shows the evolution of FDI for the countries of the region considered. As recently noted by UNCTAD, “FDI inflows to West Asia in 2012 have failed once again to recover from the downturn started in 2009”.¹³ The most noteworthy trajectory is that of Egypt. The country saw very large volumes of FDI coming in to the country, although they also decreased substantially from 2007 onwards. Indeed, FDI in the Arab region is highly concentrated geographically, with Egypt being one of three main recipients; the others are Saudi Arabia and the United Arab Emirates, not included in the sample for this paper.¹⁴ FDI in Egypt increased from 0.1 per cent of its GDP in 2001 to 5.7 per cent in 2008, a boost that has been analysed by economists. While half of FDI in Egypt went to the oil and gas sector, the remainder was fairly diversified.¹⁵

The FDI sector distribution in Egypt is in line with the allocation for the Arab region, as FDI in the region is highly concentrated in three sectors: oil, real estate and construction.¹⁶ This sector distribution may raise questions about the extent to which the greatest benefits of FDI (e.g. employment generation, know-how and technology transfer) can actually be realized. For instance, some studies have noted that FDI would also significantly benefit the manufacturing and agricultural sectors.¹⁷

The rest of the countries considered in this paper saw a general pattern of moderate growth in FDI. The only Arab country to have received FDI since the outbreak of the global financial crisis was Lebanon, a country with a highly developed financial sector. Lebanon’s performance has been attributed to “improved domestic political stability and recovered regional liquidity”.¹⁸

In general, FDI volumes stagnated or decreased from 2007 onwards, due to “persistent political uncertainties at the regional level and clouded economic prospects at the global level”.¹⁹ The country with the lowest levels of overall FDI was Yemen, which in 2008 had the second smallest economy of the

¹³ UNCTAD, 2013, p. 54.

¹⁴ ESCWA, 2011.

¹⁵ Kamaly, 2011.

¹⁶ Ibid.

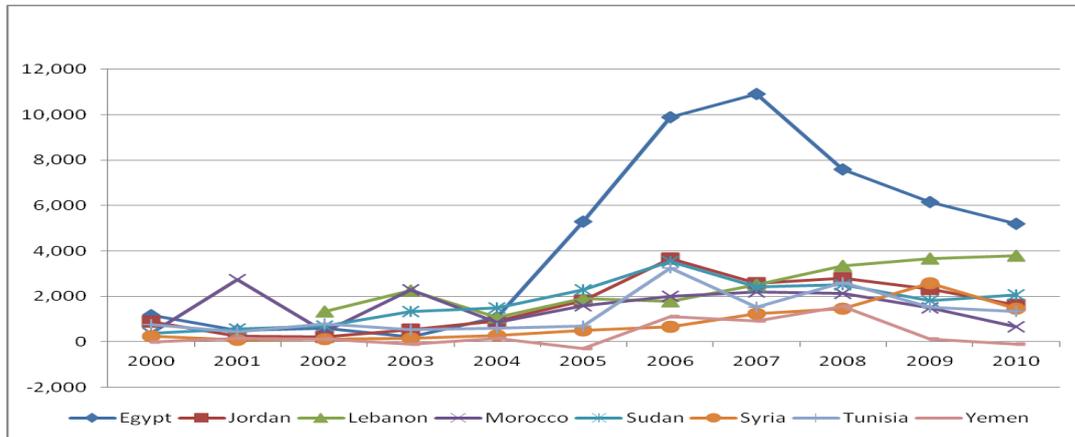
¹⁷ ESCWA, 2011.

¹⁸ Ibid.

¹⁹ UNCTAD, 2013.

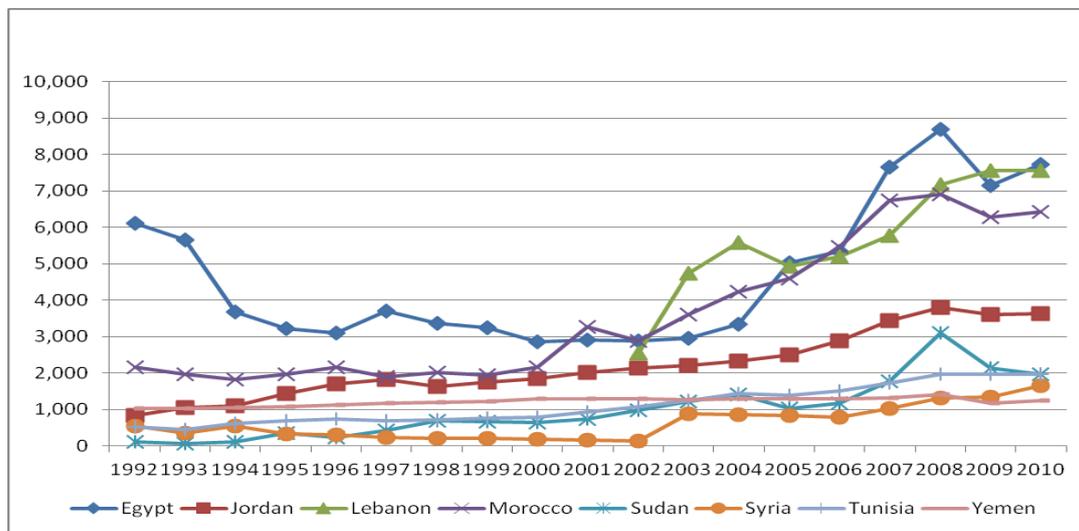
countries considered, after Jordan.²⁰ Nevertheless, Yemen had previously undertaken considerable reforms to facilitate business. In 2007-2008, the country was the world's fastest reformer in business start-up,²¹ which was correlated with significant FDI growth between 2006 and 2009. The plunge in FDI flows beginning in 2009 was significant. Yemen's security situation and the financial crisis are considered key contributors to the drop in FDI.²²

Figure III. Total net FDI received
(Million, current United States dollars)



Source: World Development Indicators.

Figure IV. Total net remittances received
(Million, current United States dollars)



Source: World Development Indicators.

Figure IV shows the pattern of net remittances received from 2000 onwards. Egypt, Lebanon and Morocco were the countries that received the highest volumes. Other such countries as Jordan and the Sudan boasted remarkable growth, but the volumes were still not comparable in absolute numbers. At the other

²⁰ World Bank, 2011.

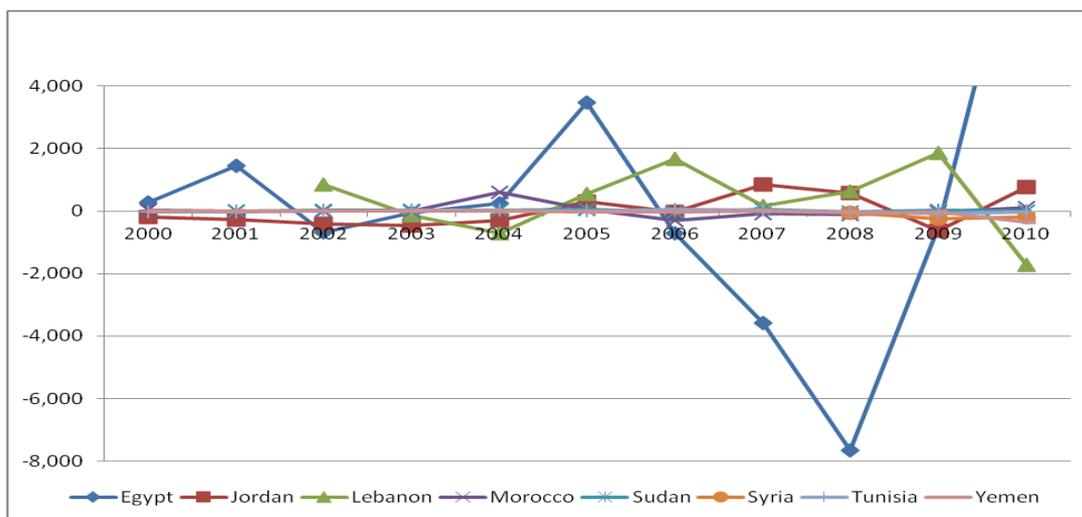
²¹ ESCWA, 2011.

²² Ibid.

extreme, Yemen and Tunisia experienced low growth on their net incoming remittances and had small volumes. The graph shows absolute numbers; therefore, keeping in mind the small populations of some of the countries listed helps to clarify the picture.

Finally, figure V shows the volumes of portfolio investments received, including equity and debt. The patterns differ markedly. While Egypt has had the highest volumes, between 2006 and 2009, the country experienced a very sizeable flight of capital. Had it not been for the large fall in portfolio investment in 2008, the tendency of Egypt to attract high volumes of financial flows, as indicated by figure I, would have been even higher. Such moves are likely to be linked to the global financial crisis, which started late in 2007 and only began to show some signs of dissipating in late 2009.²³ Such countries as Jordan and Lebanon saw moves toward moderation, while portfolio investments in Yemen were stable at very close to zero.

Figure V. Portfolio investments
(Million, current United States dollars)



Source: World Development Indicators.

To summarize the regional highlights of financial flows during the 2000s, Egypt was the country most successful in attracting them, in particular FDI and remittances. Jordan, Lebanon and Tunisia had a relatively balanced composition of their financial inflows; other countries were mostly driven by a particular type of flow. For instance, the Sudan received mostly ODA; remittances were the main source of financial flow in Morocco. Although absolute volumes tend to be linked to the size of the economy, Yemen would appear to have been the country least successful in attracting incoming financial flows.

C. WHAT IS A FINANCING GAP?

William Easterly notes that “International Financial Institutions (...) calculate short-run investment requirements for a target growth rate. They then calculate a ‘Financing Gap’ between the required investment and available resources and often fill the ‘Financing Gap’ with foreign aid”.²⁴ Along the same lines but more generally, it can be said that a financing gap is the difference between the available finance in

²³ At the time of writing, the situation remains uncertain, as the recovery of the global financial crisis has been very weak and uneven. For instance, the United States had negative growth rates from the second quarter of 2008 to the third quarter of 2009. Europe’s economy receded during the same quarters, but then had a significant ‘second dip’ in the form of several national debt crises from the first quarter of 2012 which are still ongoing.

²⁴ Easterly, 1999, p. 2.

a particular country for a particular time period, and some level of resources taken as reference, for instance, to achieve a specific growth level, to attain the MDGs or eradicate poverty, among others.

According to this definition, two basic characteristics should be highlighted. First, that a financing gap may evolve over time, which means that the gap in 2010 would not necessarily be the same as in 2009. Second, that since the financing gap depends on a country's available finances for development, namely budget allocations, it depends on political economy conditions; for example, a government may decide to allocate significant resources to military expenditures instead of health or education.

Since countries are subject to a scarcity of resources, these two characteristics could lead to the interpretation that all countries have a financing gap. However, in the short run, a country's revenues and budget priorities are rigid, and any country that does not have a significant level of wealth to finance development will have a financing gap. Furthermore, in the long term, it has been observed that even if countries were to reprioritize budgetary allocations, there would still be a financial maximum that could be made available to finance development.²⁵

The financial gap for the Arab region has been assessed relatively. Table 2 shows some previous financing gap estimations. To give a comparative image, the table includes some estimates for Africa as well. Different goals and geographical scopes have been used, meaning that comparison across studies is difficult. Indeed, the range of gaps goes from US\$3.3 to US\$420 billion per year, which means that, based on the different approaches and methodologies used, the variance of the results can be very large.

TABLE 2. A SELECTION OF FINANCING GAP CALCULATIONS PREVIOUSLY MADE FOR AFRICA AND THE ARAB REGION

Author/institution	Source	Region	Date	Objective	Gap (billion US\$)
World Bank	Global economic prospects	Africa	2009	Cover fiscal deficit	71.8
IMF	Implications of the global crisis for low-income countries	Africa	2009	Cover balance of payment deficits	51.4
M. N. Hussain/AfDB	Exorcism of the Ghost: Alternative to measure the financing gap ^{a/}	Africa	2000	Reach 7 per cent growth in one year (1999)	152
ECON	G20 Paper	Africa	2009	To reach pre-crisis growth	50
ECON	G20 Paper	Africa	2009	To reach 7 per cent growth	117
ECON	GDI Input	Africa	2009	Growth to reach MDGs	52
ADB/GCI	GCI Paper	Africa	2009	Close infrastructure gap	90
Arab Organization for Agricultural Development	LAS Social and Economic Summit 2009 (Kuwait)	Arab	2010	Arab Food Gap	27 ^{b/}
World Bank, IsDB	Arab Financing Facility for Infrastructure ^{c/}	Arab	2011	Infrastructure to sustain growth	75-100 per year ^{d/}
World Bank, IsDB	Arab Financing Facility for Infrastructure	Arab	2011	Meet electricity demand	30 per year ^{e/}
United Arab Emirates	2013 Annual Meeting of Arab Financial Institutions ^{f/}	Arab	2013	Closing existing food gap	41 in 2010
IsDB	IsDB Occasional Paper No. 16 ^{g/}	IsDB 40 countries ^{h/}	2011	Poverty eradication	23.6 per cent of GDP

²⁵ ESCWA, 2012.

TABLE 2 (continued)

Author/institution	Source	Region	Date	Objective	Gap (billion US\$)
IsDB	IsDB Occasional Paper No. 16	MENA-8	2011	Poverty eradication	24.8 per cent of GDP
IsDB	IsDB Occasional Paper No. 16	IsDB 40 countries ^{b/}	2011	Poverty eradication	140-420 per year
IsDB	IsDB Occasional Paper No. 16	MENA-8 ^{i/}	2011	Poverty eradication	3.3-9.8 per year

Notes: a/ Available from <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/00157648-EN-ERP-57.PDF>.

b/ Available from <http://www.aoad.org/Arab-Food-Emergency-Program.pdf>.

c/ Available from <http://arabworld.worldbank.org/content/awi/en/home/featured/infrastructure.html>.

d/ Figures are given in terms of requirements, but how much is allocated is not specified, so the gap is unclear.

e/ Figures are given in terms of requirements, but how much is allocated is not specified, so the gap is unclear.

f/ Available from <http://halalfocus.net/uae-arab-world-needs-over-80-bn-in-agricultural-investment-to-fill-food-gap/>.

g/ Available from <http://www.isdb.org/irj/go/km/docs/documents/IDBDevelopments/Internet/English/IDB/CM/Publications/Occasional%20Papers/OccasionalPaperNo16.pdf>.

h/ Includes: Albania, Algeria, Azerbaijan, Bangladesh, Benin, Burkina Faso, Cameroon, Chad, Comoros, Côte d'Ivoire, Djibouti, Egypt, Gabon, Gambia, Guinea, Guinea Bissau, Indonesia, Iran, Jordan, Kazakhstan, Kyrgyz Republic, Malaysia, Mali, Mauritania, Morocco, Mozambique, Niger, Nigeria, Pakistan, Senegal, Sierra Leone, Suriname, Tajikistan, Togo, Tunisia, Turkey, Turkmenistan, Uganda, Uzbekistan, and Yemen.

i/ Includes: Algeria, Egypt, Iran, Jordan, Morocco, Tunisia, Turkey and Yemen.

Two approaches can be adopted to calculate a financing gap. The first is of a microeconomic nature, as it consists of looking at a target indicator, identifying what factors contribute to it and adding up the financing gaps of those factors.

An example may be useful to illustrate the microeconomic approach. Suppose that a country has an average rate of two traffic accidents per driver per year, and wants to reduce it to one accident per driver per year. First, it would identify the factors that determine traffic accidents (for example, no police controls; poor condition of cars and/or roads; a lack of safety awareness campaigns; poor quality driver's education programmes; and others). Then, it would quantify the importance of each variable in the outcome. Based on the impact of each of the variables, it would devise a strategy to reduce traffic incidents by the desired amount (50 per cent). The cost of the strategy would be determined, and compared to the current level of funds available in order to calculate the financing gap. In this example, suppose that the strategy to reduce traffic incidents was focused on regular awareness campaigns. If to achieve the 50 per cent reduction these campaigns would need to be run every three months, but public authorities could afford them only once every six months, then current resources would need to be doubled. If variables other than awareness campaigns were to be included in the strategy, the total gap would be calculated as the sum of the gaps for each aspect of the strategy.

While the microeconomic approach has the advantage of being conceptually simple, one key challenge is identifying and quantifying the determinants explaining a phenomenon, for instance traffic accidents. A second, even more difficult issue should also be tackled: to determine the overall financial gap in a country, the same exercise must be carried out for every sector of the economy, including transport, health, education, poverty, among others, resulting in some very complex interactions between them. Thus, this approach is more appropriate for research questions of a narrow nature, like the one used in the example.

This approach was used in one of the financial gap calculations in table 2 as follows: the number of poor in the region of interest was multiplied by US\$1.25, US\$2.5 and US\$3.75 per day, to determine how much funding would be required to take people out of poverty. Therefore, the determinants of poverty were neglected and the interactions ignored, which could lead to unintended consequences. For instance, it is not known how a poor person would react, in terms of his consumption and investment patterns, were s/he given the cited amounts.

The second approach to calculating a financing gap considers the relations between macroeconomic aggregates of the economy. Relying on a macroeconomic model, the amount of finance a country requires to achieve some particular target is determined. As in the microeconomic example, the financing gap is the difference between the funds required and the funds available. Three key components are necessary to calculate the financing gap using this approach. First, a model that represents the macroeconomic functioning of the economy is needed. For instance, the Harrod-Domar (HD) model has been widely used for decades.

Next, the target is needed (how much should be mobilized for what?), in most cases economic growth. A 7 per cent growth target is routinely taken by international organizations,²⁶ as well as individual countries when they design their economic strategies (including Argentina, Niger or Uganda). Based on the rule of 70, a country growing at 7 per cent would take ten years to double its income. In reality, cases of 7 per cent growth are quite rare for most countries, which is why some economists have qualified such a target as “a desideratum often mentioned”.²⁷ However, since the 7 per cent target is the benchmark in the literature, it will be taken as the target here.

Finally, the level of funds available in a country is needed. This would normally be the easiest component to obtain, provided the necessary data were available.

In this paper, a macroeconomic approach is adopted to calculate the financial gap of the countries considered. As in the literature, we take economic growth of 7 per cent as the target. Since current data on financial flows are available, it is left to determine the model to adopt. Given the vital importance of this decision, the different options are presented below in order to justify the choice made.

The HD model is based on the initial works of Harrod and Domar during the 1930s and 1940s, further developed by Chenery and Strout in the 1960s, and based on the national income identity:

$$Y = C + I + G + X - M \quad (1)$$

where Y is total output, C is consumption, I is Investment, G is government consumption, X is exports, and M is imports. This formula can also be written as:

$$Y = C + I + G + X - M = C + S + T \quad (2)$$

where S stands for savings and T for government tax revenue. Rearranging (2) we can see that:

$$S - I = (X - M) + (G - T) \quad (3)$$

²⁶ ECA, 1999.

²⁷ Easterly, 1999, p. 14.

Equation (3) is also referred to as the Two-Gap model. It considers the savings gap (left-hand side) or the foreign exchange gap, also known as the external finance gap (the first term on the right-hand side) as the most binding constraints because the government budget deficit is considered to be driven by one of those gaps.²⁸ The required external finance would be the larger of the two gaps.²⁹

The Two-Gap model posits that for countries to grow they must invest, and to invest, savings must be available, which can come from internal or external sources. Once savings are available, the traditional approach to calculate the financial gap borrows the principle of economic growth whereby GDP (Y) grows proportionately with investment (I). The proportion of this relation is given by the Incremental Capital Output Ratio (ICOR). Therefore, capital accumulation will lead to higher output based on the ICOR proportion. For instance, the lower the ICOR, the higher the quantity invested will have to be, in order to produce a certain increase in output. For this reason, the ICOR (considered to be fixed) is often seen as a measure of the quality of investment.³⁰

Many other models have been developed. Based on a supply-side function with diminishing marginal returns to each of its components, Solow's economic model in the late 1950s led the way to "growth accounting" through to the Total Factor Productivity component.³¹ Thus, due to diminishing returns, it became clear that growth in output could not be driven only by capital accumulation. Thanks to the works of Robert E. Lucas Jr.³² and Paul Romer,³³ endogenous growth models took the lead thereafter. By introducing such non-rivalries as knowledge in the production function, increasing returns to scale, and therefore sustained growth, became possible, better reflecting economic realities.

The new approaches, however, were not necessarily adopted for the calculation of financial gaps. In a prominent paper, William Easterly notes that, while in academia the HD model died many years ago, its "ghost" still haunted development economists, who continued to employ it in the late 1990s to calculate financial gaps.³⁴ The HD model relies on two key features: (a) the investments required to achieve a target rate of growth income are determined as a fixed proportion by the ICOR; and (b) aid requirements are given by the financing gap between the investment requirements and the financing available from the sum of private financing and domestic savings.³⁵ Easterly debunked those two basic assumptions, concluding that "in the short run there is no theoretical reason in standard neoclassical and endogenous growth models to expect the ICOR to be a measure of investment quality, to be the derivate of growth with respect to investment, or to be constant during transitions".³⁶

Even the advocates of using the HD model to calculate financial gaps acknowledge that: (a) investment is not necessarily proportional to growth output, as it "leaves out issues of investment allocation and productive inefficiencies"; and (b) foreign aid is not necessarily proportional to investment, as it "ignores issues of inefficiencies and leakages of aid".³⁷ The question then raised is, why would development economists knowingly continue to use such an outdated model? The same authors defend the use of the HD model for the calculation of financial gaps in the following terms:

²⁸ Shimeles et al., 2009.

²⁹ Ibid.

³⁰ Ibid.

³¹ Solow, 1957.

³² Lucas Jr., 1988.

³³ Romer, 1986.

³⁴ Easterly, 1999, p. 11.

³⁵ Ibid.

³⁶ Ibid., p 3.

³⁷ Shimeles et al., 2009, p. 3.

First, it deals with short-run planning problems, while most growth models that have theoretical appeal and some degree of sophistication deal with the long-run growth (...). Secondly, most developing economies, particularly those in Africa, are far from reaching a stable equilibrium, even over an extended period (...). The other factor that sustains the usefulness of HD is the lack of alternative models that fit the needs of policy-makers and practitioners like development banks, especially with dealing with short to medium-term financing needs (...). Finally, the HD approach provides a useful benchmark – a first order approximation to the complicated task of estimating financing needs for development. It allows a check on consistency across the macroeconomic balances as well as sectoral investment programmes.³⁸

In his critique, Easterly does note that one of the reasons why economists continue to use the HD framework is the lack of alternative models to calculate financing gaps. While he does not provide concrete alternative options, he hints: “It is not hard to think of better rules for determining aid amounts per country than filling the Financing Gap. Donors could allocate aid per capita to poor countries according to which countries have the best track records on economic policies. Likewise, it is not hard to think of better ways of projecting growth than to use a model that makes no sense theoretically and fails empirically”.³⁹

In the economics profession, it is often said that it takes a model to beat a model. Aware of this, Nureldin Hussain notes that “the absence of a credible alternative to the Harrod-Domar model created a dilemma not only for the arithmetic of resource requirements, but also for development planning and aid policies”.⁴⁰ Hussain set out to provide an alternative approach to calculate financing gaps. His model is based on the extended Balance of Payments Constrained Growth, proposed by Thirlwall and Hussain.⁴¹

Assuming zero deficit in a country’s public finances, from equation (3) it is clear that a lack of savings to finance investment must be equivalent to insufficient exports to finance a country’s imports. Thus, in contrast to the HD model, which focused on the savings-investments gap of equation (3), Thirlwall-Hussain’s (TH) model emphasizes the external financing gap in the same equation. The model’s basic intuition is that for a country to have sustained growth, the increased demand will have to be supplied. This supply can come either from inside the country (national production) or outside (imports). The constraint is that in order to import products, countries need to acquire sufficient foreign exchange resources, meaning that they must be able to export their products. Based on this model, a country’s objective will be to reduce the income elasticity of demand for imports (import products of lower added value, cheaper) and/or increase the income elasticity of demand for exports (export products of high added value).

Some examples of policy recommendations emanating from the TH model could include undertaking reforms and pursuing policies geared towards exporting electronic microprocessors, while importing raw materials. In fact, analysing the developmental process of the last three centuries, such authors as H.J. Chang have noted that this was exactly the strategy that rich countries today adopted in the past to become wealthy, while now they are advising poor countries to do differently.⁴² Thus, these recommendations might be sensitive, for, depending on how they are implemented, they may be in conflict with such basic economic principles as comparative advantage and free trade, and even international policy.

³⁸ Ibid., p. 2.

³⁹ Easterly, 1997.

⁴⁰ Hussain, 2000, Introduction.

⁴¹ Thirlwall and Hussain, 1982.

⁴² Chang, 2002.

The TH model is presented in equations (4) to (6), as taken from Hussain:⁴³

$$\dot{m} = \pi \dot{y} + \varepsilon(\dot{p}_f - \dot{e} - \dot{p}_d) \quad (4)$$

$$\dot{x} = \sigma \dot{w} + \beta(\dot{p}_d + \dot{e} - \dot{p}_f) \quad (5)$$

$$\Theta(\dot{p}_d + \dot{e} + \dot{x}) + \tau \dot{k} = \dot{p}_f + \dot{m} \quad (6)$$

The dot stands for growth rate, while m denotes imports, x stands for exports, p_f is foreign prices, e is exchange rate, p_d is domestic prices, y is national income and w is income in the rest of the world. Hence, $\dot{m}, \dot{x}, \dot{p}_f, \dot{e}, \dot{p}_d, \dot{y}, \dot{w}$ denote the growth rate of imports, exports, foreign prices, exchange rate, domestic prices, national income, and foreign income. The parameters in the model are as follows: π is the income elasticity of demand for foreign imports ($\pi > 0$); ε is the price elasticity of demand for imports ($\varepsilon < 0$); σ is the income elasticity of demand (of the rest of the world) for the country's exports ($\sigma > 0$); and β is the price elasticity of demand for exports ($\beta < 0$); while Θ and τ represent the proportions of total import billed "financed" by exports earnings and capital flows, respectively.

For instance, the interpretation of equation (4) is that the growth rate of a country's imports is the addition of two effects: the growth rate of its income multiplied by the income elasticity of demand for imports, added to the price elasticity of demand for imports multiplied by a composite of prices: foreign, domestic and exchange rate. If income rises, imports will grow ($\pi > 0$), but if foreign prices grow ($\dot{p}_f > 0$), imports will decrease because ($\varepsilon < 0$), ceteris paribus.

Substituting equations (2) and (3) into (4) and rearranging yields:

$$\dot{y} = \frac{(1 + \Theta\beta + \varepsilon)(\dot{p}_d + \dot{e} - \dot{p}_f) + \Theta\sigma\dot{w} + \tau(\dot{k} - \dot{p}_d - \dot{e})}{\pi} \quad (7)$$

The model shows a country's growth rate as the product of "the terms of trade effect, export volume effect and the effect of real capital inflows".⁴⁴ It also shows that the higher the income elasticity for demand of imports (π), the lower the balance of payments constrained growth rate will be. A version of the same equation (7) that shows explicitly export growth can be deduced as:

$$\dot{y} = \frac{(1 + \varepsilon)(\dot{p}_d + \dot{e} - \dot{p}_f) + \Theta\dot{x} + \tau(\dot{k} - \dot{p}_d - \dot{e})}{\pi} \quad (8)$$

Equation (7) can be further rearranged to show the required growth rate of capital \dot{k}^* necessary to attain a specific growth rate of income: y^* . Hence, if we set a target y^* defined as the growth rate of income required to achieve poverty reduction, \dot{k}^* becomes the growth rate of capital required to achieve poverty reduction.

$$\dot{k}^* = \frac{\pi y^* - (1 + \Theta\beta + \varepsilon)(\dot{p}_d + \dot{e} - \dot{p}_f) - \Theta\sigma\dot{w}}{(1 - \Theta)} + (\dot{p}_d + \dot{e}) \quad (9)$$

⁴³ Hussain, 2000. The Balance of Payments Constrained Growth model is described here as in Hussain's work, with slight differences in notation. The model's intuition is basic, as it relates to the calculation of the financing gap.

⁴⁴ Hussain, 2000, p. 11.

Once again, the equivalent of equation (9) can be obtained by rearranging equation (8) to show explicitly the growth rate of exports:

$$\dot{k}^* = \frac{\pi y^* - (1 + \varepsilon)(p_d + \dot{e} - p_f) - \theta \dot{x}}{(1 - \theta)} + (p_d + \dot{e}) \quad (10)$$

Equations (9) and (10) can be decomposed into four parts, as interpreted by Hussain:

SUMMARY INDICATORS FOR THE PERIOD 1999-2008

The growth of imports associated with target GDP growth	Terms of trade effect	Effect of export volume growth*	Effect of domestic inflation in conjunction with the exchange rate
$\frac{\pi y^*}{(1 - \theta)}$	$\frac{-(1 + \varepsilon)(p_d + \dot{e} - p_f)}{(1 - \theta)}$	$\frac{-\theta \dot{x}}{(1 - \theta)}$	$(p_d + \dot{e})$

* Or the effect of world income growth, depending on whether equation (9) or (10) is considered.

Finally, Hussain defines the financing gap in absolute monetary terms for a particular country i to grow at the target rate y^* between t and $t+1$ as equal to:

$$FG_{i,t,t+1} = (1 + \dot{k}^*)K_{it} - K_{it+1} \quad (11)$$

Equation (11) calculates the financing gap as the difference between the required flows the country should have had in $t+1$ and the actual flows it had in year t . However, the required capital growth was already calculated taking into account year t .

An alternative method would be to calculate the required capital for a particular year ($t+1$) using year t , and then compare this required capital with the actual flows the country received in $t+1$, redefining equation (11) as:

$$FG_{i,t,t+1} = (1 + \dot{k}^*)K_{it} - K_{it+1} \quad (12)$$

In both equations (11) and (12), a country will have a financing gap that may be positive or negative. If it is positive, it means that the country did have a financing gap, while if it is negative it would mean that the country received enough flows for its economy to grow at the target growth rate. To sum with a number of other countries, from j to n , the total financing gap may be defined as:

$$Total\ FG = \sum_{i=j}^n FG_i \quad (13)$$

In response to Hussain's model, Thilak Ranaweera wrote a paper in 2003 describing the model used by the World Bank to calculate the financing gap requirements.⁴⁵ This model is known as the Revised Minimum Standard Model. Its fundamental principle is similar to that of the Two-Gap, but the Revised Minimum Standard Model analyses the three gaps described in equation (3), namely savings-investment, external financing and government deficit, which makes it considerably more complex.

⁴⁵ Ranaweera, 2003, p. 13.

D. DATA AND LIMITATIONS

The World Bank World Development Indicators are the main source of data for this paper. Hussain's approach is used, although some differences are introduced. In addition to his method (equation (11)), the financing gap is calculated by comparing the required capital in $t+1$ with actual capital received in $t+1$ (equation (12)). Furthermore, the financing gap is only calculated for 2009, and therefore the variations in the model's parameters need not be considered.⁴⁶ As a result, a range of results for the financing gap are obtained.

It is hereby acknowledged that under the perspective of the standard model, the TH model is simpler and hence may "fail to trace the monetary implications of the balance of payments outcomes".⁴⁷ However, the simplicity of Hussain's model could also be viewed as a strength vis-à-vis the standard model, which is much more cumbersome. Indeed, this paper chose Hussain's model because, as noted by some economists, it is "an important contribution in Post-Keynesian theory".⁴⁸

Calculations in this paper relate to the years prior to 2008 (at the limit of the international financial crisis), which involves calculating the financing gap in 2009. The main reason why the financing gap estimate is calculated prior to the outbreak of popular uprisings in the Arab region is that, at the time of writing, these uprisings are still ongoing (to different degrees) in several such countries as Egypt, Tunisia and the Syrian Arab Republic. Therefore, calculating the financing gap for a later year would have compounded the effects of the uprisings, while reflecting the financing gap in 2009 based on data from the previous decade gives a more 'structural' image. Furthermore, less data are available for recent years in several countries. In the case of the Syrian Arab Republic, where the uprisings have degenerated into a civil war, the impact on the financing gap would probably be much larger; 93,000 civilians had been killed as at April 2013.⁴⁹ The conflict has also had grave financial implications. The refugee crisis in Jordan alone has cost that country's economy US\$800 million since 2011.⁵⁰ While it would certainly be useful to calculate the cost of the crisis and the required financing for the reconstruction of the country, that exercise goes well beyond the scope of this paper.

At present, the situation may be assessed qualitatively as follows: if the total gap in 2009 was at a certain level, and FDI flows and remittances have dropped since (due to political instability and the financial crisis), the financing gap would be much greater today unless exports had increased very considerably, and/or ODA had compensated for the reduction in those other flows. These conditions are unlikely: tourism has declined and economic recession has settled in. Furthermore, ODA decreases when basic security requirements are not met, which has also occurred. For instance, Egypt, Libya and Tunisia have seen significant declines in the support they received from international non-governmental organizations (NGOs). Similarly, the civil war in the Syrian Arab Republic has led many bilateral and multilateral donors to leave the country. Therefore, qualitatively it can be asserted that the financing gap would have significantly increased in the countries of the Arab region after 2009.

E. RESULTS AND INTERPRETATION

In order to apply the model, some of the unknown variables are parameterised using 'representative' values based on the performance of the last decade. Following the approach of Hussain, the average growth

⁴⁶ In Hussain (2000), calculations for several years are undertaken on the basis that θ adjusts over time, which leads to a snowball effect, meaning that the financing gap grows over time.

⁴⁷ Ranaweera, 2003.

⁴⁸ Verdier-Chouchane, 2005.

⁴⁹ Jolly, 2013.

⁵⁰ Available from <http://carnegieendowment.org/sada/2013/09/19/cost-of-syrian-refugees/gnmz>.

rates in the ten years prior to 2008 are computed. The price and income elasticities are then also calculated, based on the demand-for-imports function for each country. Finally, the value of θ is taken in the base year (2008) and the growth rate target is assumed to be 7 per cent.

Table 3 in the annex shows that, between 1999 and 2008, Jordan and the Sudan had the highest average growth rates, while Lebanon and Yemen had the lowest average growth rates. On average, prices grew the most in Yemen and the Sudan, and the least in Lebanon and Morocco. Exchange rates were very stable (this is because most countries in the region have fixed exchange rate regimes), with Egypt and Morocco showing the highest and lowest average annual growth rates, respectively. Import prices grew most in the Syrian Arab Republic and Yemen, while Egypt had the lowest average growth rate. Finally, the Sudan had the highest annual average growth of exports of goods and services (27.7 per cent), while at the other end of the spectrum, Tunisian exports grew by an average of 4.9 per cent.

Another component that is required to calculate the financing gap is the income and price elasticities of imports for the countries considered. Table 4 in the annex shows the results of the models estimated. The literature on imports demand with regards to income and price elasticities is not conclusive with regards to a particular function form for the model.⁵¹ The consensus is that the model may follow a linear or a logarithmic functional form, and an autoregressive vector may also be theoretically justified. Since the models involve time series regressions, stationarity is dealt with by taking first differences in order to make them stationary. Finally, it is worth noting that the model does not have to be identical across countries. Hence, the estimations follow the rule of thumb most common in the literature, which is to maximize the variance explained by the model, namely, R^2 .

In such countries as Egypt and Lebanon, the models have a relatively high explanatory power, while the regressions of Tunisia, the Sudan and especially Morocco have relatively low R^2 s. In most of the models, the explanatory variables are statistically significant, especially the income elasticity with regards to imports, namely, how imports change when the country's income changes. However, such is not the case for Morocco and the Sudan. Finally, we cannot reject the hypothesis that the parameter of the variable 'relative prices' is statistically different from zero at the 90 per cent significance for Egypt, Lebanon, Morocco, Tunisia, and Yemen.

Therefore, all of the ingredients necessary to calculate the financing gap are available. Table 5 in the annex summarizes all the variables and parameters, while table 6 in the annex shows the calculation of the different effects the model is composed of (described in table 2). The required growth of capital inflows for all the countries is reported in column (e) of table 6, and ranges from -0.282 in Tunisia to 1.316 in Egypt. These figures are converted to percentage terms and reported in column (f) of table 3a below.

Tables 3a and 3b show the final calculations of the financing gap, which depends on the required capital growth and the actual capital flows received. First, Hussain's methodology (equation (11)) is used, whereby the growth of capital required for 2009 is calculated in relation to 2008 and then compared to that of 2008 (table 3a). Combining all the countries together, the overall level of capital required is US\$54,522 million. Most countries have a positive financing gap, with those of Egypt and the Sudan being by far the greatest, followed by Yemen and Jordan. Lebanon and the Syrian Arab Republic have small positive financing gaps, while Morocco and Tunisia represent the exception and show negative capital requirements and negative financing gaps.

As noted previously, having a negative financing gap means that in 2009, those countries could grow at the required growth rate and rely on lower capital flows, or accumulate reserves.⁵² This result is due

⁵¹ See Mohammad and Saqqa, 1999, which describes the methodological issues involved in the estimation of the demand of countries for imports, including an application to the GCC countries.

⁵² Hussain, 2000.

mainly to a small income elasticity of demand for imports, low domestic inflation effect and a strong export performance. For instance, while Morocco's inflation effect approached zero (column (d) in table 4), the country's exports grew substantially (X in table 3), and the difference between zero and the influence of its income on its imports is not statistically significant. From table 4 in the annex we can appreciate that, while for all countries the biggest effects are those of columns (a) and (c), Morocco and Tunisia have the lowest ratios between columns (a) and (c).⁵³ This means that exports considerably outweigh the growth in imports associated with the target growth, which is a positive feature. In the case of Morocco, not only have exports grown, but as income grows, the national propensity to buy locally has further bolstered the economy. By contrast, in Tunisia, while higher income has brought in more imports, the exports volume effect is the highest of all the countries considered (column (c) in annex table 4).

TABLE 3a. ESTIMATION OF REQUIRED CAPITAL FLOWS^{a/}

Country	Total required capital growth (f)	Actual 2008 (g)	Required 2009 (h) = (g) * 1 + (f)	Actual 2009 (i)	Gap (j) = (h) - (i)
Egypt	131.6%	10 117	41 149	10 117	31 031
Jordan	17.4%	7 447	8 743	7 447	1 296
Lebanon	6.8%	7 868	8 403	7 868	535
Morocco	-8.5%	10 330	9 552	10 330	-778
Sudan	244.9%	8 143	28 200	8 143	20 057
Syrian Arab Republic	17.6%	2 756	3 306	2 756	550
Tunisia	-28.2%	4 898	3 545	4 898	-1 353
Yemen	102.7%	3 014	6 199	3 014	3 185
					54 522

Source: a/ The source of all data is the World Development Indicators. The total level of capital flows for 2008 and 2009 is the sum of FDI, ODA, remittances and portfolio investments. Of those series, FDI, remittances and portfolio investment data are entered as 'net' = inflows – outflows. In Hussain (2000), it is not specified whether flows are net or total, but in any case, the outflows tend to be small so the total and net inflows are quite similar.

* Except column (f), all the figures in this table are expressed in millions of current US\$.

At a second stage, equation (12) is used to calculate the financing gap: the required capital for 2009 is compared to the actual capital received in 2009. The estimates are shown in table 3b below. Overall, the results are similar, with Egypt and the Sudan having the greatest financing gaps, followed by Yemen and Jordan, and Lebanon with a small positive financing gap. However, based on this methodology, the Syrian Arab Republic, not Morocco, and Tunisia would have negative and relatively small negative financing gaps. In the case of the Syrian Arab Republic, the country did require more capital inflows (see column (f) in table 3b). However, the country did not receive as much inflows as it needed. The overall level of capital required for all the countries combined is US\$57,917 million.

The results of the financing gap calculations seem robust to the methodology and can be summarized as follows: Most of the countries considered had a financing gap, with some of them requiring significant extra financial flows to grow at 7 per cent. Egypt, the Sudan, Yemen, and Jordan are the countries with the highest need for external financing. Conversely, Lebanon, the Syrian Arab Republic, Morocco and Tunisia would not have been, at that time, in need to such an extreme extent. Combining all the countries, the range of required resources in 2009 would have been between US\$54.5 and US\$57.9 billion.

⁵³ In the case of Morocco: $0.0101/0.1875 = 0.05$, while in the case of Tunisia: $0.5495/0.9015=0.61$. Such ratios contrast with, for example, that of Egypt: $1.8741/0.5946 = 3.15$.

TABLE 3b. ESTIMATION OF REQUIRED CAPITAL FLOWS^{a/}

Country	Total required capital growth (f)	Actual 2008 (g)	Required 2009 (h) = (g) * 1 + (f)	Actual 2009 (i)	Gap (j) = (h) - (i)
Egypt	131.6%	10 117	41 149	13 507	27 642
Jordan	17.4%	7 447	8 743	5 546	3 197
Lebanon	6.8%	7 868	8 403	7 932	471
Morocco	-8.5%	10 330	9 552	8 613	939
Sudan	244.9%	8 143	28 200	6 322	21 878
Syrian Arab Republic	17.6%	2 756	3 306	3 872	-567
Tunisia	-28.2%	4 898	3 545	3 891	-346
Yemen	102.7%	3 014	6 199	1 497	4 702
					57 917

Source: ^{a/} The source of all data is the World Development Indicators. The total level of capital flows for 2008 and 2009 is the sum of FDI, ODA, remittances and portfolio investments. Of those series, FDI, remittances and portfolio investment data are entered as 'net' = inflows - outflows. In Hussain (2002), it is not specified whether flows are net or total, but in any case, the outflows tend to be small so the total and net inflows are quite similar.

* Except column (f), all the figures in this table are expressed in millions of current US\$.

F. FILLING THE GAP

This paper started off by highlighting two vital questions. The first question has been dealt with; the second will now be tackled, with a discussion of some of the options available to policymakers.

With regards to ODA, there is a fair level of consensus that aid is broadly allocated to reduce poverty, although other strategic motives also exist.⁵⁴ If and when that is the case, the other such goals as support of strategic interests a donor wishes to pursue through that aid could be seen as a substantial 'tax' on poverty reduction.⁵⁵ To minimize that tax, the countries of the Arab region should maximize the aid mobilized for poverty reduction, as well as ensure the most efficient use when implementing it. This could be done by focusing on donors whose objectives are aligned. Furthermore, it has been indicated that Arab ODA to the region has decreased over the last three decades, which leaves significant room for enhanced cooperation between Arab countries. Such cooperation could very substantially increase intraregional support at a time when, as has been seen, Arabs across the region have very similar priorities.

There are three main pillars on which governments have leverage to attract FDI: a stable political climate, a sound macroeconomic environment (low inflation), and a sound business environment (institutional stability that ensures no expropriation of investors will occur). In the current Arab context, basic political stability is not guaranteed everywhere; it should be the first priority.

Macroeconomic factors are closely linked to political stability and should certainly not be neglected. While there may be room for improvement, in the last decade, Arab countries have managed those macroeconomic factors fairly well, keeping inflation and debt-to-GDP ratios low.

With regards to the investment climate, despite ongoing efforts, many ESCWA member countries still rank very low in terms of enforcing contracts, closing a business, protecting investors, and dealing with construction permits, and all of these are major impediments to attracting more FDI.⁵⁶ Progress in the investment climate conditions is even more important when it is taken into account that in MENA countries,

⁵⁴ Sawada et al., 2008.

⁵⁵ Collier and Dollar, 2002.

⁵⁶ ESCWA, 2011.

FDI is market oriented: not only is the receiving country's domestic market taken into account, but so are trade opportunities in the region.⁵⁷

The causes and linkages of remittances have been analysed considerably. The main driver of remittances is the level of migration along with the differential income between the home and recipient countries.⁵⁸ However, those are not variables on which the recipient country may always have much direct influence. Instead, it has been suggested that the level of financial sector development may have a positive impact,⁵⁹ which would be a valid policy option for recipient countries to work on.

Beyond remittances, a sound financial sector would also attract portfolio investments. A well-functioning financial sector is critical to channeling the savings of households, firms and governments to the highest value uses of those economic actors that wish to spend more than their income, for instance because they want to invest. Indeed, in a developed financial sector, the entrepreneurs with the best prospects of success will be more likely to access financing to start their companies and/or their projects and products. In turn, this would translate into value creation and more employment opportunities.

The most defining characteristic of a developed financial sector is probably inclusiveness. Therefore, policies to improve financial inclusiveness would attract more remittances and portfolio investments. This is vital because, with regards to financial sector development, the Arab region has ample room for improvement. To portray a key indicator, in 2010, the highest level of deposit accounts with commercial banks per 1,000 people in the region was in Lebanon (1,456), while Egypt had 368 and several countries had around 700 (682 in Morocco; and 749 in Jordan). Once again, Yemen had the lowest level, with only 116 deposit accounts per 1,000 people.⁶⁰

G. CONCLUSION AND SUGGESTIONS FOR FURTHER RESEARCH

This paper adopts the approach proposed by Hussain to calculate the financing gap for Arab countries that have low income and/or a diversified economy. It is estimated that in 2009, most Arab countries had a financing gap that enabled growth at the rate of 7 per cent. The total estimated gap ranged from US\$54.5 to US\$57.9 billion, roughly in line with similar assessments previously undertaken.

However, since 2009, the region has undergone very substantial changes. The global financial crisis and the uprisings throughout the Arab region are likely to have increased the financial gap very significantly, although without data it is difficult to assess how much. The most constructive step would be to discuss the different policy instruments available to governments in the region, in order to attract financial flows with which to finance development.

The different financial flows countries can attract have several degrees of elasticity based on the policy initiatives of the governments of the region. For instance, while driven by poverty, ODA depends to a great extent on political will and agreements with donors. Hence, greater efforts could be undertaken to promote further collaboration between Arab countries (both donors and recipients), which are likely to have aligned incentives. In turn, cooperation would stimulate higher regional integration in a globalized world.

FDI is more dependent on political stability and the investment climate. This means that the countries considered in this study, especially those directly affected by popular uprisings, must regain political stability as soon as possible, improve the investment climate and boost competitiveness to attract investors.

⁵⁷ Hisarciklilar et al., 2006.

⁵⁸ Niimi and Özden, 2006.

⁵⁹ Ibid.

⁶⁰ See the IMF Financial Access Survey, available from <http://fas.imf.org>.

Remittances depend mostly on the number of migrants, the differential of income between countries and the economic growth of the countries from which remittances emanate. In those aspects, recipient Arab countries may have little direct influence. However, specific policy instruments could have an indirect influence. Financial inclusiveness would contribute to the development of the financial sector, which at the same time would boost portfolio investments, which are also quite often of a private nature.

Admittedly, the recommendations provided here are somewhat general. The reason is that, although they are valid, much research is needed to better assess the impact of specific policy measures. For instance, the elasticity between such specific indicators as investors' protection or ease to close a business and FDI flows could be better understood. Similarly, the extent to which financial sector development could contribute to higher levels of remittances channeled through the formal banking sector or higher portfolio investments are issues that need to be further explored.

Sometimes, insufficient knowledge in these areas has been rooted in a lack of data. For instance, the World Bank Doing Business Indicators only started in 2004, which means that, before that year, quantifiable evidence of the investment climate is quite scarce. In other instances, research may have been undertaken in non-Arab contexts, without reference to the idiosyncrasies of the region. In any case, it is clear that much research can be done on the drivers and consequences of financial flows in the Arab countries, with particular emphasis on their sensitivity to the real or potential policies of Arab governments.

Annex

TABLE 1. SUMMARY INDICATORS FOR THE PERIOD 1999-2008

Country	Egypt	Jordan	Lebanon	Morocco	Sudan	Syrian Arab Republic	Tunisia	Yemen
Real income (GDP) growth average	0.0495	0.0631	0.0372	0.0430	0.0699	0.0397	0.0495	0.0373
Domestic prices (CPI) average growth rate	0.0669	0.0383	0.0296	0.0187	0.0914	0.0408	0.0312	0.0907
Exchange rate average growth	0.0531	0.0000	-0.0006	-0.0192	0.0079	0.0016	0.0100	0.0377
Import prices average growth	0.0549	0.0846	0.0716	0.0652	0.0649	0.0864	0.0682	0.0856
Exports of goods and services average growth	0.1353	0.0888	0.1007	0.0710	0.2772	0.0287	0.0489	0.0580

Source: Author's calculations with data from the Economist Intelligence Unit. Import prices data for Lebanon are not available. To be able to carry out the calculations, the average of the import prices' growth rates in all the other countries is used as a proxy.

TABLE 2. INCOME AND PRICE ELASTICITIES FOR THE PERIOD 1980-2008*

Country	Model	
Egypt	$\text{Dif}(\ln(M))_t = -0.1664 + 4.963258 * \text{Dif}(\ln(Y))_t + 0.04287 * \text{Dif}(\ln(e*P_x/P_m))_t$ [0.0114] [0.0014] [0.653]	R ² = 0.412 Obs. = 23
Jordan	$\text{Dif}(\ln(M))_t = -0.21164 + 1.136259 * \text{Dif}(\ln(Y))_t + 0.018582 * \text{Dif}(\ln(e*P_x/P_m))_t + 0.038471 * \text{Dif}(\ln(M))_{t-1}$ [0.3465] [0.0058] [0.0137] [0.8171]	R ² = 0.363 Obs. = 27
Lebanon	$\text{Dif}(\ln(M))_t = 0.010763 + 1.025725 * \text{Dif}(\ln(Y))_t + 0.075724 * \text{Dif}(\ln(e*P_x/P_m))_t$ [0.6383] [0.0009] [0.2496]	R ² = 0.543 Obs. = 18
Morocco	$\text{Dif}(\ln(M))_t = 0.865497 + 0.039512 * \text{Dif}(\ln(Y))_t + 0.22714 * \text{Dif}(\ln(e*P_x/P_m))_t$ [0.0015] [0.6872] [0.3269]	R ² = 0.046 Obs. = 28
Sudan	$\text{Dif}(\ln(M))_t = 0.022174 + 0.304036 * \text{Dif}(\ln(Y))_t + 0.28122 * \text{Dif}(\ln(e*P_x/P_m))_t$ [0.6719] [0.6968] [0.0882]	R ² = 0.123 Obs. = 27
Syrian Arab Republic	$\text{Dif}(\ln(M))_t = 0.014737 + 0.38844 * \text{Dif}(\ln(Y))_t + 0.032744 * \text{Dif}(\ln(e*P_x/P_m))_t - 0.40781 * \text{Dif}(\ln(M))_{t-1}$ [0.9416] [0.0384] [0.0174] [0.0316]	R ² = 0.372 Obs. = 27
Tunisia	$\text{Dif}(M)_t = -0.0042 + 0.40365 * \text{Dif}(Y)_t - 0.00487 * \text{Dif}(e*P_x/P_m)_t + 0.055683 * \text{Dif}(\ln(M))_{t-1}$ [0.988] [0.0786] [0.9158] [0.7911]	R ² = 0.140 Obs. = 27
Yemen	$\text{Dif}(\ln(M))_t = -0.09176 + 2.459153 * \text{Dif}(\ln(Y))_t - 0.0297 * \text{Dif}(\ln(e*P_x/P_m))_t + 0.038471 * \text{Dif}(\ln(M))_{t-1}$ [0.578] [0.0991] [0.9083] [0.0282]	R ² = 0.434 Obs. = 17

Note: * The calculations comprise data until 2008 to avoid including the effects of significant events which have since taken place, notably the popular uprisings in the Arab region (which began in late 2010) and the secession of South Sudan. ln stands for natural log and Dif for first difference; M is imports; Y is income; e is exchange rate; and P_x and P_m denote export and import prices, respectively. P values are reported in brackets under each regression. All the variables are I(1) or integrated of order 1 (unit root test results not shown), and therefore all the variables in the model are stationary using first differences.

TABLE 3. COMPILATION OF THE MODEL'S ESTIMATED PARAMETERS AND VARIABLES

Country	Parameters ^{a/}			Variables 1999-2008 ^{b/}		
	Income elasticity of demand for imports π	Target GDP growth rate y^*	Price elasticity of demand for imports ε	Terms of trade growth P_d+e-P_f	Real exports growth X	Coefficient θ
Egypt	4.963258	0.07	<i>0.042827</i>	0.0651	0.1353	0.8146
Jordan	1.136259	0.07	<i>0.018582</i>	-0.0464	0.0888	0.6457
Lebanon	1.025725	0.07	<i>0.075724</i>	-0.0425	0.1007	0.7620
Morocco	<i>0.039512</i>	0.07	<i>0.022714</i>	-0.0658	0.0710	0.7254
Sudan	<i>0.304036</i>	0.07	0.28122	0.0344	0.2772	1.1212
Syrian Arab Republic	0.38884	0.07	0.03274	-0.0440	0.0287	1.0244
Tunisia	0.40365	0.07	<i>-0.004873</i>	-0.0270	0.0489	0.9486
Yemen	2.459153	0.07	<i>-0.029701</i>	0.0428	0.0580	0.8715

Notes: a/ Values of π and ε in italics denote that those parameters are not significant at the 10 per cent significance level

b/ Following the same methodology used by Hussain (2000), the calculation of the terms of trade and real exports growth is based on the average values of constant growth rates.

TABLE 4. SUMMARY OF THE CALCULATION OF THE FINANCING GAP FOR THE MDE COUNTRIES OF THE ARAB REGION*

Country	Growth of imports associated with target growth (a)	Terms of trade effect (b)	Exports volume effect (c)	Domestic inflation effect(d)	Required growth capital (e) = (a) - (b) - (c) + (d)
Egypt	1.8741	0.0834	0.5946	0.1200	1.316
Jordan	0.2245	-0.0731	0.1618	0.0383	0.174
Lebanon	0.3016	-0.0601	0.3224	0.0291	0.068
Morocco	0.0101	-0.0927	0.1875	-0.0006	-0.085
Sudan	-0.1757	0.0393	-2.5647	0.0993	2.449
Syrian Arab Republic	-1.1142	-0.0444	-1.2035	0.0424	0.176
Tunisia	0.5495	-0.0283	0.9015	0.0412	-0.282
Yemen	1.3399	0.0477	0.3935	0.1284	1.027

Note: * Based on equation (10) and table 3.

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