The Economic Desirability of Middle-Eastern Monetary Cooperation

Tal Sadeh

1. INTRODUCTION

The purpose of this paper is to find whether exchange rate cooperation among Middle-Eastern countries is desirable and feasible, and who might be the candidates for such a scheme. Writing about Middle-Eastern economic integration always risks being outpaced by events, but at a time of crisis in the peace process it also seems detached of reality. And yet, academic research cannot afford chasing after events. Confining the writing to current events will leave intriguing issues unexplored. Writing about current events is journalism. The general attitude of this paper therefore, is that in today’s world economic integration is always an option worth investigating, which will return to the agenda of the Middle-East whenever the peace process regains momentum.

The literature on Middle-Eastern monetary cooperation is not extensive. Some of it was dedicated to the debate on the magnitude of the Israeli seigniorage revenue derived out of the forced Israeli-Palestinian Monetary Union (MU). Hamed and Shaban (1993, pp. 130–2) estimated that this revenue amounted to as much as 4.2 per cent of Palestinian Gross Domestic Product (GDP) in the period 1970–87. Arnon and Spivak (1995a, pp. 188–9) viewed this as an under-estimation, because Hamed and Shaban assumed an Israeli level of money velocity for the Palestinian economy, while typical Arab velocity is much lower. However, Arnon and Spivak pointed to the fact that part of the seigniorage revenue was enjoyed by Jordan.

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Arnon and Spivak went further to examine the advantages and disadvantages of two alternative ways to issue a separate Palestinian currency. The first, is the establishment of a monetary authority which could execute a monetary policy, enjoy significant seigniorage revenues, and foster the development of financial intermediation by fulfilling the role of a lender of last resort. The second alternative, is the establishment of a currency board which can provide greater monetary stability. In a separate paper Arnon and Spivak (1995b, pp. 16–8) conclude that based on data for the 1980s and early 1990s, Israel, the West Bank and Gaza form an Optimal Currency Area (OCA), which does not include Jordan. However, political factors will lead in their opinion to the establishment of a currency board.

It is clear that the debate in the literature focused on the Israeli-Palestinian level, and not enough attention was given to wider circles of Arab-Israeli cooperation. Therefore, this paper will zoom away from the Israeli-Palestinian level to the Middle-East at large.

The paper assumes that in the final status there will be an independent Palestinian currency, and therefore treats the West Bank and Gaza together as a separate currency area. A situation in which there is no Palestinian currency, is in effect an MU between Israel and the Palestinians, assumed to be the choice of both sides. It seems highly unreasonable that the Palestinians will indeed opt for a currency board and forgo the advantages of printing their own money. These advantages which were outlined above seem crucial for the first years of an independent Palestinian state.

The paper proceeds as follows: Section 2 provides a short background on the theory of OCA — the methodology that the paper will follow. Sections 3–5 conduct different empirical tests in order to see whether the Middle-East qualifies for international monetary cooperation. Section 3 examines the degree of openness, Section 4 checks the mobility of capital and labour, and Section 5 analyses the level and similarity of economic diversification among the region’s countries. In the conclusions, a few suggestions are made regarding the candidates for Middle-Eastern monetary cooperation, and their motives.

2. MIDDLE-EASTERN MONETARY COOPERATION AND OCAS

An MU is a group of states which either share a single currency or have permanently fixed exchange rates between them. The economic discussion on the desirability of MUs which formed the theory of OCAs, had commenced with Robert Mundell’s important paper (1961). Mundell’s main argument was that assuming no factor mobility between the MU’s members, maintaining stability (i.e. preventing unemployment or inflation) within each of them in the face of asymmetric macroeconomic shocks requires exchange rate adjustments between
them. Thus, the fixed exchange rates or indeed the existence of a single currency, reduce macroeconomic stability, instead of enhancing it. The greater the factor mobility between the member states, the less the need for exchange rate adjustments.

An important contribution to the discussion was made by McKinnon (1963), which suggested that fixed exchange rates or joining an MU is more beneficial the greater the openness of the economy. Since small economies tend to be relatively open, it follows that, as a thumb rule, small economies are better candidates for MU membership than big ones. This argument counters Mundell’s argument for many currencies because the size of each region diminishes and its degree of openness rises with the number of currencies. At a certain point McKinnon’s openness argument will balance Mundell’s macroeconomic stability argument, and an equilibrium point in the number of currencies will be reached. The discussion surrounding the theory of OCAs went on during the 1960s but lost momentum in the 1970s.¹

However, the European process of monetary integration in the 1980s revived the theoretical discussion, as new approaches to the OCA theory were developed. These new approaches concentrated on the effectiveness of monetary policy under rational expectations, on the credibility and consistency problem of an inflationary government, and on floating exchange rates’ ability to adjust external disequilibrium.² The main arguments made in the ‘old’ and in the ‘new’ discussion can be summarised according to a set of criteria which specifies the conditions under which an MU is economically desirable.

This paper will use three orthodox OCA criteria (as elaborated in the introduction) to find the possible benefits of monetary cooperation for each Middle-Eastern country, as well as to assess the sustainability of the cooperation. To be sure, there are more OCA criteria than the three examined here. These include the different level of inflation and of fiscal dependency on inflation tax among potential members, different factors which contribute or impede monetary surprise, political factors, the level of fiscal integration and more. However, the three criteria examined here are the most important, the most measurable and the most relevant criteria. The paper avoids developing a discussion on the inflation rate criteria, since this criteria is only relevant if the currency of one country is obvious to use as an anchor. In the Middle-East there is no such obvious anchor currency.³

1 For a survey of the earlier literature on Optimum Currency Areas see Tavlas (1993, pp. 666–8); and Kawai (1987, pp. 740–2).
2 For a survey of the literature on these new approaches see Tavlas (1993, pp. 669–81).
region such as Iraq, Oman and Yemen were excluded in order to limit the scope of the research, as well as North-African countries which are often treated in a Middle-Eastern context. Under normal circumstances Iraq could have been relevant to this survey but due to the United Nations’ (UN) sanctions its recent data are heavily distorted, if not incomplete, unavailable or outdated. The current state of affairs in the Iraqi economy and foreign relations makes it impossible to draw conclusions which will be relevant to peaceful times.

3. THE DEGREE OF OPENNESS

A high degree of openness in the member country’s economy (Usually measured by the ratio between its trade (including trade in services) and its GDP), means that a greater volume of trade will enjoy stable exchange rates. To this purpose, ‘trade’ can also include trade in labour services. Assuming that exchange rate volatility hampers the mobility of labour because it creates an uncertainty, stable exchange rates can reduce the costs of migration and benefit the workers. Capital mobility is generally unhampered by exchange rate volatility because financial agents treat exchange rates as asset prices and manage their currency position in the context of an asset portfolio, taking account of the covariance between different currencies. In other words, the more the potential MU members trade with each other, the more effective the MU can be in enhancing resource allocation among them.

The Middle-Eastern countries are very open economies, according to the import figures. On the exports side however, there are three groups. The first is composed of Egypt and Lebanon, with exports accounting for less than ten per cent of GDP. Lebanon’s great trade deficit is a natural consequence of the devastation caused by the war and the increase in activity in Beirut’s port in 1991. However, the real deficit should be much higher as contraband is commonplace. The low level of Egyptian exports arises from structural problems in the economy. The second group is composed of Israel, Jordan and Syria, with exports accounting for between ten to twenty per cent of GDP, and the oil countries with very high ratio of exports to GDP. Bahrain’s outstanding figures are due to considerable imports and re-exports of aluminum and oil (somewhat similar to the case of the Israeli diamond industry). But most of these countries’

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4 Edison and Melvin (1990, pp. 16–9).
5 On the regionality of Middle-Eastern trade see also Halevi and Kleiman (1996).
6 Egypt apparently suffers from low export competitiveness, a loss of traditional Soviet markets, heavy bureaucracy, and an over-valuation of the Egyptian Pound. See The Economist Intelligence Unit (1995, p. 48).
### TABLE 1

Middle-Eastern Exports (Imports) as a Proportion of the Exporting (Importing) Country’s Total Exports (Imports) to the Region in 1992 (in per cent)

<table>
<thead>
<tr>
<th>From:</th>
<th>To Bahrain</th>
<th>To Egypt</th>
<th>To Israel</th>
<th>To Jordan</th>
<th>To Kuwait</th>
<th>To Lebanon</th>
<th>To Qatar</th>
<th>To Saudi Arabia</th>
<th>To Syria</th>
<th>To UAE</th>
<th>Total Exports</th>
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<td>6.2</td>
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<td></td>
<td>(92.4)</td>
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<td>(26.5)</td>
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<td>8.3</td>
<td>8.5</td>
<td>58.8</td>
<td>0.9</td>
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<td>(4.0)</td>
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<td>Total Imports</td>
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trade is conducted with non Middle-Eastern countries, thus lowering the incentive to manage the intra group exchange rates and save on transaction costs.\(^7\)

In the Middle-East there is an asymmetry in the trade patterns. For most of the countries, Saudi Arabia is the most important regional trade partner, and the Gulf in general is strong on the trade grid. The exception is Lebanon and Syria who are most important to each other, but Lebanon may trade more with the Gulf states as it recovers from its years of war. Again, data on trade in services between these countries is difficult to obtain. Trade in services is generally more significant for Bahrain, Egypt and Jordan, and Kuwait and Saudi Arabia have large services imports too. Much of Bahrain’s exports of services does seem to go to the region. It exports mostly financial services (including an offshore market for Saudi Rials), port services and tourism. Bahrain is a preferred weekend site for many Saudis. Once more, as Lebanon recovers it is expected to ‘steal’ back some of Bahrain’s financial business. Egypt’s services exports comprise mostly of tourism and the Suez canal. These however, are directed mostly at non regional destinations. In contrast, most of the tourists coming to Jordan are from Egypt

\(^7\) To compare with European figures, see Sadeh (1997).
and Syria. All in all, trade does not seem to be an incentive for exchange rate stabilisation among Middle-Eastern countries. Some limited interest may exist on Bahrain’s and Jordan’s part vs. Saudi Arabia, and between Lebanon and Syria. Israel is totally unintegrated in the region and therefore has no trade motivated interest in regional exchange rate stabilisation.

True, these conclusions are based on past performance. But the prospects for future greater regional trade in the Middle-East are not bright, most scholars reckon. Halevi and Kleiman (1996, pp. 19–29) claim that Middle-Eastern countries are all either similar in economic structure and in specialisation of production, or different in structure but exporting what their neighbours do not import. Most of them are simply not each other’s natural trade partners, in spite of cultural and religious affinities, and geographical proximity. Neither is there great potential for Arab-Israeli trade. Sagi and Sheinin (1994) claim that Israel produces sophisticated inputs for the industries of the developed countries (which the Arab countries cannot use), military products (which they will not buy from Israel and phosphates (which they produce themselves). The Palestinians can supply Israel with the few goods it may wish to import from the Arab countries, such as agricultural goods, cheap textile and small manufacturing. They point to the low trade between Egypt, Israel, and Turkey as an indicator of the low Arab-Israeli trade potential even without the Arab boycott. Arnon and Weinblatt too (1994, pp. 580–96), estimate in three different ways that the Jordanian-Israeli merchandise trade potential is low. Tovias (1994) claims that there is no place for a Customs Union (CU) between Israel and the Palestinians, and that the Palestinians can trade with the European Union (EU) and do not need Israel necessarily as a trade partner. 8

4. CAPITAL AND LABOUR MOBILITY

Capital and labour mobility will reduce the need for exchange rate adjustments, when an asymmetric macroeconomic shock occurs. Workers who lose their jobs when an external shock causes recession in their country will look for a job in another country which experiences an upturn. If the freedom of movement of capital and labour is restricted, the pressure to relieve the difficulties by an exchange rate adjustment will grow strong, and the MU may break down. Also, trade in factors of productions can be a substitute for trade in

goods and services. So the more the potential members trade in capital and labour, the more effective the MU can be in improving the resource allocation among them. Note however, that what matters is the level of international mobility relative to the national mobility.

Labour movements have traditionally been the main economic transaction among Middle-Eastern countries. Migration has often been spontaneous and unplanned by the governments. Cultural affinities among the region’s countries aided the mobility of labour, as well as family ties. Members of the extended family helped their relatives in finding a job and thus lowered the costs and the uncertainty of finding one. Also, in contrast to Europe where citizenship is usually determined by the person’s place of birth, in the Middle-East it is usually determined by family or tribal descent. This means that a greater share of the Middle-Eastern labour force is considered (by the host state and frequently by themselves too) as foreign workers, whereas under similar conditions in Europe they would have acquired citizenship and would have ceased to be considered foreign. The main motive for the immigrants was the exploitation of the wage differentials between the different countries. The great majority of them have traditionally been either Egyptian, Jordanian, Palestinian or Yemeni. There were times when an Egyptian worker in some sectors could earn as much as thirty times more in Saudi Arabia than in Egypt. For the governments, immigration worked as a safety valve, allowing for the unemployed to improve their lot. Exporting labour was easier than exporting labour intensive goods, because of the inefficiency of the sending countries’ labour markets, and the dominance of their inefficient public sector.

The labour importing countries were the Gulf states which underwent an extensive industrialisation and development process in the 1980s. This process created labour shortages that could be filled only with foreign workers. The Gulf states’ populations are generally small, with 40 per cent under the age of 15. They are sheikdoms which observe Islamic rules. Women do not participate in the labour force, and there are many subsidies which impair the incentive to work. In 1985 therefore, expatriates accounted for around 80 per cent of the labour force in Kuwait, Saudi Arabia and the UAE, and close to 50 per cent of the labour force in Bahrain and Qatar.

Until the oil boom in 1974, labour migration was not so dramatic, but 80 per cent of the immigrants were Middle-Eastern and North-African Arabs. In 1975

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9 On this matter, see Mundell (1957).
10 Gros (1996, pp. 21–8) found that labour mobility is indeed lower in Europe than in the US. However, since in Europe international labour mobility is of the same order of magnitude as regional mobility, the labour mobility case against EMU is weak.
11 For a survey of trends in Middle-Eastern migration see Richards and Waterbury (1990, pp. 374–400); and Shah (1994).
however, an estimated 1.3 million Middle-Easterners were working and living in the region but outside of their countries.\textsuperscript{15} In the early 1980s this figure rose to around 3.5 million, but the share of Arab workers in the labour imports of the Gulf countries dropped to 37 per cent, due to competition from other Asian countries. These offered even cheaper workers, who did not wish to stay and were politically more stable. Nevertheless, the remittances of migrant labour in 1984 reached one billion US Dollars in Jordan and four billion in Egypt, more than the value of these countries’ merchandise exports.\textsuperscript{16} The Gulf war caused massive labour flows back to the sending countries, and demonstrated the sensitivity of labour migration to political instability. After the war, the migrants returned to the Gulf, but politics changed the patterns. An estimated 400,000–500,000 Egyptians returned, as well as 250,000 Jordanians. Some 400,000 Palestinians (most of them carrying Jordanian passports) who left Kuwait before the war are unlikely to return as their positions have been filled by other Arab or Asian workers. Citizens of Iraq, Sudan, and Yemen have not been invited back to Kuwait as well.\textsuperscript{17}

As Table 3 shows, remittances are still very important for Egypt and Jordan. Although remittance figures were available for each country only in one direction, this does not seem to distort the picture, since Middle-Eastern countries are generally either importing or exporting labour with very little ‘intra industry trade’. And although the figures do not specify the origin of receipts or the destination of payments, it is very safe to assume that almost all of the Egyptian and Jordanian workers are employed in the Gulf states. The figures in Table 3 are downward biased for two reasons. First, not all of the actual remittances are reported. It is conceivable that large sums of money cross borders unreported in order to avoid taxes, commissions, or capital controls. Second, a significant part of the remittances arrive in the form of purchased goods, which are more

\begin{table}
\centering
\begin{tabular}{lccccccc}
\hline
\textbf{Remittances} & \textbf{Bahrain} & \textbf{Egypt} & \textbf{Jordan} & \textbf{Kuwait} & \textbf{Lebanon} & \textbf{Saudi Arabia} & \textbf{Syria} \\
\hline
\textbf{Receipts} & n.a. & 15.4 & 15.6 & n.a. & 3.6 & n.a. & 3.9 \\
\textbf{Payments} & 5.0 & n.a. & n.a. & 4.2 & n.a. & 10.8 & n.a. \\
\hline
\end{tabular}
\caption{1992 Remittances as a Percentage of GDP in Middle-Eastern Countries (in per cent)}
\end{table}

Note: n.a. = not available.
Source: World Bank, World Bank Database. Figures for Israel, Qatar, and the UAE were not available. In Syria’s case, the figures are for 1989: The latest available figure is for 1991, which was affected by the Gulf war. It should be noted that on the payments side the remittances are in fact part of the GDP while on the receipts side they are not.

\textsuperscript{15} Shah (1994, p. 4).
\textsuperscript{16} Richards and Waterbury (1990, pp. 390–1).
\textsuperscript{17} Shah (1994, pp. 6–7).
available or cheaper in the Gulf states. So the actual figure should be much higher, especially for Lebanon. It is interesting to note that the 1992 Jordanian figure is similar to the 1989 one, which may imply that Palestinian migrants have returned in almost pre war levels to the Gulf in general, if not to Kuwait specifically. Another important destination for Palestinian labour ever since 1967 has been Israel. Sadan estimates that in 1990 remittances receipts from Israel accounted for around 25 per cent of the GDP in the West Bank and Gaza. 18

Capital movements among the countries of the Middle-East were much more limited. During the oil boom some of the surplus money of the Gulf states was channeled to the poor countries of the region as economic aid. This was done bilateraly and multilateraly, mostly through the Arab Fund for Economic and Social Development and the Abu Dhabi Fund for Arab Economic Development which run along the World Bank lines. However, the investments were usually mismanaged, incurred losses, and did not achieve a high level of economic integration. 19 Private capital movements for business purposes is very scarce in the region.

In summary, labour flows among the Middle-Eastern countries have traditionally been a substitute for trade in goods and services among them. In the Middle-East, when a shock occurs, industries are harder to adjust than labour flow patterns. The economies are underdeveloped and not liberal, and the markets are inefficient, so shutting down one factory and opening up another is difficult. But people immigrate easily, according to wage differentials. The Gulf states wish to limit the number of foreign and especially Arab workers, but the wage differentials will ensure that significant migration will persist.

Palestinian labour flows to Israel are especially easy since the short distance allows commuting, and does not require separation from relatives and homes for extended periods. In Israel, many prefer to transform the labour flow oriented relationship with the Palestinians, into a trade oriented relationship. This may not be easy, but it is argued that trade in goods is much more resilient to political instability and closures than labour flows. Mayshar (1994, pp. 669–70) argues that Israel should even unilaterally allow free Palestinian exports to its territory and Zusman (1994b, p. 676) adds that those Israeli industries affected can be compensated fiscally. However, any such development will depend on the availability of capital in the West Bank and Gaza, and on local political stability. Judging by the adjustment problems in the Arab countries’ industries and the poor infrastructure, the substitution of labour relations for trade relations may prove difficult to achieve.

The major regional business in the Middle-East therefore, was and will probably remain, trade in labour. If labour flows can be disrupted by exchange

18 Sadan (1994, pp. 7–9).
rate fluctuations, then there is an interest in limiting these fluctuations. This should be especially important to Egypt and Jordan vs. the Gulf currencies, and for the Gulf currencies vs. the rest of the world, and for the Palestinians (should they have a currency of their own) vs. the Israeli Sheqel. The high labour mobility also implies of course, better adjustments in case of asymmetric shocks in the region.

5. THE LEVEL AND SIMILARITY OF ECONOMIC DIVERSIFICATION

A high level of diversification in an MU member’s economy will reduce the risk of asymmetry in external macroeconomic shocks, and thus the pressures for exchange rate adjustments. Countries with economies where production is concentrated in a few specific sectors are prone to a greater volatility in their GDP over a given period of time. Such is the experience for example of some oil producing countries, or agricultural countries which depend on a certain crop. The paradox is that establishing an MU will cause greater efficiency in resource allocation, thus enhancing specialisation among the members and reducing their economies’ diversification.²⁰

There are a few ways to measure the chances that a certain shock will affect two countries asymmetrically. Arnon and Spivak (1995b, pp. 9–17) measured the correlation between inflation and GDP growth rates in Gaza, Israel, Jordan and the West Bank. Of course this may be misleading because different effects are influencing the macroeconomic variables. Most important, the variables are affected not only by the exogenous shocks, but also by policy responses.²¹ Correlation may be a better indicator when there are no policy responses, such as in the Palestinian case. It is obvious that the Palestinians are not very happy about having their economy fluctuating with the Israeli construction sector. If they had their own government they would probably take measures to smooth the fluctuations, and the GDP correlation between them and Israel would be weaker.

This paper will use a different method to measure the chances for an asymmetric shock, namely, detecting economic similarities among the countries. In order to measure the similarity between the structure of the economies of the different countries a similarity index can be used. Similarity indices are commonly used in international trade literature and can be borrowed for this purpose as well. There are a few similarity indices. The most common and simple one is known as the Finger-Kreinin index. According to this, the similarity of the industry structures of countries a and b is defined by:

²⁰ This strengthens Gros’s (1996, p. 22) conclusion that labour mobility is altogether not crucial for EMU.
SIMFK(a, b) = \sum_{i=1}^{n} \{\text{Minimum} [s_i a, s_i b]\}

where \(s_i a\) is the share of branch \(i\) in the manufacturing sector of country \(a\) and \(s_i b\) is the share of branch \(i\) in the manufacturing sector of country \(b\). For each branch this index selects the lower of the two. An index of one indicates perfect overlap of branch structure, and an index of 0 represents no overlap at all. When similarity indices are used in international trade literature to assess the probability of trade diversions, a highly aggregated level of analysis is meaningless, because ideally one must compare only identical goods. However, the attempt here is to measure the likeliness of asymmetrical shocks to the industries of any given pair of countries. Some shocks may affect the producers of a specific good, such as wheat (a certain pest for example), and therefore will not be accounted for in an aggregated analysis. But other more general shocks may affect the entire agriculture (a drought for example). An oil shock can positively affect the oil producers while damaging the entire manufacturing sector etc. So although it would be best to use the most disaggregated data, an aggregated analysis is still useful.

Tables 4–6 show that certain groups of countries within the Middle-East share a similar economic structure. The first more obvious group is the Gulf group, comprising Kuwait, Qatar, Saudi Arabia and the UAE. These countries share a large oil sector, medium size trading and financial sectors and a small agriculture. The Gulf group’s similarity with the rest of the countries is upward biased, because it used late 1980s figures, when oil production was slow and the GDP actually contracted. Another group is the Mediterranean one, comprising Egypt, Lebanon and Syria. These countries have large agricultural and trading sectors, and a small financial sector. One might want to add the West Bank and Gaza to this group, since it too relies heavily on agriculture and trade.

It should be noted that certain shocks can affect the Gulf group and the Mediterranean group with greater symmetry than the similarity indices would suggest. This is because the similarity index was calculated here for GDP structure, and so does not account for an economy’s labour exports. As discussed above, an oil boom will positively affect Egypt’s (and Jordan’s) Gross National Product (GNP), together with the Gulf group’s GDP. So there should be some positive correlation between the Gulf group’s GDP and Egypt’s and Jordan’s GNP. However, this is irrelevant to the issue of asymmetric shocks, which addresses the economic activity within countries and not the economic activity by their nationals wherever they are.

For a detailed description of various similarity indices see Silber and Berrebi (1988, pp. 141–5).

Data on the structure of the Palestinian economy is unavailable at the level of aggregation presented here. However, using the Israeli Central Bureau for Statistics figures, the agricultural sector contributes around 20 per cent of the combined GDP of the West Bank and the Gaza strip. Central Bureau for Statistics (1995).
<table>
<thead>
<tr>
<th></th>
<th>Bahrain</th>
<th>Egypt</th>
<th>Israel</th>
<th>Jordan</th>
<th>Kuwait</th>
<th>Lebanon</th>
<th>Qatar</th>
<th>Saudi Arabia</th>
<th>Syria</th>
<th>UAE</th>
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<tbody>
<tr>
<td>Agricul.</td>
<td>1.5</td>
<td>15.2</td>
<td>2.6</td>
<td>6.3</td>
<td>0.3</td>
<td>12.6</td>
<td>0.9</td>
<td>7.3</td>
<td>29.7</td>
<td>1.9</td>
</tr>
<tr>
<td>Mining</td>
<td>17.5</td>
<td>9.8</td>
<td>3.6</td>
<td>42.7</td>
<td>35.9</td>
<td>22.5</td>
<td>11.1</td>
<td>11.1</td>
<td>11.1</td>
<td>38.6</td>
</tr>
<tr>
<td>Manuf.</td>
<td>17.8</td>
<td>15.7</td>
<td>21.7</td>
<td>13.1</td>
<td>14.6</td>
<td>18.5</td>
<td>12.7</td>
<td>8.8</td>
<td>4.2</td>
<td>8.6</td>
</tr>
<tr>
<td>Pub. Uti.</td>
<td>2.1</td>
<td>1.5</td>
<td>2.4</td>
<td>2.2</td>
<td>-1.4</td>
<td>0.0</td>
<td>1.1</td>
<td>0.3</td>
<td>1.4</td>
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<tr>
<td>Constr.</td>
<td>6.5</td>
<td>4.5</td>
<td>8.0</td>
<td>4.7</td>
<td>2.0</td>
<td>10.0</td>
<td>4.1</td>
<td>11.2</td>
<td>3.8</td>
<td>9.5</td>
</tr>
<tr>
<td>Trade</td>
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<td>19.6</td>
<td>10.4</td>
<td>8.3</td>
<td>7.7</td>
<td>28.1</td>
<td>6.7</td>
<td>9.5</td>
<td>23.7</td>
<td>10.6</td>
</tr>
<tr>
<td>Transp.</td>
<td>11.3</td>
<td>10.4</td>
<td>8.1</td>
<td>13.1</td>
<td>2.0</td>
<td>2.9</td>
<td>8.1</td>
<td>9.1</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>33.4</td>
<td>23.3</td>
<td>46.8</td>
<td>48.7</td>
<td>32.1</td>
<td>30.8</td>
<td>35.7</td>
<td>32.3</td>
<td>17.0</td>
<td>23.0</td>
</tr>
</tbody>
</table>

Notes:

Agricul. = Agriculture, Hunting, Forestry and Fishing.
Trade = Wholesale/Retail Trade, Restaurants and Hotels.
Other = Financial, Community and Government Services,
Import Duties, and Taxes.

Min. = Mining and Quarrying.
Constr. = Construction.
Manuf. = Manufacturing.

In the case of Egypt, Gas and Water are included in ‘Other’. In the case of Israel, Manufacturing and Mining and Quarrying are aggregated.

A surprising similarity exists between Israel and Jordan, which feature large manufacturing and financial sectors, a medium size trading sector, and a small agricultural sector. Bahrain stands out as a country that finds something in common with every country barring Syria.

In order to be a little more specific, a similar test will be carried out regarding the manufacturing sector alone. Table 7 presents the similarity index results between eight Middle-Eastern countries, based on two digit level figures. Obviously, even for merely statistical reasons, it is more likely to find greater similarity between any two countries for two digit level figures than for four digit ones. In other words, the similarity index tends to rise with the level of aggregation. For this reason it is impossible to compare two index results, each calculated on the basis of figures from a different digit level. The different digit

<table>
<thead>
<tr>
<th>Table 5</th>
<th>The Share of the Financial Sector in Middle-Eastern Countries’ GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahrain</td>
<td>Egypt</td>
</tr>
<tr>
<td>17.3</td>
<td>8.3</td>
</tr>
</tbody>
</table>

Sources: The Economist Intelligence Unit, Country Profile, Various Issues. The Israeli figure is from: The Middle-East and North-Africa 1996, London: Europa Publications, 1996, 42nd Edition, p. 566. In the case of Egypt, the figure is the difference between ‘Other’ in the UN statistics, and other services in the EIU statistics.

<table>
<thead>
<tr>
<th>Table 6</th>
<th>Economic Activity Similarity Index in Middle-Eastern Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>UAE</td>
<td>74.7</td>
</tr>
<tr>
<td>Syria</td>
<td>58.0</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>84.2</td>
</tr>
<tr>
<td>Qatar</td>
<td>79.3</td>
</tr>
<tr>
<td>Kuwait</td>
<td>74.8</td>
</tr>
<tr>
<td>Jordan</td>
<td>77.7</td>
</tr>
<tr>
<td>Israel</td>
<td>79.3</td>
</tr>
<tr>
<td>Egypt</td>
<td>76.6</td>
</tr>
</tbody>
</table>

Note: Lebanon’s figures are average estimates, aggregated differently than the UN’s statistics, and were therefore not used for similarity calculations.
Source: The Calculations are based on figures from Table 4.

A surprising similarity exists between Israel and Jordan, which feature large manufacturing and financial sectors, a medium size trading sector, and a small agricultural sector. Bahrain stands out as a country that finds something in common with every country barring Syria.

In order to be a little more specific, a similar test will be carried out regarding the manufacturing sector alone. Table 7 presents the similarity index results between eight Middle-Eastern countries, based on two digit level figures.

Obvious...
levels of the figures in each country leave no other choice but to use the lowest common denominator, that is the two digit level figures.

From Table 7 it seems that Israel’s manufacturing sector is generally of a different structure than other Middle-Eastern countries. Surprisingly though, it has a high similarity with Saudi Arabia. This is due to the similar importance in both countries of the food and beverages, the wood and furniture, and the metals industries. There is also a strong similarity between Jordan and Saudi Arabia, but in different branches, as the low Jordanian-Israeli similarity shows. Bahrain, Egypt, and Syria stand out as a triangle with strong similarities, and so does the Kuwait-Qatar dyad.

Economic structure similarity will to a great extent determine the chances for and the severity of an asymmetrical shock in a given group of countries. Another relevant feature of an economy however, is the extent to which the production concentrates in a few industries. In order to measure the level of concentration of the manufacturing sector, the following concentration index was used:

\[
INDEX = \left\{ \sum_{i=1}^{n} \text{ABS} \left[ s_i - (1/a) \right] \right\} / 2^a / (a - 1)^*100
\]

where \( s_i \) is the share of branch \( i \) in the total production of the manufacturing sector, and \( a \) is the number of classified branches. This index measures the difference between the branch’s share in the manufacturing sector’s production, and the share it would have if the share of all the branches was equal \( (1/a) \). If the manufacturing sector is divided into eighty one branches, then \( a = 81 \) and each branch’s share is compared with 1.23 per cent \( (1/81) \). The index then sums the absolute values of the difference for all the branches and divides the sum in two.

TABLE 7
Manufacturing Sector Similarity Index in Middle-Eastern Countries

<table>
<thead>
<tr>
<th>Two Digit Analysis</th>
<th>Bahrain</th>
<th>Egypt</th>
<th>Israel</th>
<th>Jordan</th>
<th>Kuwait</th>
<th>Qatar</th>
<th>Saudi Arabia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syria</td>
<td>77.5</td>
<td>73.4</td>
<td>56.5</td>
<td>64.9</td>
<td>47.7</td>
<td>28.8</td>
<td>58.9</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>63.0</td>
<td>65.8</td>
<td>74.4</td>
<td>79.4</td>
<td>60.2</td>
<td>44.4</td>
<td></td>
</tr>
<tr>
<td>Qatar</td>
<td>44.9</td>
<td>53.2</td>
<td>38.5</td>
<td>52.3</td>
<td>79.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kuwait</td>
<td>54.0</td>
<td>64.6</td>
<td>55.3</td>
<td>59.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jordan</td>
<td>62.4</td>
<td>74.4</td>
<td>57.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Israel</td>
<td>64.1</td>
<td>60.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Egypt</td>
<td>78.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: The calculations are based on data from: United Nations Industrial Development Organization, *International Yearbook of Industrial statistics*, Vienna, 1996 (1995 for Egypt and Saudi Arabia). The distribution of the manufacturing sector’s production across the different branches is according to the added value figures. In the case of Bahrain and Saudi Arabia this was not available so labour employment figures were used as a proxy.
An adjustment factor \( a/(a-1) \) is then used to ‘stretch’ the index so that if all the production is taking place in one branch, the index will indeed reach a value of one and not just the value \((a-1)/a\). Therefore, the index reaches a value of one if all the production is concentrated in one branch, and zero if the production is evenly divided over all the branches.

The index is affected by the level of classification. It may return higher values for more specific levels of classification if a concentration in one sub-branch is ‘swallowed’ by a major branch which may not show a significant deviation from its equal portion \((1/a)\). Alternatively, the index may score lower for more specific levels of classification if the production is evenly distributed across the sub-branch in one major branch, which significantly deviates from its equal portion \((1/a)\).

Ideally, one would want to use the most specific level of classification possible, but this kind of data does not exist for all Middle-Eastern countries. To facilitate international comparisons the index was therefore calculated for lower digit levels even when the more accurate data was available. The United Nation (UN) International Standard Industrial Classification (ISIC) method was used for the calculations. Under its four digit level of classification there are eighty one branches in the manufacturing sector, under its three digit level there are twenty eight branches, and under its two digit level there are nine branches. The figures used for the Middle-East are the latest available, that is, those of 1992 (1989 in Egypt’s case). No data was available for Lebanon and the UAE. Table 8 shows the countries’ concentration index ranking according to a two, three and four digit level, when possible.

Table 8 shows how the digit level can change the countries’ ranking. It is clear that Bahrain, Qatar, Kuwait, and to a certain extent Egypt, feature a concentrated manufacturing sector. Over one half of Kuwait’s manufacturing is taking place in petroleum refineries, and over one quarter of Bahrain’s and Egypt’s are in wearing apparel. Bahrain’s concentration index ranks extremely low under a two

<table>
<thead>
<tr>
<th>Digit Level of Classification</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qatar</td>
<td>65.4</td>
<td>Kuwait</td>
<td>61.6</td>
</tr>
<tr>
<td>Kuwait</td>
<td>56.0</td>
<td>Bahrain</td>
<td>55.4</td>
</tr>
<tr>
<td>Israel</td>
<td>45.0</td>
<td>Egypt</td>
<td>48.7</td>
</tr>
<tr>
<td>Syria</td>
<td>42.2</td>
<td>Israel</td>
<td>47.0</td>
</tr>
<tr>
<td>Egypt</td>
<td>41.8</td>
<td>Jordan</td>
<td>46.6</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>41.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jordan</td>
<td>40.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bahrain</td>
<td>24.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: See Table 7.
digit level of classification because its prominent sub-branches are scattered over different major branches. Qatar is highly dependent on industrial chemicals and petroleum refineries, where almost 70 per cent of its manufacturing takes place.

The conclusions of the tests conducted here are that the Middle-Eastern countries are divided into three different groups with more or less similar economic structures between them, but dissimilar to the rest of the countries. These can be dubbed roughly as the oil producers, the Mediterranean agricultural group, and the manufacturing countries.

Narrowing down to the manufacturing sector, Israel’s manufacturing sector was found to be generally of a different structure than other Middle-Eastern countries. Bahrain, Egypt, and Syria stand out as a triangle with strong similarities, and so does the Kuwait-Qatar dyad. In general, Middle-Eastern similarities are very low.

In the Middle-East there is great variation in the level of branch concentration in the manufacturing sector. Bahrain, Kuwait, Qatar and to a certain extent Egypt feature a concentrated manufacturing sector, while other countries are more diversified. The Middle-Eastern production tends to concentrate in very specific goods, so the Middle-eastern countries are vulnerable to good-specific shocks.

6. CONCLUSIONS

Most of the Middle-Eastern countries’ trade is conducted with non Middle-Eastern countries, thus lowering the incentive to manage the intra group exchange rates and save on transaction costs. So based on past performance trade does not seem to be an incentive for exchange rate stabilisation among Middle-Eastern countries.

In terms of economic structures the Middle-East is divided into three different groups: the oil producers, the Mediterranean agricultural group (Egypt, Lebanon, Syria and the Palestinians), and the manufacturing countries (Israel and Jordan). Any monetary cooperation between these groups is expected to face difficulties. Even within these groups the similarity is low (especially in the manufacturing sector). The Middle-Eastern production tends to concentrate in very specific goods, so the countries are vulnerable to good-specific shocks.

The Middle-East is not an OCA. The Gulf countries may fit for monetary cooperation among them, but the potential gains from such a cooperation are unclear. The inflation rates among the Gulf countries are too similar and the trade volumes are insufficient. A few other countries may have a one sided interest to stabilise their exchange rates vs. other countries, but they don’t qualify by other criteria. Israel is the only country which has both a significantly bigger economy which can be gracious to its potential partners, and a political interest in stabilising social and political conditions in them.
And yet, one has to remember that the dynamic effects of economic integration can overshadow the static effects. This is true especially for Israel and its immediate neighbours. Under a better business environment there is potential for the development of economic cooperation between Israel, Jordan, the Palestinians and Lebanon. Israel’s neighbours are interested in developing this cooperation, whether in the form of labour flows or through trade. For Israel regional trade will remain of low economic importance, but it has an interest in Palestinian and Jordanian social and political stability. Therefore, any exchange rate arrangement between Israel and its neighbours will be meaningful only in the context of broader trade agreements between them.

REFERENCES


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