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**Identification and Monitoring of  
Business Cycles in the Economies in  
the Gulf Cooperation Council Region**

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<sup>1</sup> © The Conference Board, Inc. and Gulf Investment Corporation, 2015. Corresponding author: Ataman Ozyildirim, [ataman.ozyildirim@conferenceboard.org](mailto:ataman.ozyildirim@conferenceboard.org). We would like to thank the entire economics research team of The Conference Board and Gulf Investment Corporation for helpful comments, suggestions and data. In particular, we would like to thank Dr. Bart van Ark, Dr. Sulayman Al-Qudsi, Dr. Kirsten Jaeger, and Dr. Willem Overmeer for their comments and help at various stages. We are grateful for excellent research assistance by Dalal Al-Arbeed, Dalma Al-Essa, and Dalal Al-Jaser. All remaining errors are ours. The views expressed in this paper are those of the author(s).

## **Abstract**

In this paper, we propose a short-term “early warning system” based on coincident and leading economic indicators that help to track the short-term performance of the economies of the Gulf Cooperation Council (GCC). The proposed selection of indicators are classified as coincident and leading according to the “classical” business cycle definition. Based on these indicators a chronology of the reference cycle for the regional economies is developed. The selected indicators are meant to assist in forecasting economic growth and major business cycle fluctuations. These indicators are organized in “scoreboards” that can be easily updated and monitored on a regular basis. Such indicators should allow economists and analysts to improve their insights on the timing and speed of changes in the economic and business cycle conditions.

**Key Words:** Business Cycle; Indicators; Leading Index; Times Series; Forecasting

**JEL Classification:** E32; C52; C53; C22

## 1. Introduction

### Developing instruments to monitor GCC short term growth performance

As the economies of the Gulf Cooperation Council (GCC) region are becoming increasingly more diversified and integrated with the global economy, the need for better tools and instruments to take the temperature of the economy, for better forecasts of future growth performance and for a better understanding what causes deviations from the long term trend growth and short term business cycle fluctuations increases. Following the recovery from the global recession in 2008/09, there is less certainty now on the path of growth ahead both in the short-term and in the medium-term and providing policy tools for decision makers in government and businesses is even more important.

Major developments in global energy markets, the slow growth recovery in mature markets and the looming economic slowdowns in major emerging markets are important external factors impacting on future growth in the GCC region. The recent drop in oil prices and its differential impacts on net exporters and net importers are also introducing additional volatility and complexity into the outlook. Internally, the ongoing drive for more collaboration among the GCC economies, helping to create larger domestic markets and scale, as well as more diversification in the economic structure of the individual economies, create new growth opportunities as well as challenges. The increasing role for the private sector and the need for greater sophistication of economic policy given the increased complexity of the economy, have created a demand for more granularity in economic information to help policy makers and business strategists to better anticipate and plan ahead.

Business cycles with periods of expansion and contraction arise as part of the modern market economy. Business cycle upturns and downturns create opportunities and challenges, costs and risks. A firm may decide to make investments in plant, products or people just before a downturn, and not reap the expected returns. Excess capacity may lead to lower prices and spoil the market for all actors. Alternatively, if a firm does not make timely investments, it may miss an upturn in the market and only reap mediocre returns on otherwise sound investment plans. However, if a firm is able to time a good investment well, it can lead to superior returns. Getting the timing right in decisions relating to investment, inventories, production, sales, and workforce planning is critical, but also it is very difficult. Government agencies also benefit from utilizing insights on business cycle expansions and contractions when considering the timing of their decisions on monetary or fiscal policy as well as on designing policies that are counter-cyclical or medium and long term growth stimulating policies.

Measurement and monitoring tools for short term dynamics of an economy are of crucial importance to manage growth. Timely, reliable and high quality information to guide policy

makers, business executives and investors (both local and foreign) support and strengthen decision making strategies based on past performance, anecdotal information, word of mouth, and intuition. Adequate levels of transparency are the hallmark of effective and efficient decision-making in economics, reducing the risks of under- or over-investment or misallocation of resources in the economy. Publicly available economic indicators that track the economy in a broad sense and point to upcoming changes are critical tools to guide economic and business decisions.

Such information has been unavailable for the GCC members, despite scattered efforts in the past. Recent research include Abberger et. al. (2013) on indicators for Abu Dhabi and al-Hassan (2009) on coincident indicators for GCC economies. The dominance of oil and gas production has sometimes been seen as a reason not to pay much attention to regular business cycle dynamics (expansions and contractions), as the cycles in oil and gas production dominate pretty much everything else. Moreover, attention has been focused on movements in growth rates rather than business cycles. However, the underlying cyclical dynamics of the economy are much more subtle than just the prices and volume of energy exploitation. Business cycle analysis is therefore also a crucial tool to enhance the performance of private sector business dynamics, beyond oil and gas production, in GCC economies. Also with the GCC increasingly becoming a destination for foreign investors it is important to understand the long-term growth dynamics as economies become more diversified.

In this paper, we propose a short-term “early warning system” based on coincident and leading economic indicators that help to track the short-term performance of the economies of the Gulf Cooperation Council (GCC) and assisting in forecasting business cycle fluctuations. These indicators are organized in “scoreboards” that can be easily updated and monitored on a regular basis. Such indicators will allow business leaders, economists, policy makers, and analysts in the region to improve their understanding of the timing and speed of changes in the economic and business cycle conditions. When published on a regular basis (quarterly or, ultimately, monthly), the system of indicators will also inform other investors in the market place, thereby reducing the potential for uninformed speculation.

## 2. The approach to developing business cycle indicators for GCC economies

Our approach closely follows The Conference Board indicators approach and makes the resulting indicators and scoreboards more closely aligned with that methodology. It is also expected to improve the evaluation of the leading indicators and make their selection more representative and also more robust. It is hoped that the selection of indicators provide a foundation to developing coincident and leading composite indexes.

### The development of short term indicators

A central ingredient in our approach is to develop a system of short term indicators that can provide “early warning signals” with regard to turning points in the economy. As a first step, it is important to develop a business cycle chronology that is determined by coincident indicators which, when aggregated, result in a Coincident Economic Index. The chronology and CEI provide the reference turning points that define and describe the business cycle. The Bry-Boschan algorithm to determine the business cycle turning points and their analysis is the primary methodology we follow. However, because the samples of economic indicators only cover a short history we also rely on correlations between indicators and economic reasoning in the classification and evaluation of the indicators.

Armed with the reference chronology, various economic indicators can be classified in terms of their relationship to the chronology. If they move in sync with the reference chronology or the CEI, they are termed **coincident indicators**. Others that move in advance of the reference chronology are **leading indicators**. Each component indicator often brings information about a unique aspect of economic activity – i.e. the component indicators should not overlap.

Once leading indicators are identified and their efficacy in leading the business cycle can be evaluated relative to the CEI and to the reference chronology and the best leading indicators can be selected to form a Leading Economic Index or LEI. Together the LEI and CEI form a system of composite indexes that track the economy and are intimately linked because they share the same economic trend (i.e., the trend of the LEI is adjusted to that of the CEI).

The well-known lack of short-term indicators in the GCC, in particular for developing the reference chronology, has been a major challenge. We have expanded our search for other coincident indicators such as employment, retail sales and personal income. In some cases we have identified some proxies, albeit imperfect one and developed proxy coincident indexes, proxy-CEI. We believe these new proxy indexes improve and further refine the business cycle chronologies that were developed earlier. In other words, they provide for a better historical description of the short term business cycle movements in the GCC economies. And, the results lead to better business cycle chronologies that are more in line with international best practices

and comparable with other economies. With regard to leading indicators, we had a much larger portfolio of potential candidates despite lack of high frequency data, data gaps, data lags, and discontinued series. Only a small number ultimately provided sufficient information to predict turning points in the economy.

Table 1 presents an overview of the steps taken towards the development of an LEI and the progress of the indicator systems in the GCC countries. The table shows that for all countries we were able to develop a satisfactory set of indicators, which we present together with the coincident indicators in a scoreboard for each of the GCC economies. We were also able to aggregate the leading indicators into a composite summary index, called the proxy-LEI.

Only in the case of Kuwait and UAE, because quarterly GDP is not available, our method for determining the reference chronology had to rely only on the proxy-CEI, omitting useful potential information that real GDP data bring rather than the standard approach, developed by The Conference Board, of relying on both coincident indicators and GDP data. We are also investigating the availability of higher frequency employment data to help validate these chronologies. Thus, the chronologies are preliminary and subject to further refinements which could increase the accuracy of the results

**Table 1: Business Cycle Indicators Development Process**

	Bahrain	Kuwait	KSA	Oman	Qatar	UAE
<b>Coincident indicators</b>	x	x	x	x	x	x
<b>Proxy CEI</b>	x	x	x	x	x	x
	<b>Proxy</b>	<b>Proxy</b>	<b>Proxy</b>	<b>Proxy</b>	<b>Proxy</b>	<b>Proxy</b>
<b>Reference chronology</b>	<b>CEI+GDP</b>	<b>CEI*</b>	<b>CEI+GDP</b>	<b>CEI+GDP</b>	<b>CEI+GDP</b>	<b>CEI*</b>
<b>Leading indicators</b>	x	x	x	x	x	x
<b>Scoreboard</b>	x	x	x	x	x	x
<b>Proxy LEI</b>	x	x	x	x	x	x
<b>STATA update</b>	x	x	x	x	x	x

\* Quarterly GDP is not available

### Scoreboard of Coincident and Leading Economic Indicators

A major result of this project is that a *Scoreboard of Coincident and Leading Economic Indicators*, including proxy indexes for LEI and CEI, can now be turned into a regular publication on a quarterly basis for each of the six GCC economies. The ultimate aim of the research project is the production of a *Coincident Economic Index* and a *Leading Economic Index* for each of the six countries and the GCC as a whole, is dependent on a range of factors. Most importantly, at

this point some crucial coincident and leading indicators either have too short a history to evaluate their ability to track the reference chronology. Secondly, key information especially on labor market performance and non-energy related production are not (publicly) available on a regular basis. In the near future, some series may be accessed in collaboration with other private and public organizations in the GCC. Longer-term, other series may need to be newly developed from existing or new statistical surveys.

Research on further validating the proxy-CEI's and reference chronologies as well as the proxy-LEI's is on-going.

### **3. Main conclusions for GCC economies: Chronology, Scoreboard, Analysis**

We have selected a set of coincident and leading indicators that can begin to serve as a preliminary scoreboard for the various GCC countries. Each scoreboard has a core set of indicators that are common across the GCC countries, but each scoreboard also contains some differences between countries due to the availability of time-series economic data and country-specific differences in the economies.

While it may be too early to create fully internationally comparable CEIs and LEIs for GCC economies (due to data availability and quality issues of the GCC high frequency data), we find that:

- 1) GCC economies exhibit economic fluctuations similar to business cycles but these cycles appear to be closely tied to oil production cycles,
- 2) these economic cycles can be better estimated using the proxy-CEI's we developed, and
- 3) there is a small set of leading indicators that help to anticipate the turning points and monitor the current state of the economy in real time.
- 4) A related and complementary cyclical concept, growth cycles, can also be analyzed and used in the evaluation process, using these indexes.

Table 1 above presents an overview of the steps taken towards developing an LEI and the progress of the indicator systems in the GCC countries.



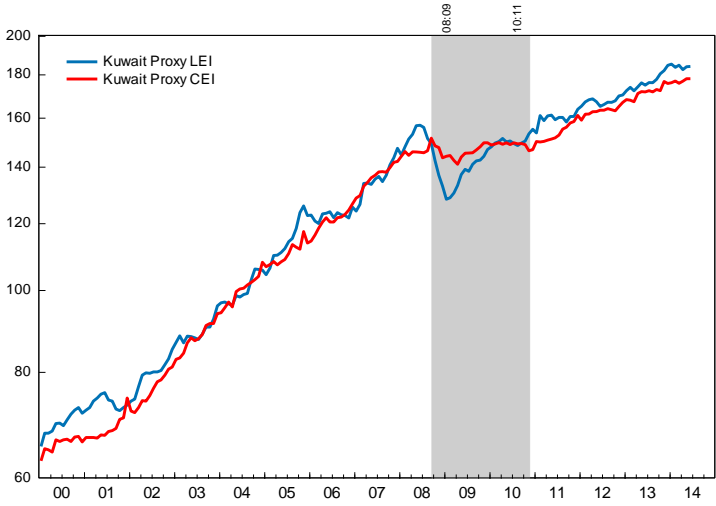
## Coincident indicators and reference chronologies

Specifically, the current availability of data for high frequency coincident indicators—monthly data for employment, wages and salaries, and manufacturing and trade sales—constrains the development of CEIs for GCC economies. The reference chronologies for the GCC economies shown in the Table 2 below delineate periods of business cycle expansions and contractions (recessions). The turning points on the reference cycle are determined by the Bry-Boschan (1971) algorithm using an index of the coincident indicators (shown in the list of indicators for each country in Appendix A) and where available the quarterly GDP data, interpolated to the monthly frequency by linear interpolation.

Many of the peak to trough contractions in these data roughly correspond to each other, suggesting a possible cyclical linkage between these economies and possible between the regional economy and the global business cycle. As discussed earlier, thus far, we are not able to verify the validity of the timing of the 2008 recession in Kuwait because of the lack of quarterly GDP data as well as the lack of employment data. So, we treat these dates as preliminary.

The composite indexes of leading indicators, proxy-LEI (blue line) is shown in the Chart 2 below graphed against the proxy-CEI (red line). The proposed recession period is denoted as a shaded area in the chart. NBK Economic Brief publications from August 11, 2010 and September 10, 2011 identify the 2009 as an economic contraction with almost all components of GDP showing negative growth rates. But, note that pending the availability of quarterly GDP and employment data, we are not currently able to validate whether this was an outright contraction in economic activity or a slowdown relative to trend. Output loss or output gap measures for the Kuwaiti economy could also be helpful in assessing the magnitude and duration of the downturn during this period.

**Chart 2: Proxy LEI and Proxy CEI, Kuwait, Jan 2000 – December 2014**



Source: The Conference Board/Gulf Investment Corporation

Note: Shaded areas represent business cycle chronologies determined based on proxy-CEI using Bry-Boschan algorithm.

**Table 2: Identifying business cycle chronologies across GCC countries with coincident indicators: the preliminary reference chronology since 2000**

Bahrain		Kuwait		KSA		Oman		Qatar		UAE	
Starts in 2001		(proxy CEI, w/o GDP)								(Proxy CEI, w/o GDP)	
Peak	Trough	Peak	Trough	Peak	Trough	Peak	Trough	Peak	Trough	Peak	Trough
				Jun-01	Feb-02			Jan-01	Jan-02	Aug-01	Mar-02
						Oct-01	Aug-03				
May-08	Apr-09	Sep-08	Nov-10	Jun-08	Feb-09	Aug-08	Apr-09	May-08	Dec-08	Aug-08	Nov-09
Nov-10				Feb-12	Oct-12						
	Jan-12										

Sources: The Conference Board/Gulf Investment Corporation

\* The reference chronology for Bahrain is determined by using the available quarterly GDP data.

## Leading Indicators

Moving from coincident indicators (that tell us about the current economic conditions) to leading indicators (that tell us about impending conditions), we find that there are many more candidates that could serve as leading series. Using the reference chronologies above and applying the criteria for selecting the best of these series, however, shows that there is only limited evidence in support of many of them. Nevertheless, based on this limited evidence and international experience as well as our knowledge of economic relationships, we have developed a short list of leading indicators that can be used in a scoreboard to monitor the GCC economies. These indicators are shown in Table 3 below. Many of these indicators are country specific but we also identified the Baltic Dry Index as a measure of world transportation costs, often regarded as a leading indicator, as a promising indicator that leads the turning points in these economies as well as the Leading Economic Indexes and Purchasing Managers' Indexes of major trading partners. The proposed combination of country specific and trading-partner specific and global indicators to track an economy's business cycle is a new approach we take in this paper.

There is also some support for including LEIs for the Euro Area, US, China, Korea, and Japan as major trading partners, as measures of external demand as well as the global economic outlook. All of these indicators are organized into a scoreboard alongside the coincident indicators to help with the monitoring of the GCC economies in real time.

These two groups of indicators classified according to their relationship with the business cycle can form the basis of a scoreboard of early warning indicators for the GCC economies. We define the scoreboard as a collection of monthly indicators organized according to their business cycle timing.

### Scoreboard of indicators and preliminary aggregation of composite indexes

We have reviewed and evaluated a large number of monthly indicators for the GCC economies. Several of these indicators can serve as coincident indicators to help assess current conditions in the economy. Other indicators we have identified as leading indicators that could aid in assessing where the economy is headed in the next few months. Since *total oil production, total oil supply, oil revenue and oil exports, total exports, exports to the US, and exports to EU*, as well as *imports from the EU* show similar co-movements with each other and with *IPI*, these indicators can be classified and monitored as coincident indicators. However, because of the great deal of overlap they don't provide information about economic activity independent from industrial production about other aspects of economic activity. Thus, these other coincident indicators cannot be considered as coincident index components.

In the core group of leading indicators, shown in the table below, are: *stock prices, inverted real money supply (real M1 and to a lesser extent real M2), interest rate spread, the LEI for Euro Area, real exchange rates (especially local currency/Euro rate), and OPEC oil prices (natural gas prices in the case of Qatar)*. There is also support for including *LEIs for the US*,

China, Korea, and Japan as major trading partners. We also identified the *Baltic Dry Index* as a measure of world transportation costs, often regarded as a leading indicator, as a promising indicator that leads the *IPI* turning points.

Proxy LEI Components	Proxy CEI Components
Baltic Dry Index	IPI
OPEC oil prices	Imports
Stock prices	Personal bank loans
Treasury Bill or interbank rate (inverted)	Private sector bank deposits
Money supply M2	Employment
Real Effective Exchange Rate Index	
Exports	
International Reserves	
PMIs of major export partners	

Scoreboards help to focus attention on a handful of indicators that are helpful for tracking cyclical movements in these economies. They help to understand the business cycle dynamics acting within the economy and on the economy due to external factors. In fact, the scoreboards can be useful to look at GCC economies from four separate angles: 1) current economic conditions (coincident indicators) vs. future conditions (leading indicators), 2) oil vs. non-oil economy, 3) financial vs. nonfinancial indicators, and 4) domestic economic factors/shocks vs. global economic factors/shocks.

These dimensions or categories of organizing the indicators help to identify where there is sufficient information for understanding these economies and where there are gaps in the framework of business cycle indicators. For example, the scoreboards are characterized by more financial indicators measuring prices and interest rates than non-financial indicators on quantitative metrics and qualitative information on business and consumer sentiment and expectations. The oil sector related indicators are also heavily represented rather than non-oil production and employment. In organizing the scoreboards, we have made a distinction between domestic indicators and international indexes of leading indicators and the summary composite indexes discussed in the next section show that this distinction can be important in understanding the forces acting on these economies.

**Experimental diffusion indexes and composite indexes of leading indicators**

Once the short list of indicators is identified, we can see that individual indicators can exhibit a lot of month to month variation and are not always in agreement with each other. This is

also true when we look at the longer history of the indicators and their individual turning points. We can calculate diffusion indexes and composite indexes to summarize the month to month changes in individual indicators. Combining several indicators into a composite index can average out some of the volatility and bring out the cyclical movements that are common to these indicators more clearly.

There are two ways to summarize the range of information presented by the leading indicators in the scoreboard. One approach is to create **a diffusion index**. A diffusion index measures the proportion of indicators that are rising over a given span of months. One-month and six-month diffusion indexes are published by The Conference Board. Following this guidance, we propose to include these diffusion indexes in the score board to provide an indication of how widespread the upward or downward movement in the indicators is.

The other way to summarize many indicators in a single number is to create **a composite index**. The Conference Board methodology creates an equally weighted index from the monthly changes in the component indicators. None of the indicators we reviewed stand out as an ideal business cycle indicator. They appear to have common cyclical movements in the variability of their turning points, and more importantly the number of missed and extra turns, meaning that they are not very consistent as business cycle indicators. It is natural to ask whether aggregating these indicators into a composite index would help provide a new and useful measure of the business cycle. An aggregated composite index has the advantage that extra movements and volatility in individual indicators could offset each other and the resulting index could be smoother with better defined turning points.

We aggregate these indicators into a composite index using The Conference Board methodology (see BCI Handbook, 2001, and The Conference Board website for details on the methodology). Then, we compare this new composite index with the preliminary reference chronology determined by the turning points of the proxy-CEI and GDP.

A further consideration in calculating diffusion and composite indexes of leading indicators is to take into account **the small open economy characteristics** of the GCC economies. Six indicators in the short list appear more directly related to the domestic economic activity than the international indicators (i.e. the LEIs for major trading partners). Recognizing that these small open economies are influenced by the business cycles of their trading partners and the global business cycle, we make a distinction between the two groups of indicators when calculating the composite indexes in the scoreboards.

the charts 2-7 in Appendix B show the histories of the Proxy LEI and Proxy CEI since 2000 graphed with the shaded areas (determined by the reference chronology given in Table 2) representing business cycle recessions for each economy. These charts are followed by the scoreboards presented below, also in Appendix B, in Tables 3-14 listing the coincident indicators and their values first followed by the domestic leading indicators and then the international leading indicators, for the latest available six months. The last column of the scoreboard presents the six-month change in each indicator. The green and red arrows

indicate the direction of change. The second scoreboard table below presents the indicators in the same format, but this time showing their month to month percent change.

### How to use the scoreboard of early warning indicators

The scoreboards, updated at regular intervals, monthly or quarterly, help to monitor the short term dynamics of the GCC economies. While the scoreboards themselves are constructed to give a snap shot of the coincident and leading indicators, they also summarize the movements in composite and diffusion indexes. Together, we can have a better idea of:

- 1) the current business cycle phase (i.e. expansion or contraction – are the majority of the indicators going up or down?)
- 2) whether there is a chance of moving from one phase to another (i.e. is there a turning point approaching?)
- 3) if there is such a movement, what are possible underlying causes (i.e. is the weakness in the leading indicators in the domestic or international economy? etc.)

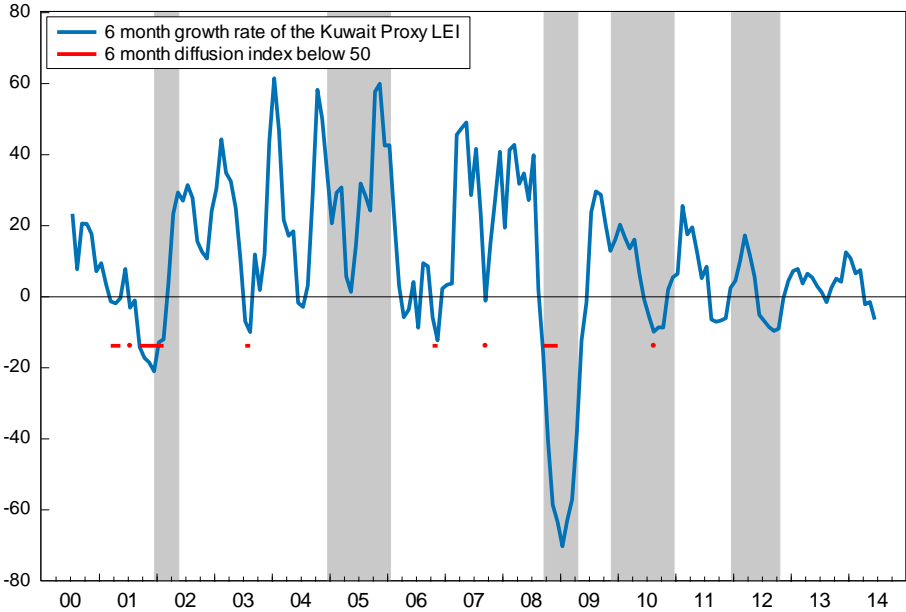
A commonly used rule of thumb to interpret the indicators is called the **three D's**, referring to the duration, depth, and diffusion of a short term movement in a composite leading index. Looking at the **magnitude** of the **six-month growth rate** of the index in conjunction with the level of the **six-month diffusion index** of the leading indicators helps to determine if the leading index is signaling a downturn or not. For example, if there is a large negative drop in the index over the last six months *and* at the same time the diffusion index is below 50 percent, a recession signal is said to occur.

Kuwait's economy only experienced one downturn in 2009 and 2010 according to the proxy-CEI (see Table 2 below) and annual real GDP from the Total Economy Database™. An assessment of the three D's rule based only on one peak and one trough is not sufficient. Therefore, we can extend the analysis using the growth cycle concept. Growth cycles are short term fluctuations in macroeconomic variables defined on deviations from trend in those variables. Once an appropriate trend is estimated and subtracted from the data, the remaining deviations from trend show regular up and down movements. The turning points of these movements can be determined using the same Bry-Boschan procedure used to identify business cycle turning points.

The chart below illustrates the 3Ds rule for Kuwait using a growth cycle chronology. The shaded areas denote periods of below trend economic activity where economic activity is defined and measured by the proxy-CEI for Kuwait. These are called growth cycle slowdowns. The six month growth rate of the proxy-LEI for Kuwait shows many cyclical movements that move from peak growth rates to low growth rate and these swings in the growth rate of the LEI appear to correspond closely to these periods of below trend growth. The red dotted line shows the months where a majority of the proxy-LEI components are declining. The intersection of the red dotted line and the six month growth rate of the LEI (blue) only occur before growth cycle slowdowns. The period of sharp contraction of the LEI

in 2008 and 2009 with widespread weakness among its components (shown by the red dotted line) also correspond to negative real GDP growth in Kuwait for 2009 and 2010 (according to results from the Total Economy Database™). But, these annual figures are not helpful in determining recession dates. The slowdowns in 2005, 2010, and 2012 are associated with slowdowns in the growth rate of the proxy-LEI, however, these declines in the index are not the result of declines in the majority of its components (no red dotted line appears). The positive growth rate of the index in 2013 suggested moderately rising economic activity in early 2014. However, the subsequent decline in the growth rate is likely consistent with the projected growth rate of only 1.8 percent in Kuwait’s GDP in 2015 although so far it appears to be too early to call for a contraction in economic activity.

**Chart 1: Depth, Duration, and Diffusion (3Ds) of declines help predict major contractions- Kuwait**



*Source: The Conference Board/Gulf Investment Corporation*

*Note: shaded areas represent growth cycle chronologies derived from Kuwait proxy-CEI, determined by Bry-Boschan algorithm.*

While this rule provides a simple and reliable way to interpret the composite indexes and scoreboards for the GCC countries, the indicators can also be used in econometric forecasting models or models of recession probabilities. Thus, we hope the scoreboards provide a first step towards many different ways to model and analyze GCC economies.

The preliminary composite indexes suggest that they could be useful as forecasting tools despite the short history of the data. Furthermore, they provide a good starting point for developing a more robust index of leading economic indicators as the statistical systems of these countries develop further and better quality data accumulate. These types of composite indexes should prove useful as the diversification of these oil-based economies increases to include production of other goods and services. In addition, such



composite indexes could also provide a good basis for inter-country comparisons and research on diversification and synchronization of business cycles both within the region and globally.

#### 4. Further Analyses and Looking Ahead

##### Oil vs. non-oil sectors of the economies

There are several ways to extend and refine the selection of leading indicators discussed so far. The selected indicators reveal that most of them are related to oil production and trade and to financial sector activity with an emphasis on government and monetary policy among the GCC countries. While these indicators highlight important factors in the business cycle, additional indicators from the real side of the economy (i.e. industrial and manufacturing activity, labor markets) as well as indicators of economic agents sentiment (such as the Nielsen Consumer Confidence survey data where available) and expectations would be likely to improve the selection of short term indicators for the GCC countries.

##### Leading Indicators of the Real Economy

Real economy indicators come from the first three sub-categories discussed in the previous section, that is, marginal employment adjustment, capital investment commitments, and inventory investment and purchasing. These indicators attempt to capture changing future conditions in labor and capital markets. For Kuwait, many labor indicators such as average work week or unemployment insurance claims are not available. We have not been able to locate indicators that measure the level of orders for future production of consumer and capital goods or contracts or permits that are related to future activity in construction sectors (housing and commercial). Similarly manufacturing inventory data are not available to the best of our knowledge. Available data on construction permits and work visa permits may provide some indicators of construction activity and of labor markets, respectively.

##### Growth Cycles vs. Business Cycles

When business cycle contractions (or turning points) are rare, usually as a result of high growth trends, the approach can be modified to look at growth cycles which are defined as cycles in deviations from a long term trend for evidence. Growth cycle analysis based on analysing cycles in deviations from trend in the cyclical variables is a natural extension of the business cycle approach. This modified approach was first used by Mintz (1969) and later by Klein and Moore (1985) to look at growth (or deviation) cycles in the post-World War II European economies which also exhibited strong growth trends and few business cycle recessions.<sup>2</sup> This modified approach which complements business cycle analysis, was also used by The Conference Board in the development of its CEI and LEI for China.

As the region's economies diversify and become less reliant on oil production, growth cycle analysis could help to complement the business cycle chronologies and analyses developed

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<sup>2</sup> The work of Klein and Moore (1985) showed that the typical classification of measures of different types of economic activity into leading, coincident, and lagging with respect to business cycles also applied to growth cycles.

in this report. Indeed, preliminary analysis using the growth cycle approach suggests this would be a fruitful approach to supplement our empirical evaluation of the proxy-LEIs.

### **Business and consumer confidence indicators**

A final category of indicators measure changes in the sentiment and expectations measured through business and consumer surveys asking economic agents their qualitative assessments of economic conditions. HSBC Gulf Business Confidence Survey and YouGov and McGill Consulting Group GCC Business Confidence Index are examples of such business tendency surveys. The U.S. and global indicators also have many examples where indicators of business and consumer tendencies and confidence are useful as leading indicators.

### **Monetary policy and indicators**

The prime mandate of monetary policy in the GCC economies is to maintain domestic price stability and defend the pegged exchange rate system. The pegged exchange rate regime proved to be relevant to the Gulf region for three main reasons: First, a weak U.S. dollar has been historically supporting the price of oil as it makes the oil cheaper for importers paying in other currencies. In turn, movements in the exchange rate between the US dollar and other major currencies have important consequences for the GCC government finances and their external trade. Second, the dollar peg is necessary to provide a credible nominal anchor for GCC government finances since oil trade is denominated in dollars and the share of hydrocarbon revenues in total revenues represents the lion's share of the GCC revenues. Third, the fiscal position and macroeconomic performance in GCC countries is highly vulnerable to exogenous shocks because of the high degree of trade openness and because oil prices are determined in world markets.

While the dollar peg prevents wide divergences in inflation and interest rates between the United States and GCC countries, it reduces the impact of any movement in the dollar exchange rate on the relative price of oil and the purchasing power of GCC currencies. The long run values of GCC currencies have remained broadly in line with underlying macroeconomic fundamentals in the GCC economies such as the current account surpluses, the large fiscal balances and the ample foreign exchange reserves. The management of foreign exchange reserves acts as an adjustment mechanism to maintain the exchange rate parity when the interest rate channel remains weak over the short term horizon. At times of lower (higher) GCC domestic inflation relative to their main trading partners, some GCC currencies were slightly undervalued (overvalued) but sooner they realigned to their real effective exchange rates when inflation changed direction over the long term horizon. It has been evident since the adoption of the dollar peg that GCC countries have managed to maintain credibility of their fixed exchange arrangements by avoiding the devaluation of their domestic currencies even in periods of very depressed oil prices as in 1998 when oil prices were at an all-time low by the year end, at \$8.5/b.

From a theoretical point of view, because of this dollar peg, it seems that GCC monetary policies and interest rates should follow US Federal Reserve policies; but divergent business

cycles between the US and GCC have raised questions regarding the roles of monetary policies and foreign shocks (via oil prices or oil demand shocks) in aggregate demand of GCC countries.

Empirical studies have used structural VARs (SVARs) models to evaluate the effects of monetary policy shocks or interest rate changes on output and inflation of GCC countries (see IMF, WP/12/132, May 2012 and Ziaei and Azali, 2010). These studies find that the interest rate channel or the interest pass through of the monetary policy transmission mechanism is rather weak in the short run when oil price shock contributes to most output fluctuations. It also finds that shocks to monetary aggregates and to the Federal funds rate are responsible for most output movements in the long run. In turn, GCC monetary policies have used quantitative monetary policy tools as an effective transmission mechanism of monetary policy through the bank lending channel. The aim of stimulative monetary policy was to increase the supply of credit and hence to affect banks' balance sheets. This approach has proved instrumental and had real effects on the economy. Fiscal policy continues to remain the effective policy tool to provide stimulus to the real economy via the fiscal multiplier at a time when monetary policy is largely constrained by the dollar peg and is largely accommodative with exceptionally low policy rates.

As GCC countries are more vulnerable to real foreign shocks (mainly oil market driven shocks) rather than nominal or monetary shocks, any disturbances in domestic money markets would be offset by changes in foreign exchange reserves under the dollar peg regime. This would suggest using the growth rate of monetary aggregates as a leading indicator rather than levels of monetary aggregates. We think further research in the context of business cycle fluctuations and our indexes would be useful to clarify which monetary and credit indicators are useful in forecasting the regional economies.

### **A regional scoreboard for the Gulf Cooperation Council economies**

The similarities in the chronologies of the cycles in Table 2 for all Gulf Cooperation Council countries and the fact that a core set of leading indicators can be used to monitor these economies (with some slight modification) suggest that we have the initial ingredients of an early warning system that can be useful to track the regional economies of the six GCC countries that are increasingly becoming integrated with each other and with the global economy. While the individual scoreboards can be helpful in this respect, we can also think about developing a GCC wide scoreboard at the aggregate regional level.

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**APPENDIX A: Selected Components of proxy Coincident Economic Indexes (CEI) for all GCC countries**

BHR Proxy CEI	Kuwait Proxy CEI	KSA Proxy CEI	Omn Proxy CEI	Qatar Proxy CEI	UAE Proxy CEI
	IPI: Crude Oil	IPI: Crude Oil	IPI: Crude Oil	IPI: Crude Oil	IPI: Crude Oil
			Electricity production		
			Natural Gas Production		
Total imports	Total imports	Total imports	Total imports	Total imports	Total imports
Bank deposits: Private Sector: Savings (local + foreign currencies)	Bank Deposit: private sector	Bank Claims: Private Sector: Credit	Deposits: Private Sector	Deposits: Commercial Banks: Private Sector	
	Local Banks Utilized Cash Credit line: Residents: Personal Facilities				Banks Credit: Personal Loans: Consumption Purposes
Construction permits					No.of buildings completed
Employment in the financial sector			Employment: Expatriate: Valid Labour Card: Private Sector		
			GDP: services	GDP: Mining and Quarrying	
				GDP: Non Oil	

## Selected Coincident and Leading Indicators by Country: Data Sources and Data Transformation

### Bahrain

Bahrain Proxy CEI	Start	Note	Source
Total imports	01/1981	Deflated by Spliced Oman+Bahrain CPI, SA	IMF
Retail banks deposits: Private Sector: Savings (local + foreign currencies)	01/2001	Deflated by Spliced Oman+Bahrain CPI, SA	Central Bank of Bahrain
Total employment (financial sector)	Q1 2003	Q, SA	Labour Market Regulatory Authority Bahrain
Construction permits	Q1 2002	Q, SA	Ministry of Municipalities Affairs and Agriculture

<b>Bahrain Proxy LEI</b>	<b>Start</b>	<b>Note</b>	<b>Source</b>
Baltic Dry Index	01/1985	pre 2002	Bloomberg
Baltic Dirty Tank Index	12/2001	post 2002	Bloomberg
OPEC spot oil prices	01/1985		Bloomberg
Equity Market Index: Month End: Bahrain: All Share	01/2003	1Jul2004=1000	Bahrain Bourse
Money Supply: M2	12/1974	BHD mn, deflated by CPI, SA	Central Bank of Bahrain
Real Effective Exchange Rate Index: Based on 138 trade partners	01/1995	Dec 2007=100	Bruegel
Treasury Bill Rate: Government Securities	06/1987	%, inverted	IMF
Exports: fob: World	01/1980	USD, Mn, deflated by CPI, SA	IMF
International Reserves	06/1966	USD mn, deflated by CPI	IMF
No of Construction Permits: New Construction	Q1 2003	Q, units, SA	Ministry of Municipalities Affairs and Agriculture
No of Commercial Licenses: Newly Issued	Q1 2003	Q, units, SA	Ministry of Industry and Commerce
Euro Area PMI	01/2009	SA, 50+=Expansion	Markit
US PMI	01/1948	SA, 50+=Expansion	Institute for Supply Management
India PMI	01/2009	SA, 50+=Expansion	HSBC/Markit

<b>Kuwait Proxy CEI</b>	<b>Start</b>	<b>Note</b>	<b>Source</b>
IPI	01/1965	IPI, SA, 2005=100	IMF
Total imports	01/1980	US mn, deflated by CPI, SA	IMF
Cash Credit line: Residents: Personal	01/1994	KWD mn, Deflated by CPI, SA	Central Bank of Kuwait
Bank Deposit: private sector	12/1993	KWD mn, Deflated by CPI, SA	Central Bank of Kuwait



<b>Kuwait Proxy LEI</b>	<b>Start</b>	<b>Note</b>	<b>Source</b>
Baltic Dry Index	01/1985	pre 2002	Bloomberg
Baltic Dirty Tank Index	12/2001	post 2002	Bloomberg
OPEC spot oil prices	01/1985		Bloomberg
Interbank rate, 1 year	12/1994	%, inverted	Central Bank of Kuwait
M2		deflated by CPI	Central Bank of Kuwait
Equity Market Index: Month End: Official Market	01/1978	29Dec1993=1000	Kuwait Stock Exchange
Real Exchange Rate against US\$: Monthly Average	01/1995	KWD/USD, deflated by CPIs	Central Bank of Kuwait
Total exports	01/1980	US\$ mn, deflated by CPI, SA	IMF
International Reserves	01/1964	USD mn, deflated by CPI	IMF
Korea PMI	01/2009	SA, 50+=Expansion	HSBC/Markit
Japan PMI	01/2009	SA, 50+=Expansion	Markit/Japan Materials
India PMI	01/2009	SA, 50+=Expansion	HSBC/Markit

Oman Proxy CEI	Start	Note	Source
IPI: Crude Oil	07/1967	2005=100, SA	IMF
Electricity production	01/2009	GWH, SA	Authority for Electricity Regulation
Natural Gas Production	01/2006	Cub ft, mn, SA	Ministry of Oil and Gas
Total imports	01/1975	deflated by CPI, SA	IMF
GDP: services	Q1 2005	Q, deflated by CPI, SA	National Center for Statistics and Information
Deposits: Private Sector	01/1999	deflated by CPI, SA	Central Bank of Oman
Employment: Expatriate: Valid Labour Card: Private Sector	02/2006	Persons	Directorate General of Civil Status - Royal Oman Police

<b>Oman Proxy LEI</b>	<b>Start</b>	<b>Note</b>	<b>Source</b>
Baltic Dry Index	01/1985	pre 2002	Bloomberg
Baltic Dirty Tank Index	12/2001	post 2002	Bloomberg
OPEC spot oil prices	01/1985		Bloomberg
Interbank Rate: Overnight	01/1999	% pa, inverted	Central Bank of Oman
Equity Market Index: Month End: MSM 30	01/2000	M, June 2004=1000	Muscat Securities Market
Money Supply: M2	01/2003	OMR mn, deflated by CPI (filled in gaps)	IMF
Real Effective Exchange Rate Index (138 trading partners)	01/2001	Dec 2007=100	Bruegel
Export Unit Value Index: USD	08/1967	2010=100	IMF
Korea PMI	01/2009	SA, 50+=Expansion	HSBC/Markit
Japan PMI	01/2009	SA, 50+=Expansion	HSBC/Markit
China PMI	01/2009	SA, 50+=Expansion	HSBC/Markit

<b>Qatar Proxy CEI</b>	<b>Start</b>	<b>Note</b>	<b>Source</b>
IPI, crude oil	01/1957	2005=100, SA	IMF
Imports	01/1987	Deflated by CPI, SA	IMF
Deposits: Commercial Banks: Private Sector	12/2001	Deflated by CPI, SA	Qatar Central Bank
GDP: Mining and Quarrying	Q 1 2005	Q, deflated by CPI	Statistics Authority
GDP: Non Oil	Q 1 2005	Q, deflated by CPI	Statistics Authority

<b>Qatar Proxy LEI</b>	<b>Start</b>	<b>Note</b>	<b>Source</b>
Baltic Dry Index	01/1985	pre 2002	Bloomberg
Baltic Dirty Tank Index	12/2001	post 2002	Bloomberg
OPEC spot oil prices	01/1985		Bloomberg
Natural Gas Futures Price: 4-Month Contract Settlement (\$/MMBtu)	01/1994	monthly average	Chicago Mercantile Exchange/Haver
Interbank Rate: Weighted Average: 1 Year	07/2004	% pa, inverted	Qatar Central Bank
Index: Share Price (End of Period)	12/1997	2010=100	IMF
Money Supply: M2	01/1982	QAR mn, deflated by CPI	IMF
Exports: fob: World	01/1981	US\$ mn, deflated by CPI, SA	IMF
International Reserves	12/1967	XDR mn, deflated by CPI	IMF
Japan PMI	01/2009	SA, 50+=Expansion	HSBC/Markit
Korea PMI	01/2009	SA, 50+=Expansion	Markit/Japan Materials Management Association
Euro Area PMI	01/2009	SA, 50+=Expansion	HSBC/Markit

<b>KSA Proxy CEI</b>	<b>Start</b>	<b>Note</b>	<b>Source</b>
IPI	05/1964	IPI, SA, 2005=100	IMF
Total imports	01/1994	Total imports, deflated by CPI, SA	IMF
Bank Claims: Private Sector: Credit	01/1993	deflated by CPI, SA	Saudi Arabian Monetary Agency

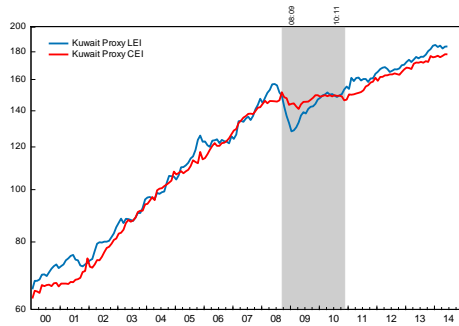
<b>KSA Proxy LEI</b>	<b>Start</b>	<b>Note</b>	<b>Source</b>
Baltic Dry Index	01/1985	pre 2002	Bloomberg
Baltic Dirty Tank Index	12/2001	post 2002	Bloomberg
OPEC spot oil prices	01/1985		Bloomberg
Index: Share Price (End of Period)	01/1997	2005=100	IMF
International reserves	01/1964	USD mn, deflated by CPI	IMF
Money Supply M2	01/1994	SAR bn, deflated by CPI	IMF
Real Effective Exchange Rate Index (138 trading partners)	01/2001	Dec 2007=100	Bruegel
Export Unit Value Index: USD	01/1973	2010=100	IMF
Treasury Bills Rate: Average: 52 Weeks	01/1993	%, inverted	Saudi Arabian Monetary Agency
Imports: Private Sector: LO: New: Building Materials	01/1993	SAR mn	Saudi Arabian Monetary Agency
PMI	08/2009	SA, 50+=Expansion	SABB/HSBC/Markit
US PMI	01/1948	SA, 50+=Expansion	HSBC/Markit
China PMI	01/2009	SA, 50+=Expansion	HSBC/Markit
Japan PMI	01/2009	SA, 50+=Expansion	HSBC/Markit

<b>UAE Proxy CEI</b>	<b>Start</b>	<b>Note</b>	<b>Source</b>
IPI, crude oil	01/1974	2005=100, SA	IMF
Imports	01/1981	deflated by CPI, SA	IMF
Banks Credit: Personal Loans: Consumption Purposes	Q4 1998	Q, deflated by CPI	Central Bank of the United Arab Emirates
No.of buildings completed	Q1 2005	Q, SA	Dubai Municipality

<b>UAE Proxy LEI</b>	<b>Start</b>	<b>Note</b>	<b>Source</b>
Baltic Dry Index	01/1985	pre 2002	Bloomberg
Baltic Dirty Tank Index	12/2001	post 2002	Bloomberg
OPEC spot oil prices	01/1985		Bloomberg
Index: Abu Dhabi Securities Exchange (ADX)	10/2001	Point	Abu Dhabi Securities Exchange
Exports	01/1981	USD mn, deflated by CPI, SA	IMF
Emirates Interbank Offered Rate (EIBOR): 1 year	10/2009	% pa	Central Bank of the United Arab Emirates
Banks Credit to Manufacturing	Q4 1995	Q, AED mn, deflated by CPI	Central Bank of the United Arab Emirates
AE: International Liquidity: International Reserves	01/1975	USD mn, deflated by CPI	IMF
Money supply M2	01/1975	AED mn, deflated by CPI	Central Bank of the United Arab Emirates
UAE PMI	01/2010	SA, 50+=Expansion	HSBC/Markit
Korea PMI	01/2009	SA, 50+=Expansion	HSBC/Markit
Japan PMI	01/2009	SA, 50+=Expansion	HSBC/Markit
India PMI	01/2009	SA, 50+=Expansion	HSBC/Markit

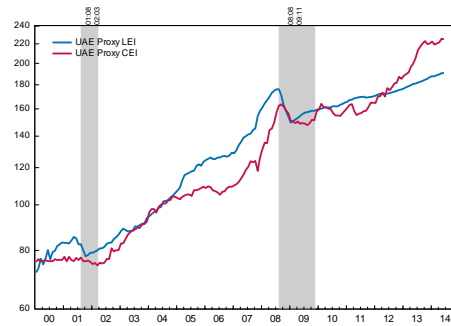
## APPENDIX B: GCC Countries Proxy-LEI and Proxy-CEI Graphs and Scoreboards

**Chart 2: Proxy LEI and Proxy CEI, Kuwait**



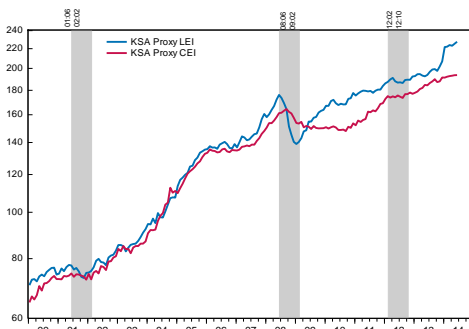
Note: Shaded areas represent business cycle chronologies determined based on proxy-CEI using Bry-Boschan algorithm.

**Chart 5: Proxy LEI and Proxy CEI, UAE**



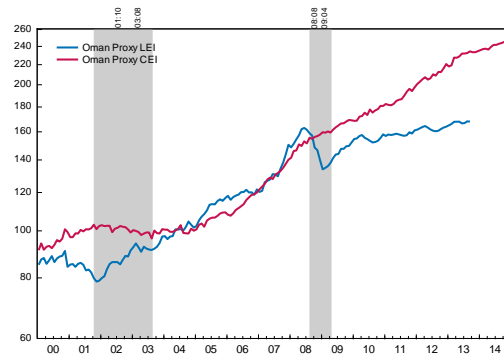
Note: Shaded areas represent business cycle chronologies determined based on proxy-CEI and GDP using Bry-Boschan algorithm

**Chart 3: Proxy LEI and Proxy CEI, KSA**



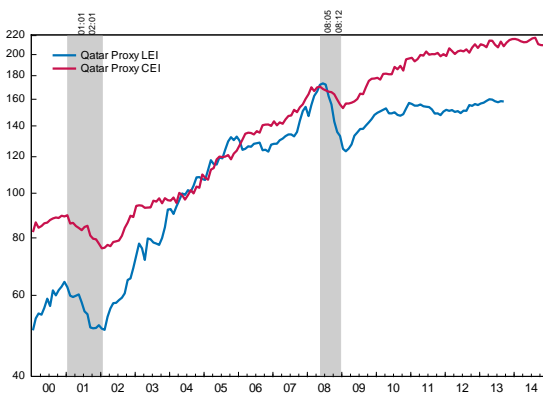
Note: Shaded areas represent business cycle chronologies determined based on proxy-CEI and GDP using Bry-Boschan algorithm.

**Chart 6: Proxy LEI and Proxy CEI, Oman**



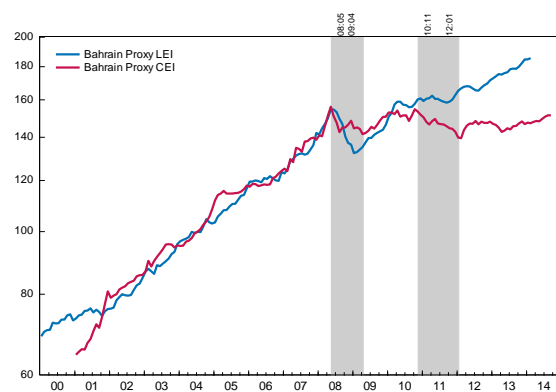
Note: Shaded areas represent business cycle chronologies determined based on proxy-CEI and GDP using Bry-Boschan algorithm.

**Chart 4 Proxy LEI and Proxy CEI, Qatar**



Note: Shaded areas represent business cycle chronologies determined based on proxy-CEI using Bry-Boschan algorithm.

**Chart 7: Proxy LEI and Proxy CEI, Bahrain**



Note: Shaded areas represent business cycle chronologies determined based on proxy-CEI and GDP using Bry-Boschan algorithm.



**Table 3: Scoreboard for Kuwait May-November 2014; Indicator Data and Direction of Change**

KUWAIT															
May - Nov 2014 in percent	May	Jun	Jul	Aug	Sep	Oct	Nov					6M			
<b>Levels of Coincident Indicators (symbols=growth rates)</b>															
Ind. Prod. Index, sa	125.6	▼	124.8	▼	127.4	▲	127.9	▲	129.1	▲	130.1	▲	127.7	▼	▲
Total Imports, USD mn, sa, df	2,388	▲	2,265	▼	2,329	▲	2,588	▲	2,532	▼	2,421	▼	2,119.3	▼	▲
Local Banks Cash Line of Credit, df, sa	10,284	▲	10,418	▲	10,372	▼	10,437	▲	10,549	▲	10,472	▼	10,506	▲	▲
Bank Deposit: private sector, df, sa	25,269	▲	25,414	▲	25,392	▼	25,423	▲	25,339	▼	25,382	▲	25,558	▲	▲
<b>Composite Index</b>	<b>176.5</b>	▲	<b>176.6</b>	▲	<b>177.4</b>	▲	<b>179.6</b>	▲	<b>179.9</b>	▲	<b>179.2</b>	▼	<b>177.3</b>	▼	▲
Diffusion Index of 3 indicators	75.00	▲	50.00	▲	50.00	▲	100.00	▲	50.00	▲	50.00	▲	50.00	▲	75.00
<b>Levels of Leading Indicators</b>															
Baltic Dirty Tanker Index	657	▲	724	▲	833	▲	699	▼	623	▼	809	▲	866	▲	▲
Equity Market Index, 29Dec1993=1000	105	▼	100	▼	102	▲	107	▲	109	▲	106	▼	97	▼	▼
Real Effective Exchange Rate	112.6	▲	112.8	▲	112.5	▼	113.2	▲	114.6	▲	115.2	▲	116.6	▲	▲
OPEC Crude Oil Basket Price, USD per barre	105.9	▲	108.6	▲	103.6	▼	100.0	▼	94.2	▼	82.0	▼	68.9	▼	▼
Korea PMI, sa, average	49.5	▼	48.4	▼	49.3	▼	50.3	▲	48.8	▼	48.7	▼	49.0	▼	▼
Japan PMI, sa, average	49.9	▼	51.5	▲	50.5	▼	52.3	▲	51.7	▼	52.5	▼	52.0	▼	▲
India PMI, sa, average	51.4	▼	51.5	▼	53.0	▲	52.4	▼	51.0	▼	51.6	▼	53.3	▲	▲
International reserves, USD mn, df	31,711	▲	28,096	▼	28,025	▼	28,766	▲	29,071	▲	29,379	▲	29,290	▼	▼
Inverted Interbank rate, 1 yr, %	-1.32	▼	-1.32	▼	-1.33	▼	-1.43	▼	-1.49	▼	-1.49	▼	-1.48	▼	▼
Total Exports, USD mn, df, sa	6,858	▲	6,981	▲	7,363	▲	6,623	▼	6,351	▼	7,620	▲	5,641	▼	▼
Money Supply M2, KWD mn, df, sa	8,023	▲	8,350	▲	8,372	▲	8,303	▼	8,463	▲	8,118	▼	8,672	▲	▲
<b>Composite Index of 13 indicators</b>	<b>195.2</b>	▲	<b>196.1</b>	▲	<b>197.3</b>	▲	<b>198.0</b>	▲	<b>198.7</b>	▲	<b>199.8</b>	▲	<b>200.3</b>	▲	▲
Diffusion Index of 13 indicators	50.00	▲	54.55	▲	45.45	▲	40.91	▲	36.36	▲	36.36	▲	36.36	▲	45.45
<b>Levels of Additional indicators</b>															
US LEI, 2004=100	116.5	▲	117.2	▲	118.4	▲	118.5	▲	119.2	▲	119.9	▲	120.3	▲	▲
Euro Area LEI, 2004=100	101.4	▲	101.9	▲	102.4	▲	102.8	▲	103.2	▲	103.3	▲	103.3	▲	▲
Japan LEI, 2004=100	103.1	▼	102.3	▼	101.6	▼	101.8	▲	102.7	▲	103.0	▲	103.6	▲	▲
Korea LEI, 2004=100	106.2	▼	107.2	▲	107.1	▼	107.6	▲	108.3	▲	108.7	▲	108.3	▼	▲
China LEI, 2004=100	290.5	▲	294.3	▲	298.0	▲	300.1	▲	303.1	▲	306.9	▲	308.4	▲	▲
Diffusion Index of 18 indicators	53.13		62.50		50.00		59.38		56.25		56.25		46.88		62.5

**Notes:** sa=seasonally adjusted, df=deflated, \*Real Money Supply (M1) is countercyclical and was inverted in the calculation of the composite index, \*\* China LEI is not included in ILIs for the GCC countries, \*\*\*monthly interpolated from quarterly data.

**Sources:** *Coincident Indicators:* Ind. Prod. Index: IMF-IFS; POS Transactions: Central Bank of Kuwait; Total Exports: IMF-DOTS; Total Imports: IMF-DOTS; *Leading Indicators:* Baltic Dry Index: Haver; Exch. Rate KWD / EUR: Haver; OPEC Oilprice: Bloomberg; Interbank Spread: Haver; Money Supply (M1): National Sources; Kuwait Stock Exch. Index: Bloomberg; US LEI, Euro Area LEI, Japan LEI, Korea LEI, China LEI: The Conference Board.

**Table 4: Scoreboard for Kuwait May-November 2014; Month to month percent change**

KUWAIT								
May - Nov 2014 in percent	May	Jun	Jul	Aug	Sep	Oct	Nov	6M
<b>Contribution of Coincident Indicators</b>								
Ind. Prod. Index, sa	-1.86	-0.65	2.03	0.44	0.91	0.82	-1.86	1.66
Total Imports, df, sa	10.26	-5.14	2.82	11.16	-2.16	-4.41	-12.46	0.60
Local Banks Cash Line of Credit, df, sa	0.45	1.31	-0.45	0.63	1.07	-0.73	0.33	2.16
Bank Deposit: private sector, df, sa	0.37	0.58	-0.09	0.13	-0.33	0.17	0.69	1.14
<b>Growth Rate of Composite Index</b>	<b>0.74</b>	<b>0.06</b>	<b>0.45</b>	<b>1.24</b>	<b>0.17</b>	<b>-0.39</b>	<b>-1.06</b>	<b>0.45</b>
Diffusion Index of 3 indicators	75.00	50.00	50.00	100.00	50.00	50.00	50.00	75.00
<b>Contribution of Leading Indicators</b>								
Baltic Dirty Tanker Index	1.39	10.20	15.06	-16.09	-10.87	29.86	7.05	31.81
Equity Market Index	-1.57	-4.38	2.29	4.20	2.57	-3.41	-8.27	-7.38
Real Effective Exchange Rate	0.03	0.18	-0.29	0.62	1.22	0.57	1.17	3.52
OPEC Crude Oil Basket Price	1.89	2.53	-4.60	-3.48	-5.82	-12.96	-15.96	-34.95
Korea PMI	-1.72	-2.04	-0.09	0.02	-2.56	-1.03	-0.72	-1.43
Japan PMI	-0.44	0.51	-1.93	0.73	-1.51	-0.29	-1.44	1.07
India PMI	-0.86	-0.88	0.48	-1.61	-2.42	-0.36	0.65	0.86
International reserves	8.34	-11.40	-0.25	2.64	1.06	1.06	-0.30	-7.64
Inverted Interbank rate, 1 yr	-1.00	-1.00	-1.01	-1.10	-1.06	-1.00	-0.99	-1.16
Total Exports, df, sa	2.97	1.80	5.48	-10.06	-4.10	19.98	-25.98	-6.40
Money Supply M2, df, sa	0.17	4.08	0.26	-0.82	1.92	-4.08	6.83	8.09
<b>Growth Rate of Composite Index</b>	<b>0.57</b>	<b>0.46</b>	<b>0.61</b>	<b>0.35</b>	<b>0.35</b>	<b>0.55</b>	<b>0.25</b>	<b>2.61</b>
Diffusion Index of 13 indicators	50.00	54.55	45.45	40.91	36.36	36.36	36.36	45.45
<b>Growth Rates of Additional indicators</b>								
US LEI, 2004=100	0.60	0.60	1.02	0.08	0.59	0.59	0.33	3.26
Euro Area LEI, 2004=100	0.50	0.49	0.49	0.39	0.39	0.10	0.00	1.87
Japan LEI, 2004=100	-1.15	-0.78	-0.68	0.20	0.88	0.29	0.58	0.48
Korea LEI, 2004=100	-0.65	0.94	-0.09	0.47	0.65	0.37	-0.37	1.98
China LEI, 2004=100	0.76	1.31	1.26	0.70	1.00	1.25	0.49	6.16
Diffusion Index of 18 indicators	53.13	62.50	50.00	59.38	56.25	56.25	46.88	62.50

**Notes:**sa=seasonally adjusted, df=deflated, \*Real Money Supply (M1) is countercyclical and was inverted in the calculation of the composite index, \*\* China LEI is not included in ILIs for the GCC countries, \*\*\*monthly interpolated from quarterly data.

**Sources:** *Coincident Indicators* : Ind. Prod. Index: IMF-IFS; POS Transactions: Central Bank of Kuwait; Total Exports: IMF-DOTS; Total Imports: IMF-DOTS; *Leading Indicators* : Baltic Dry Index: Haver; Exch. Rate KWD / EUR: Haver; OPEC Oilprice: Bloomberg; Interbank Spread: Haver; Money Supply (M1): National Sources; Kuwait Stock Exch. Index: Bloomberg; US LEI, Euro Area LEI, Japan LEI, Korea LEI, China LEI: The Conference Board.

## Saudi Arabia

**Table 5: Scoreboard for Saudi Arabia September 2012-March 2013; Indicator Data and Direction of Change**

Saudi Arabia	will be there after update to Nov 2014														
May - Nov 2014 in percent	May	Jun	Jul	Aug	Sep	Oct	Nov	6M							
<b>Levels of Coincident Indicators (symbols=growth rates)</b>															
Ind. Prod. Index, sa	119.2	▲	118.1	▼	119.6	▲	115.8	▼	117.8	▲	118.9	▲	118.2	▼	▼
Total Imports, USD mn, sa, df	11,837	▼	12,187	▲	9,725	▼	13,643	▲	11,711	▼	11,162	▼	0.0	▬	▬
Bank Claims: Private Sector, SAR bn, sa, df	993,434	▲	1,003,375	▲	1,004,282	▲	1,009,753	▲	1,026,244	▲	1,055,208	▲	1,036,815	▼	▲
GDP, quarterly, SAR bn, sa, df			715,053	▼					712,423	▼					
<b>Composite Index</b>	<b>195.4</b>	<b>▲</b>	<b>196.2</b>	<b>▲</b>	<b>194.2</b>	<b>▼</b>	<b>197.0</b>	<b>▲</b>	<b>197.9</b>	<b>▲</b>	<b>201.0</b>	<b>▲</b>	<b>198.6</b>	<b>▼</b>	<b>▲</b>
Diffusion Index of 4 indicators	66.67	▲	66.67	▲	66.67	▲	66.67	▲	66.67	▲	66.67	▲	33.33	▲	66.67
<b>Levels of Leading Indicators</b>															
Baltic Dirty Tanker Index	657	▲	724	▲	833	▲	699	▼	623	▼	809	▲	820	▲	▲
Index: Share Price (End of Period), 2010=100	154	▲	149	▼	160	▲	174	▲	170	▼	157	▼	135	▼	▼
Real Effective Exchange Rate	117.7	▼	118.1	▲	117.9	▼	119.4	▲	121.7	▲	122.8	▲	125.3	▲	▲
OPEC Crude Oil Basket Price, USD per barrel	0.02	▲	0.02	▲	-0.04	▼	-0.03	▼	-0.06	▼	-0.13	▼	-0.04	▼	▼
Saudi Arabia PMI, sa, average	57.0	▼	59.2	▲	60.1	▲	60.7	▲	61.8	▲	59.1	▼	57.6	▼	▲
Japan PMI, sa, average	49.9	▲	51.5	▲	50.5	▼	52.3	▲	51.7	▼	52.5	▲	52.0	▼	▲
US PMI, sa, average	55.4	▲	55.3	▼	57.1	▲	59.0	▲	56.6	▼	59.0	▲	58.7	▼	▲
China PMI, sa, average	49.4	▲	50.7	▲	51.7	▲	50.2	▼	50.2	▬	50.4	▲	50.0	▼	▲
International reserves, USD mn, df	643,081	▲	640,001	▼	640,370	▲	641,634	▲	639,833	▼	0	▬	0	▬	▬
Imports: Priv. Sector. Build. Materials, SAR mn, sa, df	1,952.6	▲	1,822.1	▼	1,304.1	▼	1,521.3	▲	2,039.8	▲	1,614.3	▼	2,092.4	▲	▲
Export Unit Value Index, 2010=100	129.7	▲	135.4	▲	134.6	▼	127.5	▼	121.3	▼	108.8	▼	98.2	▼	▲
Treasury Bills Rate: Average: 52 Weeks, % pa	0.71	▬	0.71	▬	0.71	▬	0.71	▬	0.71	▬	0.70	▲	0.66	▲	▲
Money Supply (M2), SAR billions, sa, df*	1,259.4	▲	1,256.5	▼	1,272.2	▲	1,282.7	▲	1,288.7	▲	1,281.0	▼	1,283.8	▲	▲
<b>Composite Index of 11 indicators</b>	<b>211.5</b>	<b>▲</b>	<b>213.0</b>	<b>▲</b>	<b>214.3</b>	<b>▲</b>	<b>215.7</b>	<b>▲</b>	<b>216.5</b>	<b>▲</b>	<b>217.0</b>	<b>▲</b>	<b>217.5</b>	<b>▲</b>	<b>▲</b>
Diffusion Index of 11 indicators	80.77	▲	57.69	▲	57.69	▲	65.38	▲	38.46	▲	50.00	▲	42.31	▲	42.31
<b>Levels of Additional indicators</b>															
US LEI, 2004=100	116.5	▲	117.2	▲	118.4	▲	118.5	▲	119.2	▲	119.9	▲	120.3	▲	▲
Euro Area LEI, 2004=100	101.4	▲	101.9	▲	102.4	▲	102.8	▲	103.2	▲	103.3	▲	103.3	▬	▲
Japan LEI, 2004=100	103.1	▼	102.3	▼	101.6	▼	101.8	▲	102.7	▲	103.0	▲	103.6	▲	▲
Korea LEI, 2004=100	106.2	▼	107.2	▲	107.1	▼	107.6	▲	108.3	▲	108.7	▲	108.3	▼	▲
China LEI, 2004=100	290.5	▲	294.3	▲	298.0	▲	300.1	▲	303.1	▲	306.9	▲	308.4	▲	▲
Diffusion Index of 16 indicators	75.00		63.89		58.33		75.00		55.56		63.89		50.00		80.6

**Notes:** sa=seasonally adjusted, df=deflated, \*Treasury bills rate is countercyclical and was inverted in the calculation of the composite index

**Sources:** Coincident Indicators: Ind. Prod. Index, Total Imports, Bank Claims: Private Sector, GDP: CEIC database; REER: Bruegel

**Leading Indicators:** Baltic Dirty Index and OPEC Oilprice: Bloomberg; Share Price Index, Treasury Bills Rate, Money Supply, Export Index, Building Material Imports, and International Reserves: CEIC database

**Additional indicators:** US LEI, Euro Area LEI, Japan LEI, Korea LEI, China LEI: The Conference Board.

**Table 6: Scoreboard for Saudi Arabia September 2012-March 2013; Month to month percent change**

Saudi Arabia		will be there after update to Nov 2014						
May - Nov 2014 in percent	May	Jun	Jul	Aug	Sep	Oct	Nov	6M
<b>Contribution of Coincident Indicators</b>								
Ind. Prod. Index, sa	0.36	-0.95	1.33	-3.20	1.75	0.93	-0.60	-0.82
Total Imports, df, sa	-8.01	2.95	-20.20	40.29	-14.16	-4.68	0.00	0.00
Bank Claims: Private Sector, sa, df	1.05	1.00	0.09	0.54	1.63	2.82	-1.74	4.37
GDP, quarterly, sa, df		-2.91			-0.37			
<b>Growth Rate of Composite Index</b>	<b>0.10</b>	<b>0.41</b>	<b>-1.02</b>	<b>1.44</b>	<b>0.46</b>	<b>1.57</b>	<b>-1.19</b>	<b>1.64</b>
Diffusion Index of 4 indicators	66.67	66.67	66.67	66.67	66.67	66.67	33.33	66.67
<b>Contribution of Leading Indicators</b>								
Baltic Dirty Tanker Index	1.39	10.20	15.06	-16.09	-10.87	29.86	1.36	24.81
Index: Share Price (End of Period)	2.49	-3.16	7.38	8.79	-2.32	-7.55	-14.05	-12.20
Real Effective Exchange Rate	-0.08	0.36	-0.12	1.24	1.89	0.94	2.04	6.49
OPEC Crude Oil Basket Price	1.89	2.53	-4.60	-3.48	-5.82	-12.96	-4.03	-25.72
Saudi Arabia PMI	-1.48	2.12	0.98	0.54	1.11	-2.70	-1.50	0.56
Japan PMI	0.56	1.51	-0.93	1.73	-0.51	0.71	-0.44	2.07
US PMI	0.50	-0.10	1.80	1.90	-2.40	2.40	-0.30	3.30
China PMI	1.35	1.27	1.00	-1.50	-0.01	0.23	-0.43	0.56
International reserves	0.32	-0.48	0.06	0.20	-0.28	0.00	0.00	0.00
Imports: Private Sector. Building Materials	8.84	-6.68	-28.43	16.65	34.08	-20.86	29.62	0.07
Export Unit Value Index	1.62	4.36	-0.54	-5.31	-4.88	-10.29	-9.72	13.30
Treasury Bills Rate: Average: 52 Weeks	0.00	0.00	0.00	0.00	0.23	0.57	4.03	0.05
Money Supply (M2), sa, df*	1.05	-0.23	1.24	0.83	0.46	-0.59	0.22	1.94
<b>Growth Rate of Composite Index</b>	<b>0.62</b>	<b>0.71</b>	<b>0.61</b>	<b>0.65</b>	<b>0.37</b>	<b>0.23</b>	<b>0.23</b>	<b>2.84</b>
Diffusion Index of 11 indicators	80.77	57.69	57.69	65.38	38.46	50.00	42.31	42.31
<b>Growth Rates of Additional indicators</b>								
US LEI, 2004=100	0.60	0.60	1.02	0.08	0.59	0.59	0.33	3.26
Euro Area LEI, 2004=100	0.50	0.49	0.49	0.39	0.39	0.10	0.00	1.87
Japan LEI, 2004=100	-1.15	-0.78	-0.68	0.20	0.88	0.29	0.58	0.48
Korea LEI, 2004=100	-0.65	0.94	-0.09	0.47	0.65	0.37	-0.37	1.98
China LEI, 2004=100	0.76	1.31	1.26	0.70	1.00	1.25	0.49	6.16
Diffusion Index of 16 indicators	75.00	63.89	58.33	75.00	55.56	63.89	50.00	80.56

**Notes:** sa=seasonally adjusted, df=deflated, \*Treasury bills rate is countercyclical and was inverted in the calculation of the composite index

**Sources:** *Coincident Indicators:* Ind. Prod. Index, Total Imports, Bank Claims: Private Sector, GDP: CEIC database; REER: Bruegel

*Leading Indicators:* Baltic Dirty Index and OPEC Oilprice: Bloomberg; Share Price Index, Treasury Bills Rate, Money Supply, Export Index, Building Material Imports, and International Reserves: CEIC database

*Additional indicators:* US LEI, Euro Area LEI, Japan LEI, Korea LEI, China LEI: The Conference Board.

## Qatar

**Table 7: Scoreboard for Qatar September 2012-March 2013; Indicator Data and Direction of Change**

Qatar														
2012/2013	Sep	Oct	Nov	Dec	Jan	Feb	Mar			6M %				
<b>Coincident Indicators</b>														
Ind. Prod. Index, sa	88.9	▲	87.6	▼	88.6	▲	88.2	▼	88.9	▲	89.9	▲	▼	▲
Prod. of Natural Gas, ths barrel/day, sa	343.7	▲	344.4	▲	345.1	▲	346.8	▲	347.4	▲	349.1	▲		▲
Total Exports, USD billions sa, df	11.4	▲	9.6	▼	9.7	▲	10.5	▲	10.7	▲				▲
Total Imports, USD billions, sa, df	1.9	▼	2.5	▲	2.9	▲	2.8	▼	3.0	▲				▲
GDP, quarterly, QAR billions, df	86.2	▲					86.3	▲						▲
<b>Leading Indicators</b>														
Baltic Dry Index	766	▲	1,026	▲	1,086	▲	699	▼	760	▲	757	▼	910	▲
Exch. Rate QAR / EUR, df	5.7	▲	5.8	▲	5.7	▼	5.9	▲	6.0	▲	6.0	▲	5.8	▼
Gas Price NBP, pence per therm	207.45	▲	194.53	▼	190.07	▼	191.55	▲	203.07	▲	200.83	▼	213.30	▲
Interbank Spread (1 year-overnight), %	1.22	▼	1.22	■	1.21	■	0.80	▼	0.76	■	0.77	■	0.73	■
Money Supply (M1), QAR billions, sa, df*	65.2	▲	63.5	▼	65.7	▲	65.7	▼	64.7	▲	65.0	▲	68.9	▼
Qatar Exchange Index	8,510	▲	8,546	▲	8,401	▼	8,359	▼	8,725	▲	8,529	▼	8,578	▲
<b>Composite Index of 6 indicators</b>														
6-month growth rate	252.5	▲	255.2	▲	256.4	▲	257.8	▲	261.0	▲	261.4	▲	264.3	▲
Diffusion Index	5.1	▲	5.0	▲	5.5	▲	5.4	▲	5.8	▲	4.9	▲	4.7	▲
	83.3		58.3		41.7		33.3		91.7		41.7		58.3	83.3
US LEI, 2004=100	93.2	▲	93.4	▲	93.4	■	93.8	▲	94.3	▲	94.8	▲	94.7	▼
Euro Area LEI, 2004=100	104.7	▼	104.3	▼	104.8	▲	104.6	▼	106.1	▲	106.2	▲	105.8	▼
Japan LEI, 2004=100	92.4	▼	92.0	▼	92.0	■	92.2	▲	92.9	▲	94.0	▲	96.0	▲
Korea LEI, 2004=100	120.4	▲	121.3	▲	121.5	▲	121.4	▼	120.8	▼	120.3	▼	121.7	▲
China LEI, 2004=100**	243.6	▲	247.8	▲	250.8	▲	251.0	▲	255.3	▲	258.4	▲	258.3	■
<b>Composite Index of 10 indicators</b>														
6-month growth rate	145.6	▲	146.4	▲	146.9	▲	147.3	▲	148.6	▲	148.9	▲	150.1	▲
Diffusion index	1.5	▲	1.8	▲	2.4	▲	2.7	▲	3.2	▲	3.1	▲	3.1	▲
	70.0		55.0		55.0		40.0		85.0		55.0		55.0	90.0

**Notes:** sa=seasonally adjusted, df=deflated, \*Real Money Supply (M1) is countercyclical and was inverted in the calculation of the composite index, \*\* China LEI is not included in ILIs for the GCC countries

**Sources:** *Coincident Indicators:* Ind. Prod. Index: IMF-IFS; Prod. of Natural Gas: US EIA; Total Exports: IMF-DOTS; Total Imports: IMF-DOTS; GDP: Haver; *Leading Indicators:* Baltic Dry Index: Haver; Exch. Rate QAR / EUR: Haver; OPEC Oilprice: Bloomberg; Gas Price nbp: Bloomberg; Interbank Spread: Haver; Money Supply (M1): National Sources; Qatar Exchange Index: Bloomberg; US LEI, Euro Area LEI, Japan LEI, Korea LEI, China LEI: The Conference Board.

**Table 8: Scoreboard for Qatar September 2012-March 2013; Month to month percent change**

Qatar								
2012/2013	Sep	Oct	Nov	Dec	Jan	Feb	Mar	6M %
<b>Coincident Indicators</b>								
Ind. Prod. Index, sa	1.6	-1.5	1.2	-0.5	0.8	1.2	-0.1	1.0
Prod. of Natural Gas, sa	0.1	0.2	0.2	0.5	0.2	0.5		1.7
Total Exports, sa, df	30.3	-15.4	0.3	9.0	1.8			5.5
Total Imports, sa, df	-18.7	33.7	15.3	-4.1	6.2			36.8
GDP, quarterly, df	3.9			0.1				4.0
<b>Leading Indicators</b>								
Baltic Dry Index	9.0	33.9	5.8	-35.6	8.7	-0.4	20.2	18.8
Exch. Rate QAR / EUR, df	3.7	1.2	-1.1	2.8	1.4	0.5	-2.6	2.3
Gas Price NBP	6.5	-6.2	-2.3	0.8	6.0	-1.1	6.2	2.8
Interbank Spread (1 year-overnight), %	-0.11	0.00	-0.01	-0.41	-0.04	0.01	-0.04	-0.49
Money Supply (M1), sa, df*	7.2	-2.5	3.4	-1.6	0.5	5.9	-3.8	1.7
Qatar Exchange Index	0.3	0.4	-1.7	-0.5	4.4	-2.2	0.6	0.8
<b>Composite Index of 6 indicators</b>								
6-month growth rate	5.1	5.0	5.5	5.4	5.8	4.9	4.7	4.7
Diffusion Index	83.3	58.3	41.7	33.3	91.7	41.7	58.3	83.3
US LEI, 2004=100	0.5	0.2	0.0	0.4	0.5	0.5	-0.1	1.6
Euro Area LEI, 2004=100	-0.2	-0.4	0.5	-0.2	1.4	0.1	-0.4	1.1
Japan LEI, 2004=100	-0.4	-0.4	0.0	0.2	0.8	1.2	2.1	3.9
Korea LEI, 2004=100	0.9	0.7	0.2	-0.1	-0.5	-0.4	1.2	1.1
China LEI, 2004=100**	0.5	1.7	1.2	0.1	1.7	1.2	0.0	6.0
<b>Composite Index of 10 indicators</b>								
6-month growth rate	1.5	1.8	2.4	2.7	3.2	3.1	3.1	3.1
Diffusion index	70.0	55.0	55.0	40.0	85.0	55.0	55.0	90.0

**Notes:**sa=seasonally adjusted, df=deflated, \*Real Money Supply (M1) is countercyclical and was inverted in the calculation of the composite index, \*\* China LEI is not included in ILIs for the GCC countries

**Sources:** *Coincident Indicators*: Ind. Prod. Index: IMF-IFS; Prod. of Natural Gas: US EIA; Total Exports: IMF-DOTS; Total Imports: IMF-DOTS; GDP: Haver; *Leading Indicators*: Baltic Dry Index: Haver; Exch. Rate QAR / EUR: Haver; OPEC Oilprice: Bloomberg; Gas Price nbp: Bloomberg; Interbank Spread: Haver; Money Supply (M1): National Sources; Qatar Exchange Index: Bloomberg; US LEI, Euro Area LEI, Japan LEI, Korea LEI, China LEI: The Conference Board.

## United Arab Emirates

**Table 9: Scoreboard for United Arab Emirates September 2012-March 2013; Indicator Data and Direction of Change**

UNITED ARAB EMIRATES															
2012/2013	Sep	Oct	Nov	Dec	Jan	Feb	Mar	6M %							
<b>Coincident Indicators</b>															
Ind. Prod. Index, sa	111.4	▲	111.5	▬	112.9	▲	113.1	▲	117.7	▲	118.0	▲	118.4	▲	▲
Prod. of Crude Oil, ths barrel/day, sa	2,796	▲	2,641	▼	2,626	▼	2,684	▲	2,637	▼	2,681	▲	2,673	▼	▼
Total Exports, USD billions sa, df	19.0	▲	19.6	▲	19.0	▼	18.2	▼	18.9	▲					▲
Total Imports, USD billions, sa, df	18.1	▲	16.6	▼	16.6	▲	18.1	▲	16.6	▼					▲
<b>Leading Indicators</b>															
Baltic Dry Index	766	▲	1,026	▲	1,086	▲	699	▼	760	▲	757	▼	910	▲	▲
Exch. Rate AED / EUR, df	4.1	▲	4.1	▲	4.1	▲	4.2	▲	4.3	▲	4.2	▼	4.1	▼	▼
OPEC Oilprice, USD per barrel	110.7	▲	108.4	▼	106.7	▼	106.6	▼	109.2	▲	112.9	▲	106.5	▼	▼
UAE PMI, sa	53.8	▲	53.8	▲	53.7	▼	55.6	▲	55.0	▼	55.4	▲	54.3	▼	▲
Interbank Spread (1 year-1 week), %	1.4	▼	1.4	▬	1.4	▬	1.4	▬	1.4	▬	1.4	▬	1.3	▼	▼
Money Supply (M1), AED billions, sa, df*	265.5	▲	267.6	▲	265.2	▼	270.8	▲	265.4	▼	268.4	▲	272.8	▲	▲
Abu Dhabi Securities Market General Index	2,605	▲	2,672	▲	2,675	▲	2,631	▼	2,882	▲	3,045	▲	3,025	▼	▲
<b>Composite Index of 6 indicators</b>															
6-month growth rate	120.4	▬	120.6	▲	120.6	▬	119.7	▼	120.7	▲	120.5	▼	119.9	▼	▼
Diffusion Index	-1.1	▼	-1.3	▼	1.2	▲	-0.8	▼	0.2	▲	0.2	▲	-0.4	▼	▼
	83.3		75.0		58.3		41.7		75.0		58.3		41.7		50.0
US LEI, 2004=100	93.2	▲	93.4	▲	93.4	▬	93.8	▲	94.3	▲	94.8	▲	94.7	▼	▲
Euro Area LEI, 2004=100	104.7	▼	104.3	▼	104.8	▲	104.6	▼	106.1	▲	106.2	▲	105.8	▼	▲
Japan LEI, 2004=100	92.4	▼	92.0	▼	92.0	▬	92.2	▲	92.9	▲	94.0	▲	96.0	▲	▲
Korea LEI, 2004=100	120.4	▲	121.3	▲	121.5	▲	121.4	▼	120.8	▼	120.3	▼	121.7	▲	▲
China LEI, 2004=100**	243.6	▲	247.8	▲	250.8	▲	251.0	▲	255.3	▲	258.4	▲	258.3	▬	▲
<b>Composite Index of 10 indicators</b>															
6-month growth rate	110.5	▲	110.6	▲	110.7	▲	110.3	▼	111.0	▲	111.1	▲	111.0	▼	▲
Diffusion index	-1.6	▼	-1.5	▼	0.2	▲	-0.5	▼	0.4	▲	0.6	▲	0.4	▲	▲
	70.0		65.0		65.0		45.0		75.0		65.0		45.0		70.0

Notes: sa=seasonally adjusted, df=deflated, \*Real Money Supply (M1) is countercyclical and was inverted in the calculation of the composite index, \*\* China LEI is not included in ILIs for the GCC countries.

Sources: *Coincident Indicators*: Ind. Prod. Index: IMF-IFS; Prod. of Crude Oil: Bloomberg; Total Exports,sa: IMF-DOTS; Total Imports, sa: IMF-DOTS; *Leading Indicators*: Baltic Dry Index: Haver; Exch. Rate AED / EUR: Haver; OPEC Oilprice: Bloomberg; UAE PMI: Haver; Interbank Spread: Haver; Money Supply (M1): National Sources; Abu Dhabi Securities Market General Index: Bloomberg; US LEI, Euro Area LEI, Japan LEI, Korea LEI, China LEI: The Conference Board.



**Table 10: Scoreboard for United Arab Emirates September 2012-March 2013; Month to month percent change**

UNITED ARAB EMIRATES								
2012/2013	Sep	Oct	Nov	Dec	Jan	Feb	Mar	6M %
<b>Coincident Indicators</b>								
Ind. Prod. Index, sa	0.3	0.0	1.3	0.2	4.1	0.3	0.3	6.3
Prod. of Crude Oil, sa	6.4	-5.5	-0.6	2.2	-1.7	1.7	-0.3	-4.4
Total Exports,sa, df	6.2	3.1	-3.2	-4.2	3.9			5.2
Total Imports, sa, df	5.4	-8.4	0.2	8.9	-8.3			0.7
<b>Leading Indicators</b>								
Baltic Dry Index	9.0	33.9	5.8	-35.6	8.7	-0.4	20.2	18.8
Exch. Rate AED / EUR, df	2.3	0.3	0.1	2.4	1.7	-3.0	-1.8	-0.4
OPEC Oilprice	1.1	-2.1	-1.5	-0.2	2.4	3.4	-5.7	-3.8
UAE PMI, sa	0.9	0.1	-0.3	3.6	-1.0	0.7	-2.0	1.1
Interbank Spread (1 year-1 week), %	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
Money Supply (M1), sa, df*	1.9	0.8	-0.9	2.1	-2.0	1.1	1.7	2.8
Abu Dhabi Securities Market General Index	1.7	2.6	0.1	-1.6	9.5	5.7	-0.6	16.1
<b>Composite Index of 6 indicators</b>								
6-month growth rate	-1.1	-1.3	1.2	-0.8	0.2	0.2	-0.4	-0.4
Diffusion Index	83.3	75.0	58.3	41.7	75.0	58.3	41.7	50.0
US LEI, 2004=100	0.5	0.2	0.0	0.4	0.5	0.5	-0.1	1.6
Euro Area LEI, 2004=100	-0.2	-0.4	0.5	-0.2	1.4	0.1	-0.4	1.1
Japan LEI, 2004=100	-0.4	-0.4	0.0	0.2	0.8	1.2	2.1	3.9
Korea LEI, 2004=100	0.9	0.7	0.2	-0.1	-0.5	-0.4	1.2	1.1
China LEI, 2004=100**	0.5	1.7	1.2	0.1	1.7	1.2	0.0	6.0
<b>Composite Index of 10 indicators</b>								
6-month growth rate	-1.6	-1.5	0.2	-0.5	0.4	0.6	0.4	0.4
Diffusion index	70.0	65.0	65.0	45.0	75.0	65.0	45.0	70.0

**Notes:** sa=seasonally adjusted, df=deflated, \*Real Money Supply (M1) is countercyclical and was inverted in the calculation of the composite index, \*\* China LEI is not included in ILIs for the GCC countries.

**Sources:** *Coincident Indicators*: Ind. Prod. Index: IMF-IFS; Prod. of Crude Oil: Bloomberg; Total Exports,sa: IMF-DOTS; Total Imports, sa: IMF-DOTS; *Leading Indicators*: Baltic Dry Index: Haver; Exch. Rate AED / EUR: Haver; OPEC Oilprice: Bloomberg; UAE PMI: Haver; Interbank Spread: Haver; Money Supply (M1): National Sources; Abu Dhabi Securities Market General Index: Bloomberg; US LEI, Euro Area LEI, Japan LEI, Korea LEI, China LEI: The Conference Board.



## Oman

**Table 11: Scoreboard for Oman September 2012-March 2013; Indicator Data and Direction of Change**

Oman	2012/2013	Sep	Oct	Nov	Dec	Jan	Feb	Mar	6M %						
<b>Coincident Indicators</b>															
Ind. Prod. Index sa	106.8	▲	108.1	▲	108.3	▲	107.7	▼	106.6	▼	116.9	▲	105.4	▼	▼
Prod. of Crude Oil, ths barrel/day, sa	923	▼	936.0	▲	943.5	▲	944	▲	939.7	▼	941.9	▲			▲
Total Exports, USD billions sa, df	3.0	▲	3.1	▲	3.0	▼	2.8	▼	2.9	▲					▲
Total Imports, USD millions sa, df	1,999	▲	1,933	▼	1,800	▼	1,742	▼	1,685	▼					▼
GDP, quarterly, OMR millions, df	6,911	▼				8,357	▲								▼
<b>Leading Indicators</b>															
Baltic Dry Index	766	▲	1,026	▲	1,086	▲	699	▼	760	▲	757	▼	910	▲	▲
Exch. Rate OMR / EUR, df	0.3	▲	0.3	▲	0.3	▲	0.3	▲	0.4	▲	0.3	▼	0.3	▼	▼
OPEC Oilprice, USD per barrel	110.7	▲	108.4	▼	106.7	▼	106.6	▼	109.2	▲	112.9	▲	106.5	▼	▼
Money Supply (M1), OMR millions sa, df*	2,501	▲	2,548	▲	2,532	▼	2,471	▼	2,457	▼	2,395	▼	2,415	▲	▼
Muscat Securities MSM 30 Index	5,534	▲	5,660	▲	5,534	▼	5,761	▲	5,800	▲	5,976	▲	5,990	▲	▲
<b>Composite Index of 5 indicators</b>															
6-month growth rate	93.8	▲	94.9	▲	95.4	▲	95.9	▲	98.0	▲	99.3	▲	98.8	▼	▲
Diffusion Index	-4.0	▼	-3.8	▼	-0.2	▼	2.6	▲	7.1	▲	7.5	▲	5.3	▲	▲
	83.3		66.7		33.3		33.3		66.7		33.3		50.0		33.3
US LEI, 2004=100	93.2	▲	93.4	▲	93.4	▬	93.8	▲	94.3	▲	94.8	▲	94.7	▼	▲
Euro Area LEI, 2004=100	104.7	▼	104.3	▼	104.8	▲	104.6	▼	106.1	▲	106.2	▲	105.8	▼	▲
Japan LEI, 2004=100	92.4	▼	92.0	▼	92.0	▬	92.2	▲	92.9	▲	94.0	▲	96.0	▲	▲
Korea LEI, 2004=100	120.4	▲	121.3	▲	121.5	▲	121.4	▼	120.8	▼	120.3	▼	121.7	▲	▲
China LEI, 2004=100**	243.6	▲	247.8	▲	250.8	▲	251.0	▲	255.3	▲	258.4	▲	258.3	▬	▲
<b>Composite Index of 9 indicators</b>															
6-month growth rate	97.3	▲	97.6	▲	97.8	▲	98.0	▲	98.9	▲	99.4	▲	99.8	▲	▲
Diffusion index	-2.1	▼	-1.6	▼	-0.3	▼	0.8	▲	2.2	▲	2.7	▲	2.5	▲	▲
	70.0		60.0		50.0		40.0		70.0		50.0		50.0		60.0

**Notes:** sa=seasonally adjusted, df=deflated, \*Real Money Supply (M1) is countercyclical and was inverted in the calculation of the composite index, \*\* China LEI is not included in ILIs for the GCC countries.

**Sources:** *Coincident Indicators:* Ind. Prod. Index: IMF-IFS; Prod. of Crude Oil: US EIA; Total Exports: IMF-DOTS; Total Imports: IMF-DOTS; GDP, quarterly: Haver; *Leading Indicators:* Baltic Dry Index: Haver; Exch. Rate OMR: Haver; OPEC Oilprice: Bloomberg; Money Supply (M1): National Sources; Muscat Securities MSM 30 Index: Bloomberg; US LEI, Euro Area LEI, Japan LEI, Korea LEI, China LEI: The Conference Board.

**Table 12: Scoreboard for Oman September 2012-March 2013; Month to month percent change**

Oman								
2012/2013	Sep	Oct	Nov	Dec	Jan	Feb	Mar	6M %
<b>Coincident Indicators</b>								
Ind. Prod. Index sa	1.0	1.1	0.2	-0.5	-1.1	9.6	-9.8	-1.3
Prod. of Crude Oil, sa	-0.7	1.4	0.8	0.1	-0.5	0.2		1.3
Total Exports, sa, df	15.6	0.8	-1.8	-6.9	4.7			16.2
Total Imports, sa, df	7.2	-3.3	-6.9	-3.2	-3.3			-10.3
GDP, quarterly, df	-17.7			20.9				-0.5
<b>Leading Indicators</b>								
Baltic Dry Index	9.0	33.9	5.8	-35.6	8.7	-0.4	20.2	18.8
Exch. Rate OMR / EUR, df	2.6	0.2	0.4	1.6	2.4	-2.9	-2.5	-1.0
OPEC Oilprice	1.1	-2.1	-1.5	-0.2	2.4	3.4	-5.7	-3.8
Money Supply (M1), sa, df*	1.0	1.9	-0.6	-2.4	-0.6	-2.5	0.8	-3.4
Muscat Securities MSM 30 Index	1.0	2.3	-2.2	4.1	0.7	3.0	0.2	4.0
<b>Composite Index of 5 indicators</b>								
6-month growth rate	1.6	1.2	0.5	0.6	2.2	1.3	-0.5	5.3
Diffusion Index	-4.0	-3.8	-0.2	2.6	7.1	7.5	5.3	5.3
	83.3	66.7	33.3	33.3	66.7	33.3	50.0	33.3
US LEI, 2004=100	0.5	0.2	0.0	0.4	0.5	0.5	-0.1	1.6
Euro Area LEI, 2004=100	-0.2	-0.4	0.5	-0.2	1.4	0.1	-0.4	1.1
Japan LEI, 2004=100	-0.4	-0.4	0.0	0.2	0.8	1.2	2.1	3.9
Korea LEI, 2004=100	0.9	0.7	0.2	-0.1	-0.5	-0.4	1.2	1.1
China LEI, 2004=100**	0.5	1.7	1.2	0.1	1.7	1.2	0.0	6.0
<b>Composite Index of 9 indicators</b>								
6-month growth rate	0.5	0.3	0.3	0.2	0.9	0.5	0.3	2.5
Diffusion index	-2.1	-1.6	-0.3	0.8	2.2	2.7	2.5	2.5
	70.0	60.0	50.0	40.0	70.0	50.0	50.0	60.0

**Notes:** sa=seasonally adjusted, df=deflated, \*Real Money Supply (M1) is countercyclical and was inverted in the calculation of the composite index, \*\* China LEI is not included in ILIs for the GCC countries.

**Sources:** *Coincident Indicators:* Ind. Prod. Index: IMF-IFS; Prod. of Crude Oil: US EIA; Total Exports: IMF-DOTS; Total Imports: IMF-DOTS; GDP, quarterly: Haver; *Leading Indicators:* Baltic Dry Index: Haver; Exch. Rate OMR: Haver; OPEC Oilprice: Bloomberg; Money Supply (M1): National Sources; Muscat Securities MSM 30 Index: Bloomberg; US LEI, Euro Area LEI, Japan LEI, Korea LEI, China LEI: The Conference Board.

## Bahrain

**Table 13: Scoreboard for Bahrain September 2012-March 2013; Indicator Data and Direction of Change**

Bahrain															
2012/2013	Sep	Oct	Nov	Dec	Jan	Feb	Mar							6M %	
<b>Coincident Indicators</b>															
Total Exports, USD billions sa, df	2.6	▲	2.7	▲	2.6	▼	2.7	▲	2.7	▼				▲	
Total Imports, USD billions, sa, df	1	▲	1.0	▼	0.9	▼	1	▲	1.0	▼				▼	
GDP, quarterly, BHD millions, df	2,545.2	▲				2,557.2	▲							▲	
GDP, oil and gas, BHD millions, df	507.6	▲				509.6	▲							▲	
GDP, construction, BHD millions, df	168.5	▼				170.1	▲							▼	
GDP, financial services, BHD millions, df	438.3	▲				444.9	▲							▲	
<b>Leading Indicators</b>															
Baltic Dry Index	766	▲	1,026	▲	1,086	▲	699	▼	760	▲	757	▼	910	▲	▲
Exch. Rate BHD / EUR, df	0.4	▲	0.4	▲	0.4	▼	0.4	▲	0.4	▼	0.4	▲	0.4	▼	▲
OPEC Oilprice, USD per barrel	110.7	▲	108.4	▼	106.7	▼	106.6	▼	109.2	▲	112.9	▲	106.5	▼	▼
Interbank Spread (6 months-3 months), %	0.3	■	0.3	■	0.3	■	0.3	■	0.3	■	0.2	▼	0.2	■	▼
Money Supply (M1), BHD millions, sa, df*	2,425	▲	2,399	▼	2,385	▼	2,279	▼	1,634	▼	2,409	▲	2,431	▲	▲
Bahrain Bourse All Share Index	1,087	▲	1,058	▼	1,049	▼	1,066	▲	1,085	▲	1,090	▲	1,092	▲	▲
<b>Other Indicators</b>															
US LEI, 2004=100	93.2	▲	93.4	▲	93.4	■	93.8	▲	94.3	▲	94.8	▲	94.7	▼	▲
Euro Area LEI, 2004=100	104.7	▼	104.3	▼	104.8	▲	104.6	▼	106.1	▲	106.2	▲	105.8	▼	▲
Japan LEI, 2004=100	92.4	▼	92.0	▼	92.0	■	92.2	▲	92.9	▲	94.0	▲	96.0	▲	▲
Korea LEI, 2004=100	120.4	▲	121.3	▲	121.5	▲	121.4	▼	120.8	▼	120.3	▼	121.7	▲	▲
China LEI, 2004=100**	243.6	▲	247.8	▲	250.8	▲	251.0	▲	255.3	▲	258.4	▲	258.3	■	▲

**Notes:** Bahrain IPI cannot be used for chronology reference and therefore composite indexes cannot be calculated. sa=seasonally adjusted, df=deflated, \*Real Money Supply (M1) is countercyclical and was inverted in the calculation of the composite index, \*\* China LEI is not included in ILIs for the GCC countries.

**Sources:** *Coincident Indicators:* Total Exports: IMF-DOTS; Total Imports: IMF-DOTS; GDP: Haver; *Leading Indicators:* Baltic Dry Index: Haver; Exch. Rate BHD / EUR: Haver; OPEC Oilprice: Bloomberg; Interbank Spread: Haver; Money Supply (M1): National Sources; Bahrain Bourse All Share Index: Bloomberg; Euro Area LEI, Japan LEI, Korea LEI, China LEI: The Conference Board.

**Table 14: Scoreboard for Bahrain September 2012-March 2013; Month to month percent change**

Bahrain									
2012/2013	1M %	Sep	Oct	Nov	Dec	Jan	Feb	Mar	6M %
<b>Coincident Indicators</b>									
Total Exports, sa, df		0.4	3.7	-3.6	4.6	-1.1			7.6
Total Imports, sa, df		2.9	-4.9	-6.8	10.2	-3.2			-10.2
GDP, quarterly, df		3.0			0.5				3.5
GDP, oil and gas, df		15.3			0.4				15.8
GDP, construction, df		-2.4			0.9				-1.5
GDP, financial services, df		2.1			1.5				3.7
<b>Leading Indicators</b>									
Baltic Dry Index		9.0	33.9	5.8	-35.6	8.7	-0.4	20.2	18.8
Exch. Rate BHD / EUR, df		3.5	0.9	-0.9	2.2	-0.7	0.7	-3.1	0.9
OPEC Oilprice		1.1	-2.1	-1.5	-0.2	2.4	3.4	-5.7	-3.8
Interbank Spread (6 months-3 months), %		0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1
Money Supply (M1), sa, df*		5.3	-1.1	-0.6	-4.4	-28.3	47.4	1.0	0.3
Bahrain Bourse All Share Index		0.1	-2.7	-0.9	1.6	1.8	0.4	0.2	0.4
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US LEI, 2004=100		0.5	0.2	0.0	0.4	0.5	0.5	-0.1	1.6
Euro Area LEI, 2004=100		-0.2	-0.4	0.5	-0.2	1.4	0.1	-0.4	1.1
Japan LEI, 2004=100		-0.4	-0.4	0.0	0.2	0.8	1.2	2.1	3.9
Korea LEI, 2004=100		0.9	0.7	0.2	-0.1	-0.5	-0.4	1.2	1.1
China LEI, 2004=100**		0.5	1.7	1.2	0.1	1.7	1.2	0.0	6.0

**Notes:** Bahrain IPI cannot be used for chronology reference and therefore composite indexes cannot be calculated. sa=seasonally adjusted, df=deflated, \*Real Money Supply (M1) is countercyclical and was inverted in the calculation of the composite index, \*\* China LEI is not included in ILIs for the GCC countries.

**Sources:** *Coincident Indicators*: Total Exports: IMF-DOTS; Total Imports: IMF-DOTS; GDP: Haver; *Leading Indicators*: Baltic Dry Index: Haver; Exch. Rate BHD / EUR: Haver; OPEC Oilprice: Bloomberg; Interbank Spread: Haver; Money Supply (M1): National Sources; Bahrain Bourse All Share Index: Bloomberg; Euro Area LEI, Japan LEI, Korea LEI, China LEI: The Conference Board.