

The GCC Dream: Between the BRICs and the Developed World

- The Gulf Cooperation Council (GCC) countries (Saudi Arabia, United Arab Emirates, Kuwait, Qatar, Oman and Bahrain) have benefited significantly from the surge in global energy prices in recent years and the region is becoming a major economic force.
- We believe the GCC region will continue to benefit from strong global energy demand growth in the coming decades. Rapid economic development of the BRICs and N-11 countries is likely to continue to put considerable pricing pressure on global energy markets. This strong demand-side stimulus should, in turn, secure an (extra-normal) oil and natural gas windfall for the GCC.
- The GCC has the potential to grow rapidly in the coming decades, given that the overall growth environment has improved across the region, and with the vast economic resources at its disposal.
- However, investment levels remain low across the GCC and the region lags its peers in technology use and human resource development. If these problems can be addressed, the GCC could comfortably sustain even higher growth rates and close the income gap with G-7 economies almost completely by 2050.
- This rapid convergence scenario may be just a dream. Some deep-rooted structural weaknesses and general regional instability may hold back the GCC from fully realising this huge economic potential. That said, the region will be at the receiving end of developments in the BRICs and N-11 economies, and will be one of the leading beneficiaries of globalisation going forward.

Important disclosures appear at the back of this document

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Summary

- **The Gulf Cooperation Council (GCC) countries (Saudi Arabia, United Arab Emirates, Kuwait, Qatar, Oman and Bahrain) have benefited significantly from the surge in global energy prices in recent years.** With a \$735bn economy and high living standards, the region is becoming a major economic force.
- **We believe that the GCC region will continue to benefit from strong global energy demand growth in the coming decades.** Rapid economic development of the BRICs and N-11 countries is likely to continue to put considerable pricing pressure on global energy markets, especially in the coming 10 to 15 years.
- **This strong demand-side stimulus should, in turn, secure an (extra-normal) oil and natural gas windfall for the GCC,** allowing it to sustain high investment levels and generate strong, welfare-enhancing economic growth in the coming decades. We calculate that the cumulative windfall could reach \$4tr-\$5tr (measured in 2006 Dollars) in the next 25 years, implying an extra-normal revenue flow, well beyond what we have seen in the past.
- **The GCC has the potential to grow rapidly and narrow significantly the existing income gap with leading G-7 economies in the coming decades,** given that the overall growth environment has improved across the region, and with the vast economic resources at its disposal.
- **As a base-line, we project 2050 per capita GDP for the region at \$63,250,** which compares favourably with that of such leading industrial economies as Japan (\$69,000), Germany (\$67,000) and Italy (\$58,000). The income differential with the G7 economies would narrow to 77%, from the current 50%.
- **However, the region can potentially offer even more than this.** Investment levels remain low across the GCC and the region lags its peers in technology use and human resource development. If these problems can be addressed, the GCC could comfortably sustain much higher growth rates, reach a per capita income level of \$78,800 and close the income gap with G-7 economies almost completely by 2050.
- **This rapid convergence scenario may be just a dream.** Some deep-rooted structural weaknesses and general regional instability may hold back the GCC from fully realising this huge economic potential. That said, the region will be at the receiving end of developments in the BRICs and N-11 economies, and is likely to be one of the leading beneficiaries of globalisation going forward. This should ultimately provide strong support for GCC asset prices and the currency in the coming decades.

I. Introduction: Windfall Comes as a Blessing for the Region

The Gulf Cooperation Council (GCC) countries (Saudi Arabia, United Arab Emirates, Kuwait, Qatar, Oman and Bahrain) have benefited from the surge in global energy prices in recent years. The massive oil and natural gas windfall has allowed GCC economies to improve their overall net foreign asset and fiscal positions over the past four years, and post strong, investment-driven economic growth. Regional current account and budget surpluses soared to 30% and 23% of regional GDP in 2006, respectively, and economic growth rebounded strongly to an estimated 7% in 2006 – well above the 3.5% average for 1990-2002.

This robust economic performance is likely to continue uninterrupted in the next few years, as the region continues to benefit from high energy prices, which will be reinforced by a combination of strong demand growth and supply-side constraints¹. But what is more interesting from our perspective is the region’s longer-term economic potential. Not surprisingly, the region’s growing importance in energy markets and as a supplier of capital to the rest of the world is commonly acknowledged and widely discussed. What is less clearly appreciated, however, is the ongoing economic transformation of the Gulf region and its long-term economic potential. The region is becoming an economic power to be reckoned with. The GCC currently boasts a GDP level of about \$735bn, comparable to that of such sizeable economies as Mexico (\$810bn), Australia (\$745bn) and the Netherlands (\$665bn). Average regional per capita income is also fairly high at \$20,500, and ranks 27th on a global scale, just after New Zealand (\$24,500), Greece (\$22,000) and Cyprus (\$21,000), and above Israel (\$20,000), Portugal (\$18,000) and Korea (\$18,000).

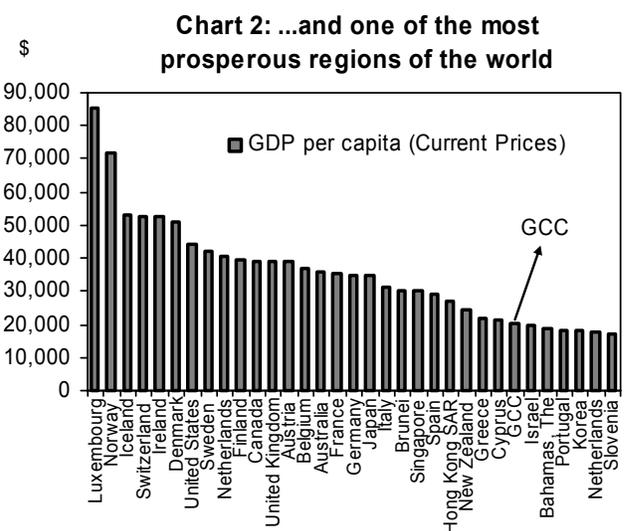
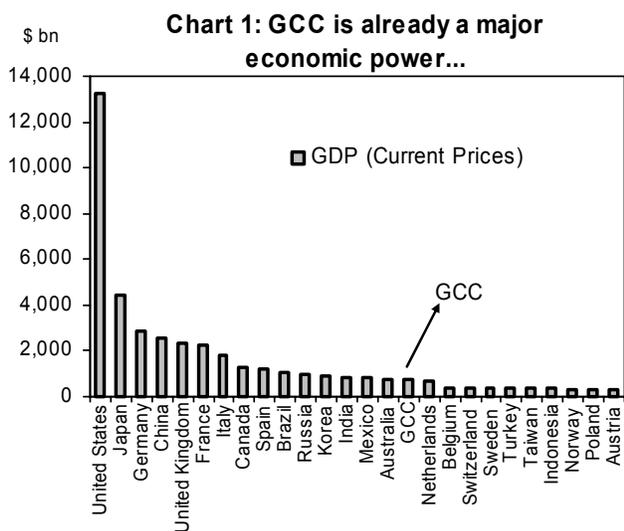
But we believe that the region has a lot more to offer as it continues to benefit from strong global energy demand growth in the coming decades. Rapid economic development of the BRICs and N-11 economies will exert considerable pricing pressure on global energy markets, especially in the coming 10 to 15 years. This strong demand-side stimulus will, in turn, secure an (extra-normal) oil and natural gas windfall for the GCC, allowing the region’s economies to sustain very high investment levels and generate strong, welfare-enhancing economic growth in the coming decades.

The region’s economic convergence process is unlikely to be as explosive as that of the BRICs or some leading N-11 economies. Certain economic rigidities, political constraints and general regional instability will likely continue to prevent the GCC from realising its *full* economic potential. But with a little extra effort, placing more emphasis on improving the overall investment climate and facilitating strong total factor productivity growth, we believe the GCC can emerge as one of the most prosperous regions in the world in the coming decades.

II. Global Energy Demand and the Revenue Windfall

Strong Global Energy Demand in the next 15 years due to BRICs’ rapid industrialisation

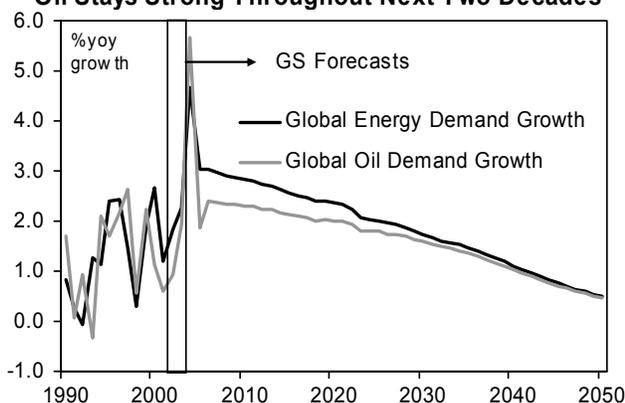
Our earlier work suggests that global energy demand can potentially grow at an annual average rate of 2.9% pa going into 2020, well above the previous 15 years’ 1.85% average². We expect energy demand growth to retreat gradually to 2.1% pa through the 2030s and stabilise around 1% pa thereafter.



1. For a more detailed discussion of the medium-term outlook for the GCC region, see our *New European Markets Analyst*, May 11, 2006, Issue No: 06/10 “Gulf Cooperation Council: How to Handle the Oil Price Windfall”.

2. See *Global Economics Paper No:118*, October 12, 2004, “The BRICs and Global Markets: Crude, Cars and Capital”.

Chart 3: Global Demand Growth For Energy and Oil Stays Strong Throughout Next Two Decades



Source: BP, IIE and GS projections

The bulk of the demand growth is projected to come from the fast-developing BRICs economies. Our projections put the BRICs energy demand growth at an average 5.3% pa in the coming 15 years. Beyond 2020, we project BRICs energy demand growth to fall gradually to 2% pa through the 2020s and stabilise around 1.3% pa in the following decades – as the BRICs complete the highly energy-intensive early stages of their economic development (marked by rapid industrialisation, urbanisation and infrastructure development), and as more subtle demographic factors kick in to pull down economic growth rates gradually.

Our projections do not constitute exact forecasts and are intended mainly to illustrate the potential impact of growing BRICs demand on global energy markets. In reality, supply-side constraints (see below) and ensuing price pressures might not allow for such rapid demand growth, and eventually call for greater energy efficiency and diversification into alternative energy sources³. This

could, in turn, push demand growth (especially for hydrocarbons) somewhat lower. That said, energy (and specifically hydrocarbon) demand is likely to remain strong, supporting relatively high prices in the coming decades – much to the benefit of global energy producers. The GCC, as a major energy supplier, should prove no exception and would benefit from emerging strong demand-side pressures and higher energy prices.

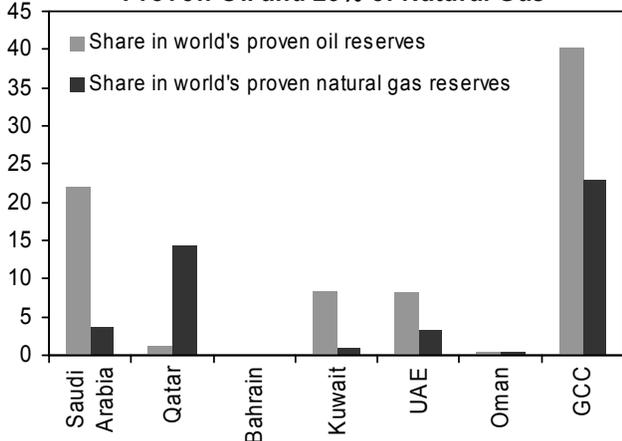
GCC Ideally Positioned to Benefit from Rising BRICs and Global Energy Demand

As is commonly known, the GCC region is exceptionally well-endowed with crude oil and natural gas reserves and, as such, it will continue to play a crucial role in global energy production in the coming decades.

Currently, the region’s proven oil reserves stand at 484.3 billion barrels and natural gas reserves at 41.4 trillion cubic meters – accounting for 40.3% of the world’s proven oil and 23% of natural gas reserves, respectively. The region produces roughly 6.7 billion barrels of crude oil and 195.9 billion cubic metres of natural gas every year. So, even if production levels were to rise substantially through time, the vast natural resource base of the GCC region would still be sufficient to comfortably sustain steady oil and natural gas production for a long time.

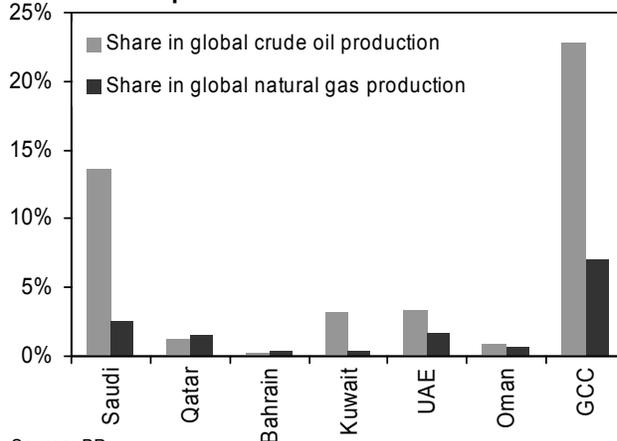
More importantly perhaps, the GCC is set to capture an increasingly large share of the global energy pie in the coming decades. The region’s share of global oil (22.8%) and natural gas production (7.1%) is currently below its share of proven reserves, which suggests that going forward the GCC will contribute increasingly to global oil and natural gas supply. The IEA estimates that during 2005-2030 roughly 38% of the projected increase in the global oil supply will come from the GCC region, with

Chart 4: GCC Holds 40% of World’s Proven Oil and 23% of Natural Gas



Source: BP

Chart 5: GCC’s Share of Oil & Natural Gas Output Still Low Relative to Proven



Source: BP

3. See Box-1 for a more detailed discussion of environmental implications of increased energy demand growth. Also see *BRICs Monthly*, October 18, 2006, Issue No: 06/06, “Why the BRICs Dream Won’t be Green”.

Box-1: Green policies could imply slower hydrocarbon demand growth

The growing energy needs of the global economy will exert considerable pressure on the world's natural resources and the environment. The IEA's projections suggest that global CO2 emissions are set to increase by 50% by 2030 – given current energy consumption patterns, efficiency levels and the growth trend (1.75% pa). Our energy demand projections are considerably more aggressive than the IEA's projections and assume an average consumption growth rate of 2.5% in the coming three decades. Other things being constant, this implies an explosive growth in CO2 emissions. At some point, consumers might have to switch to more environmentally friendly policies that would help check CO2 emissions – emphasising, in particular, increased energy efficiency and the use of alternative (non-carbon-based) energy sources. This could lead to somewhat slower demand growth and perhaps lower prices going forward.

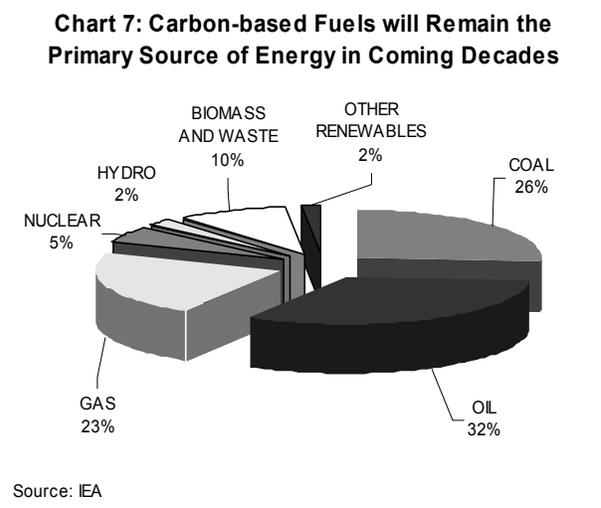
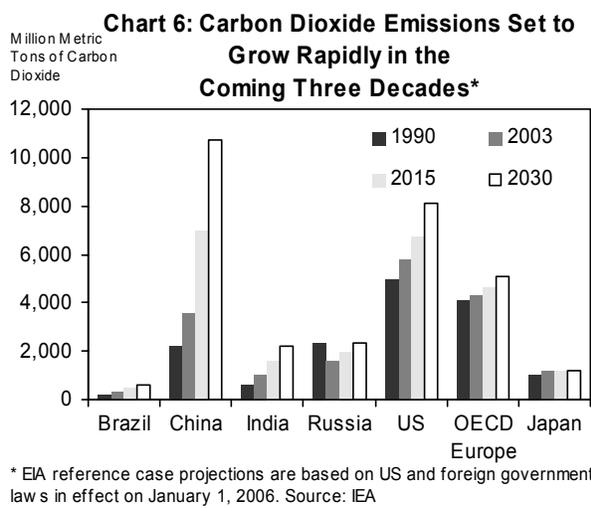
However, the transition to a greener world will take time and, more importantly, the world economy will continue to depend on carbon-based fuels as its primary energy source for two reasons:

- Carbon-based fuels constitute the most robust energy source available to humankind and will continue to play a key role in meeting the world's growing energy needs. A major technological breakthrough on alternative energy sources could change this picture fundamentally. However, it would probably take considerable time, investment and (ironically) carbon-driven energy input to develop, introduce and (perhaps more importantly) diffuse the new technology and subsequently adopt it for mass consumption. In any case, such a breakthrough is currently not on the cards.

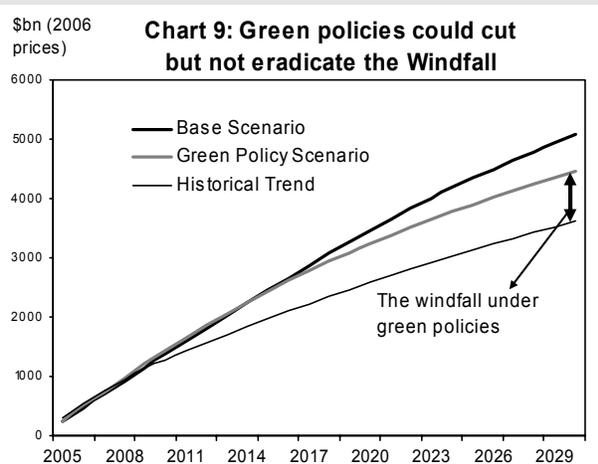
- There is considerable path dependency in our energy consumption patterns and kicking the world's growing carbon-based energy addiction would require strong political commitment and cooperation between consumer countries. Environmental concerns are becoming more widely expressed among key decision makers globally, and there are some encouraging signs that policy makers and politicians are taking environmental constraints more seriously. However, a lot still needs to be done in the US and even in Europe. More importantly, perhaps, it will not be easy for rapidly developing emerging market economies (especially the BRICs) to secure a more energy efficient path to economic development.

Widespread implementation of environmentally friendly economic policies could reduce the oil and natural gas windfall substantially. However, in our view, this is unlikely to eradicate the windfall entirely. The technological path dependency mentioned above and the strong demand from the BRICs and N-11 are likely to ensure steady growth in net oil and natural gas exports from the GCC region, and keep energy prices fairly high through the coming decade. After this point, however, demand growth might slow down and prices might come off, which could push the oil and natural gas revenues somewhat lower, compared with our base-line forecasts discussed in the text. To measure the likely impact of green economic policies on the GCC energy windfall we assumed:

Crude oil export growth rate at 1.8% and natural gas at 5.2%. As such, we cut 2050 net export volumes by 17.6% and natural gas by 5.8% compared with the base line scenario.



Box-1: Green policies could imply slower hydrocarbon demand growth (continued...)



- Oil prices to retreat gradually from \$55/bbl during the 2010s to \$35/bbl by 2030. We also assumed natural gas prices at \$6Mbtu.
- We arbitrarily assumed \$1tr capex, reflecting the substantial costs associated with increasing production, while simultaneously replacing a natural decline in upstream capacity.

These assumptions brought the projected oil and natural gas revenue to \$4.4tr (measured in 2006 prices, expressed in NPV terms), significantly below the baseline \$5.1tr, but still substantially above the \$3.6tr implied by the historical trend scenario. In per capita terms, the projected windfall came in at \$103,000, again below the \$115,500 implied by the base-line and above the \$84,250 suggested by the historical trend scenarios.

regional production growing 72%. GCC natural gas production is also projected to grow rapidly, by more than 200%, during the same period, accounting for roughly 46% of the total projected increase in global natural gas supply.

That said, it will be quite a challenge to increase the region's production capacity at a pace that would match the world's growing demand for energy, and considerable capex will be required to bring new capacity on stream. The region's crude oil reserves are abundant but some of the giant oil fields in the region are aging gradually, with natural 'decline rates' approaching 12% pa in places. Likewise, the region (especially Qatar) boasts some of the largest natural gas reserves in the world, but considerable investment is needed to bring existing reserves into use⁴.

The IEA (rather conservatively) estimates the total capex needed to sustain a steady 2.2% pa increase in crude oil and 5.6% increase in regional natural gas production at roughly \$650bn (measured in 2006 prices) in the coming two decades and a half⁵.

This is a substantial figure, but the GCC governments see further opportunities building in the global economy. They understand the importance of providing affordable energy sources for the overall health of the world economy, and are matching production to growing demand and committing considerable resources to capacity expansion.

Besides this, financing is not as pressing a problem for the more prosperous GCC region as it is for some of the

less developed African, Middle Eastern and Central Asian energy producers. The latter are subject to more serious sovereign risks and do not enjoy the financial means available to the more prosperous GCC economies. They also face much higher extraction costs upstream.

The likelihood of serious 'investment failure' remains relatively limited in the GCC – hence, the region will most likely consolidate its lead as the world's prime energy exporter. This implies sustained and increasing oil and natural revenue inflow into the region, probably well beyond what we have seen in previous decades.

GCC's Net Cumulative Energy Windfall Could Reach \$5tr in the Next 25 Years

To put the region's long-term windfall potential into some quantitative perspective, we projected GCC oil and natural gas revenues going into 2030. We developed two scenarios: base and the historical trend.

- Our **base scenario** more or less captures the picture we have depicted above: i.e., sustained, strong global demand for carbon-based fuels, coupled with robust capex growth, and steady capacity expansion. We set all parameters in line with our global energy demand forecasts. More specifically, we assume:
 - Oil and natural gas exports from the region will grow on average by 2.5% and 5.5% pa during 2005-2030, consistent with our global energy demand growth projections.
 - We set the average oil price at \$48/bbl, above the \$35/bbl post-war average (both measured in

4. For a more detailed (albeit somewhat speculative) discussion of some of the supply side constraints in global energy markets see Defferves, K. S. (2002) *Hubbert's Peak: The Impending World Oil Shortage*, I.P. 2001. Oxfordshire, UK: Princeton University Press; Leggett, J. (2005) *Half Gone, Oil, Gas, Hot Air and the Global Energy Crisis*. Cornwall, UK: Portobello Books; Kunstler, J. H. (2005) *The Long Emergency: Surviving the Converging Catastrophes of the Twenty-First Century*. London, UK: Atlantik Books.

5. IEA (2005) *World Energy Outlook: Middle East and North Africa Insights*. Paris, France: OECD/IEA.

2006 prices). We basically assumed that prices would prove ‘sticky’ in the coming 15 years, due mainly to strong demand growth and supply-side constraints. Beyond 2020, we assumed that the pressure would ease as new production capacity comes on stream and as demand pressures moderate somewhat, allowing the oil price to retreat gradually towards \$40/bbl. We also assumed flat \$6.5Mbtu for average natural gas price (measured in 2006 prices).

- We assumed \$1.2tr capex (measured in 2006 prices) during the forecast period, well above the \$650bn projected by the IEA. As such, we accounted for potential supply-side challenges involved in raising production levels to match growing demand.
- The **historical trend** scenario is intended mainly to relativise the two main scenarios – setting all key model parameters (i.e., prices and the net export growth rate) at their respective 35-year average, which encompasses two major oil shocks (1974 and 1979), one major investment cycle (1972 to 1982), and three regional wars (Iran-Iraq and the two Gulf Wars), which all led to major price increases.
 - We assumed 1.8% net crude oil export growth and 3% natural gas for the forecast period, well below the assumptions of our base scenario.
 - We set the average crude oil price at the historical \$35/bbl average and natural gas at \$4.7Mbtu – flat (both measured in 2006 prices).
 - We set capex at \$600bn, in view of the very low extraction costs that have prevailed throughout the region in the past four decades.

Needless to say, our projections are highly stylised and do not constitute exact revenue forecasts. We provide more detailed sensitivity analysis in Box-1, discussing in particular the potential impact of environmentally friendly economic policies on the region’s oil and natural gas revenue outlook. But the exercise gives a good sense of the windfall that is likely to accrue in the coming decades. Our main findings are as follows:

- **A huge windfall:** The oil and natural gas revenues projected under the base policy scenario remain well above what is suggested by the historical trend scenario – implying an extra-normal revenue flow. Specifically, measured in NPV terms (using a discount rate of 6.5%), projected cumulative oil and natural gas revenues for the 2005-2030 period amount to \$5.1tr in

the base scenario, significantly higher than the \$3.6tr implied by the historical trend scenario.

- **Massive ‘wealth creation’:** Population growth is expected to remain fairly robust throughout the region during the forecast period (see below), so there will be more GCC citizens to share the windfall in the coming decades. But, reducing our forecasts to per capita terms does not change the picture fundamentally. Specifically, our projections put the cumulative per capita oil and natural gas export revenue (again measured in NPV terms) at \$115,500 in the base scenario, well above the relatively modest \$84,250 implied by our historical trend scenario. Note that regional (nominal) per capita income currently stands at around \$20,500, which implies serious wealth creation in the region during the forecast period under the base scenario.
- **Inflows will peak in the next 15 years.** Our projections suggest that the bulk of the windfall is likely to accrue in the coming decade or so, when we expect BRICs demand to peak, and alternative energy use and energy efficiency gains to remain limited. In the base scenario, roughly 65%-70% of the total projected revenues accrue within the next 15 years. Beyond 2020, the pace of revenue inflows ‘normalises’ somewhat.

III. Old Challenges and New Opportunities

The ‘natural resource curse’ and regional instability will continue to haunt the GCC

The sizeable windfall implied by our projections suggests that the GCC will remain as a structural current account surplus region in the global economy and will be able sustain high investment levels and generate strong, welfare-enhancing economic growth in the coming decades.

The key question is whether this potential will be realised or not. We believe that important challenges will have to be overcome, and we also see certain macroeconomic and institutional weaknesses that could undermine the region’s long-term growth potential. However, we believe that, with some effort and good economic management, the region can make a leap forward and emerge as one of the most prosperous regions of the world in the coming decades.

We see two main, overarching impediments/rigidities: one related to the broader Middle East risk and the other linked to the so-called ‘natural resource curse’⁶.

- **The Middle East risk:** The GCC is located in what has been one of the most unstable regions of the

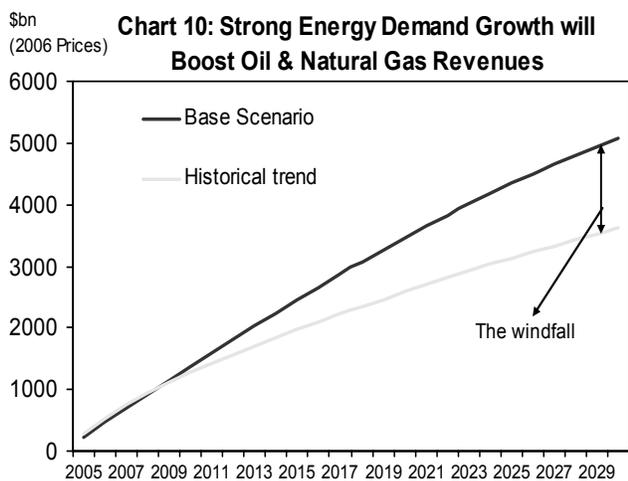
6. For a thorough discussion of the natural resource curse and its implications for long-term economic growth, see Sachs J. and Warner (1995) “Natural Resource Abundance and Economic Growth”, in Meier and Rauch (eds) *Leading Issues in Economic Development*, New York, US: Oxford University Press; Sala-i Martin and Subramanian (2003) “Addressing the Natural Resource Curse: An Illustration from Nigeria”, IMF Working Paper, WP/03/139.

Table 1: Projected Oil & Natural Gas Revenues (Total and Per Capita)

	Base Scenario	Green Policy	Historical Trend
Nominal Oil and Natural Gas Exports (\$bn)	13,493	10,935	8,234
Nominal Capex (\$bn)	1,969	1,395	450
Net Nominal Oil and Natural Gas Exports (\$bn)	11,524	9,541	7,784
NPV Net Nominal Oil and Natural Gas Exports (2006 dollars, bn)	5,070	4,449	3,618
NPV Net Nominal Oil and Natural Gas Exports Per Capita (2005 Dollars)	115,687	103,174	84,235
Crude Oil Prices (2006 prices)			
2005	50.6	50.6	50.6
2010	55.0	55.0	35.0
2020	50.0	40.0	35.0
2030	40.0	35.0	35.0
Average Annual Net Export Growth			
Crude Oil	2.5%	1.8%	1.7%
Natural Gas	5.5%	5.2%	3.0%

World. Many complex examples from the past and today are well known, including the Arab-Israeli conflict, Iraq’s ongoing instability, Iran’s external relations, growing friction within different religious faiths. They all still stand as key risk factors that could destabilise the broad Middle East region (and the rest of the world) in a major way. GCC countries may (controlling a good chunk of the world’s hydrocarbon reserves) have to commit considerable resources to enhancing their defense capabilities, diverting resources from possibly more efficient uses. The need to constantly secure domestic political stability surrounding the GCC could dent political and economic reforms, rendering it more difficult to address deep-rooted incumbency problems⁷.

■ **‘Natural Resource Curse’ – Rent-Seeking and ‘Voracity’:** The GCC represents an extreme resource endowment case, characterized by strong rent seeking opportunities and motives and relatively weak institutional (market) structures. In the past, the distribution and use of economic resources have not necessarily taken place in efficient allocation. All too often, networks of patronage and clientelism have led to economic inefficiency.⁸ Past windfalls have resulted in dramatic increases in government spending, leading to considerable economic waste.⁹ It is possible that any future revenue windfall implied by our projections could repeat past tendencies, creating considerable inertia in the region’s transition to a more market based economy characterized by more commonly accepted rule of law and strong market institutions¹⁰.



Source: IEA and GS Projections

Overall the GCC’s Growth Environment has Improved Significantly

That said, the GCC economies are undergoing a major economic transformation. The GCC governments now place a great deal of emphasis on economic diversification, openness and market regulation, as well as on infrastructure and human resource development. These reform efforts, combined with the oil and natural gas revenue boon, are helping to improve the overall growth environment and pulling the region’s long-term growth potential above the rather disappointing 3.5% average of the past few decades¹¹.

Our Growth Environment Score (GES) indices capture the fundamental improvement that has taken place across

7. For a comprehensive discussion of regional challenges to the GCC’s economic and political stability, see The Gulf: Challenges of the Future. Abu Dhabi, UAE: The Emirates Centre for Strategic Studies and Research.

8. For a comprehensive discussion on the historical connection between growth retardation and rent seeking behaviour see North, D, J.J. Wallis and B. Weingast (2006) “A Conceptual Framework for Interpreting Recorded Human History”, NBER Working Paper, NO. 12795: Cambridge MA.

9. For a detailed discussion on the links between resource endowment, rent seeking and ‘voracity’, see Tornell and Lane (1998) “Voracity and Growth”, NBER Working Paper, No. 6498.

10. For a more detailed discussion of rent seeking motives in the Middle East, see Hertog, S. (2006) “Segmented Clientelism: The Political Economy of Saudi Economic Reform Efforts”, in Aarts and Nonneman (eds.) Saudi Arabia in the Balance: Political Economy, Society, Foreign Affairs. I.P. 2005. London, UK: Hurst&Company, pp. 111-143.

Box-2: The case for greater exchange rate flexibility

If global energy demand grows strongly in the coming decades and if, as we argue, this secures a steady inflow of extra-normal revenue to the region, then it would become increasingly difficult under the current fixed exchange rate regime to reconcile price stability and rapid economic development objectives.

There are a number of reasons for this. First, with local currencies fixed firmly to the Dollar, the ToT shock (from high energy prices) would be passed on directly to domestic prices, because energy figures prominently in the consumption bundle and as a productive input in the non-carbon sectors.

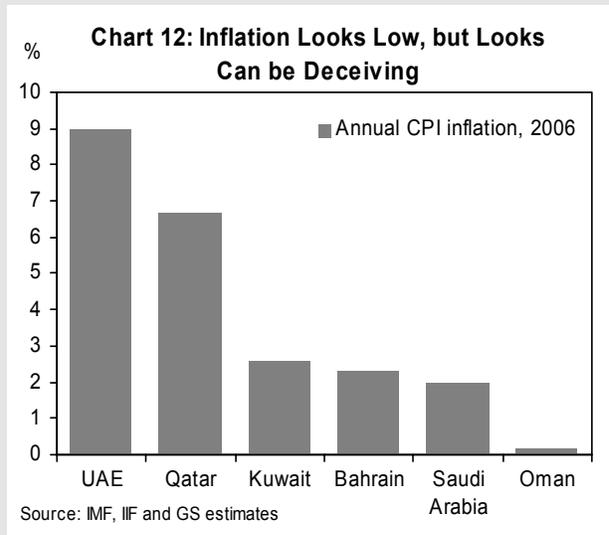
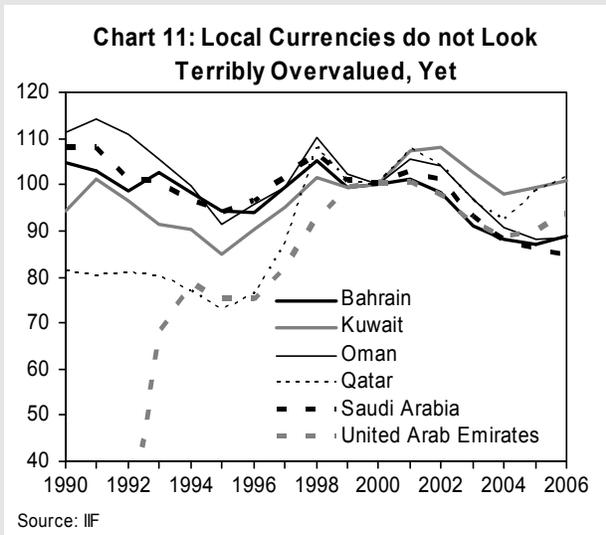
Second, the wealth effect of the oil and gas windfall will raise domestic spending, which will fall in part on non-traded goods. Compared with a scenario without the oil windfall, this will result in an appreciation of the real exchange rate (an increase in the relative price of non-traded to traded goods). Resources will also be drawn into the production of non-traded goods and services, and out of the non-carbon tradeable goods sectors. This ‘Dutch disease’ scenario need not necessarily signal a problem, since an increase in the demand for non-traded goods and services is a natural consequence of greater wealth. It is, however, essential that the (relative) reduction in the size of the non-carbon tradable producing sectors does not ‘overshoot’, and result in an excessive reliance on oil and gas exports. At a fixed nominal exchange rate vis-à-vis the US Dollar, the required real exchange rate appreciation can only occur through a rate of inflation of domestic costs and prices that is higher than that in the US and the other US Dollar-pegging countries. This higher inflation should only be temporary, however, as the required adjustment involves an increase only in the level of a key relative price. This wealth effect is in addition to the direct price

level effect of an increase in the US Dollar price of energy. It would also occur, for instance, if the windfall resulted not from an increase in the Dollar price of oil and gas but from a new discovery of carbon reserves.

Third, in addition to the Dutch disease effect of a carbon windfall, there is also the Balassa-Samuelson effect, associated with a successful convergence of domestic productivity levels to those in the advanced countries. If and when successful catch-up or convergence occurs in the non-oil and gas producing sectors of the economy, productivity catch-up in the traded goods sectors tends to be more rapid than in the non-traded sectors. This means that, if factors of production can flow relatively easily between these two sectors, the relative price of non-traded goods will rise. This supply-side driven real exchange rate appreciation is quite distinct from the demand-driven ‘Dutch disease’ appreciation described in the previous paragraph. This phenomenon can also be expected to persist for as long as real catch-up or convergence takes place. For the GCC region, that could be a period of several decades. With a fixed nominal US Dollar exchange rate, ‘Balassa-Samuelson’ real exchange rate appreciation requires inflation in excess of that in the rest of the US Dollar-pegging world.

Lastly, although we expect the GCC to be net exporters of capital for the foreseeable future, the desire of the monetary authorities in the region for large foreign exchange reserves and periodic large inflows of private capital can easily lead to excessive creation of money and liquidity. This could, in turn, lead to excessive domestic credit expansion and speculative excess.

All these factors will make it increasingly difficult to maintain price stability with a fixed exchange rate peg to the Dollar. Under a more flexible monetary policy



Box-2: The case for greater exchange rate flexibility (continued...)

regime, it would be easier to reconcile price stability and diversification/growth objectives – more effective liquidity management, on the one hand, and greater exchange rate flexibility, on the other, would help absorb the ensuing pressure on domestic prices.

A more flexible exchange rate regime is not without risks, however. One risk here could be excessive exchange rate appreciation, which could lead to a crippling form of the ‘Dutch disease’ and undermine diversification efforts. So, a more flexible exchange rate regime would have to be supported by institutional and structural reforms that would enhance the ability of the monetary authorities to resist exchange rate overshooting, and would facilitate productivity growth and bolster labour market flexibility. Also, fiscal policy would have to become increasingly more counter-cyclical, rather than pro-cyclical, so as to smooth the cycles.

At any rate, the transition from existing pegs to a more flexible exchange rate regime would have to be gradual. The Dollar pegs have served well as solid nominal anchors in past decades and the institutional structure needed to support more flexible exchange rate regimes are not in place. The first step would probably be towards greater exchange rate flexibility, via the adoption of a composite currency basket peg, which would help reduce the inflationary effects of sharp movements in major currency crosses. The next step would be to prepare the institutional basis for the implementation of more flexible monetary policy regimes, placing much emphasis on the development of local debt markets and also proper central bank independence. Lastly, size matters. The GCC countries would be well-advised to maintain a fixed exchange rate among themselves, while introducing greater flexibility of their common external exchange rate.

the region and the solid growth potential. The GES is an objective summary measure of 13 variables that drive productivity and help to achieve a country’s growth potential. We look at a set of key socio-economic and demographic parameters. We then typically use our GES measures to compare growth conditions across a broad range of countries and to assess whether our long-term GDP and per capita income growth projections are likely to become a reality or not¹².

The results of our recently updated GES measures show a rather encouraging picture for the GCC region. Without exception, the GCC economies now occupy top positions in our global rankings. Specifically, Qatar and UAE rank 24th and 25th, while Kuwait, Oman, Bahrain and Saudi Arabia occupy 32nd, 39th, 42nd and 43rd places (out of 177) in the GES rankings, above (for example) Greece (44th), Hungary (47th), Poland (54th), China (58th) and Mexico (68th).

Among developing economies, the region stands out: Qatar and UAE rank 1st and 2nd, and Kuwait, Oman, Bahrain and Saudi Arabia follow in 4th, 8th, 9th and 10th place, respectively – all well above the BRICs and the N-11 (save South Korea). Among developed high income group countries, Qatar and UAE compare quite well with their peers, while Kuwait, Oman, Bahrain and Saudi Arabia also do fairly well – although in the latter group there is considerable room for improvement, especially in human resource development, technology use, political stability and governance (see below). In any case, our GES indices show that the region’s growth

potential remains as good as that of any developing economy.

The Base Line: Solid Growth and Rapid Convergence

In order to put the region’s potential in quantitative perspective, we used our GDP projection models, which we first used in our BRICs projections. The model is based on neo-classical growth theory and sets labour, capital and total factor productivity (TFP) as key determinants of long-term economic growth (see Appendix-2 for details of the model).

In projecting GDP levels for the GCC going into 2050, as base-line, we made a conscious effort to keep our assumptions as conservative as possible:

- **Investment levels, at average for past 10 years:** We set the underlying gross investment rate at the average over the past 10 years for each GCC economy; specifically, at 15.2% for Bahrain, 15.6% for Kuwait, 15.7% for Oman, 17.9% for Saudi Arabia, 24.7% for UAE and 28.5% for Qatar. As such, we did not factor in a major improvement in the overall investment climate in constructing our base-line projections, and we assumed reasonably low investment levels, notwithstanding the extra-normal revenue inflow. In other words, we assumed that the region would remain a capital exporter and diversify more gradually going forward.

11. For recent reform efforts in the GCC region, see Malik, M. and T. Niblock (2006) “Saudi Arabia’s Economy: The Challenge of Reform”, in Aarts and Nonneman (eds.) *Saudi Arabia in the Balance: Political Economy, Society, Foreign Affairs*. I.P. 2005. London, UK: Hurst & Company, pp. 85-110.

12. For a more detailed discussion of GES, please refer to *Global Economics Paper No. 148*, November 8, 2006. “You Reap What You Sow: Our 2006 Growth Environment Scores (GES)”.

■ **Relatively subdued productivity growth:** Despite the high GES rankings of the GCC economies, we set the convergence ratio (the other key parameter in our projection models capturing TFP growth) at 0.8% for the entire 2006-2050 period – towards the lower end of the c.1%-1.5% we use for our BRICs and most of our N-11 projections. As such, we conservatively assumed relatively subdued TFP growth for the region, reflecting the overall growth-retarding effects of the above-mentioned structural rigidities and geopolitical challenges.

■ **Gradual demographic normalisation:** Lastly, we set regional population growth rates around 2%-2.5% until 2015, around 1.5% until 2040 and slightly above 1% until 2050. As such, we assumed a gradual demographic ‘normalisation’.

Under these fairly conservative assumptions, our projections suggest reasonably rapid economic growth and convergence. By the first half of the 21st century, the GCC could become comparable to major developed economies – both in terms of size and per capita income levels. Specifically, we project the region’s total GDP in 2050 at \$4.5tr, or just under the projected GDP levels of Germany (\$4.9tr) and France (\$4.5tr). We estimate the region’s 2050 per capita GDP at \$63,250, which compares favourably with that of such leading industrial economies as Japan (\$69,000), Germany (\$67,000) and Italy (\$58,000). Accordingly, we project the income gap with the G-7 to narrow quite significantly, to roughly 77% of the projected G-7 average, up from the current 50%.

An Alternative ‘Dream Scenario’

The region potentially could have a lot more to offer than our conservative base-line projections suggest. The growth and convergence potential implied by the base-line scenario is no doubt impressive, but it also does not suggest as robust a convergence as that of the BRICs or some of the stronger N-11 economies. To realise its full

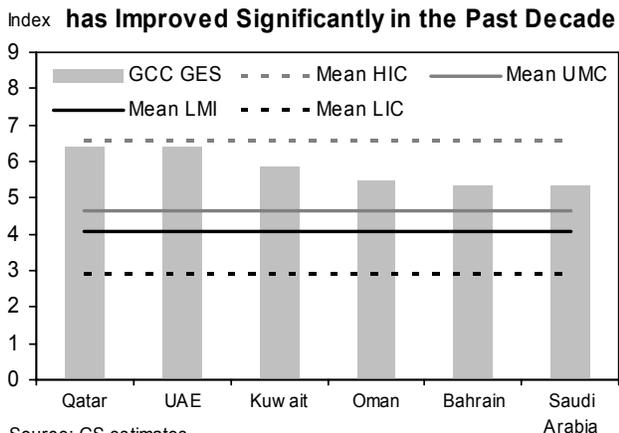
potential, the region will have to put stronger emphasis on improving the overall investment climate, and more importantly on technology and human resource development.

■ **Investment levels are low:** The investment levels prevailing throughout the region remain fairly low by international standards. The rapidly diversifying economies of Qatar and the UAE are the big spenders of the region, with average investment levels hovering around 25%-30%. These compare well with the levels in China (34%), Korea (31%), Vietnam (29%), Japan (26%) and India (23%) (all 10-year averages). These economies are probably testing the limits of their absorption capacity; they are already growing rapidly and can probably do very little to bolster investment levels further without creating more serious macroeconomic imbalances – namely chronic inflation, both in goods and service and asset prices (see Box-2). However, Saudi Arabia, Oman, Kuwait and Bahrain are still well behind, with their respective investment levels averaging a mere 15%-18%. Relative to the massive pool of economic resources at their disposal, the absorption level of these economies probably remains well below potential. They can comfortably raise investment levels and commit more resources to economic diversification.

■ **The region is lagging its peers in technology use.** Our GES indices also show that the region is lagging behind its peers in high income countries (HIC) in terms of technology use and human resource development. On technology use, the region is well behind the HIC and resembles more closely an upper middle income economy (UMC). The GCC can therefore benefit immensely from greater economic openness, which would help facilitate the transfer of technology and know-how.

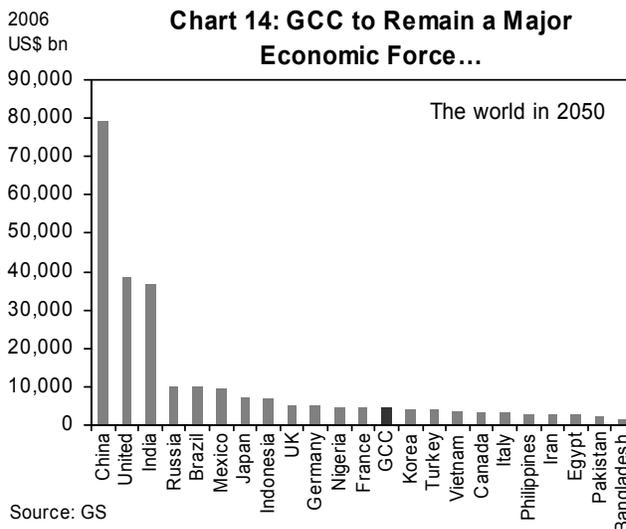
■ **Human resource base is not sufficiently strong.** On human resource development, the region is ranked just below the HIC and slightly above UMC averages, but

Chart 13: The Overall Growth Environment has Improved Significantly in the Past Decade

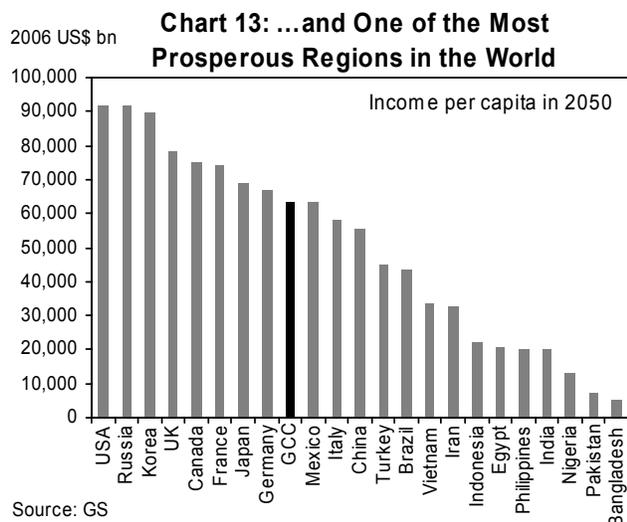


Source: GS estimates
 Note: HIC: High Income Country; UMC: Upper Middle Income Country; LMI: Lower Middle Income Country; LIC: Low Income Country.

Chart 14: GCC to Remain a Major Economic Force...



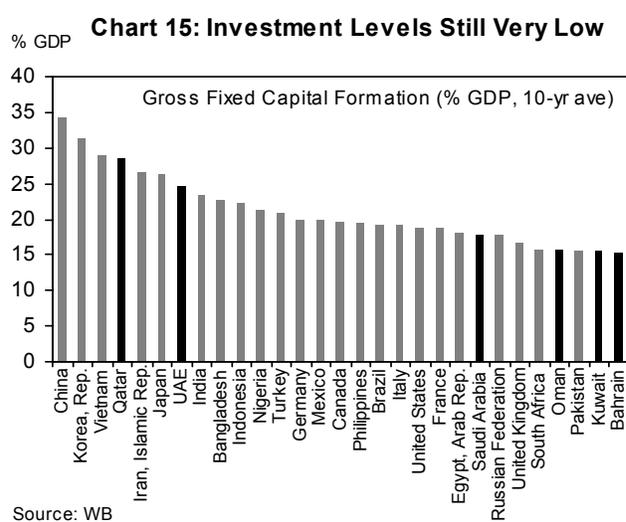
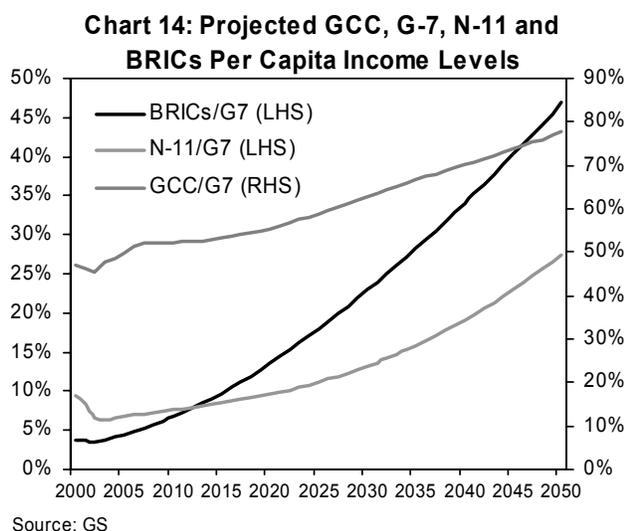
Source: GS



there is still considerable room for improvement. Specifically, the region can benefit immensely from a further improvement in education and health standards, which would help bolster TFP growth and further economic development over the longer term. Another major constraint here is the low female labour participation ratio, which still hovers around a disappointing 25%-30%. There are cultural obstacles here, but the region could benefit immensely from the incorporation of women into the active labour force, which would help strengthen the region's demographic dynamics even further¹³.

In order to demonstrate the hidden potential here, we adjusted two key parameters of our GDP projection models to capture the impact of a more robust investment climate, and stronger technology and human resource base:

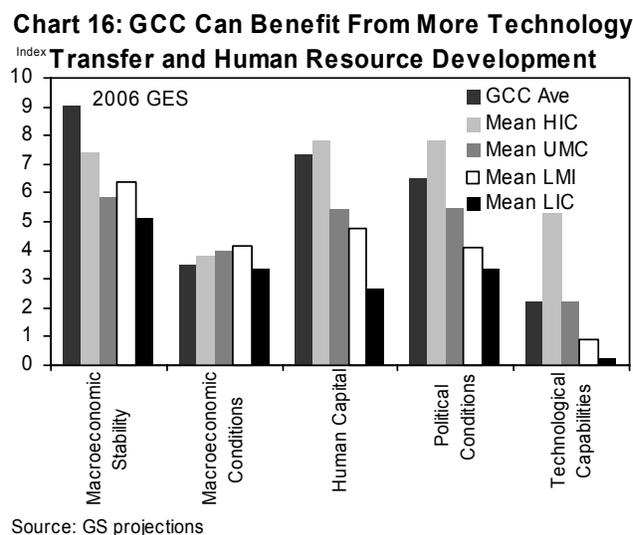
- We set the **investment ratio** one standard deviation above the 10-year average for Saudi Arabia (19.7%),



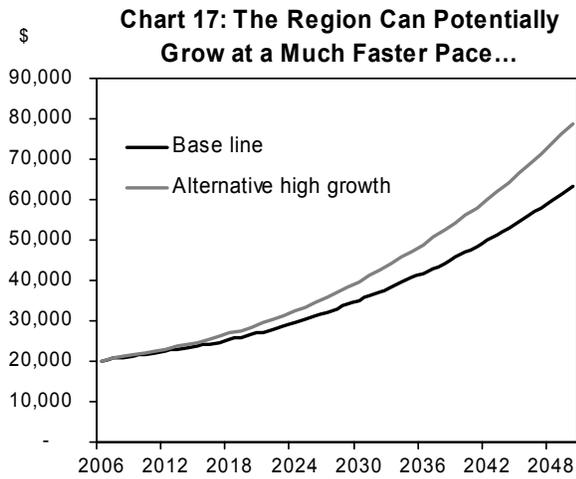
Kuwait (21.6%), Oman (18.9%) and Bahrain (19%) and left investment ratios for the region's big spenders, UAE and Qatar, unchanged at 24.7% and 28.5%, respectively.

- We set the **convergence ratio** at 1% until 2035 and to 1.2% thereafter, above the 0.8% we assumed in the base line and more consistent with the region's exceptionally high GES scores – with a view to incorporating the productivity gains to be reaped from technology transfer and diffusion and human resource development.

Under these assumptions, the region comfortably achieves promotion to the league of advanced economies. Specifically, the region's GDP hits \$5.5tr by 2050 (well above the \$4.5tr projected in the base line), overtaking such leading industrial economies as the UK and Germany (both around \$5tr) and moving closer to Indonesia (\$6.7tr) and Japan (\$7trn). In tandem, per capita GDP reaches \$78,800 and the income gap with the



13. For female participation in Gulf labour markets see Fakhro, A. A. (2005) "The Changing Role of Women in the Gulf Region", in The Gulf Challenges of the Future. Abu Dhabi, UAE: The Emirates Centre for Strategic Studies and Research, pp. 391-422.

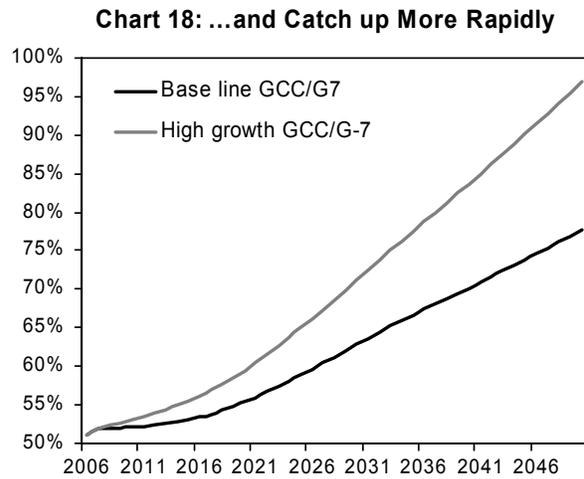


Source: GS

G-7 and the GCC disappears almost completely, with GCC per capita GDP reaching 97% of the G-7 average.

As we have discussed above, the odds against this ‘dream’ scenario are high and there is a risk that deep-rooted structural weaknesses and regional instability might continue to hold back the GCC region from *fully* realising this huge economic potential. It is more likely that the region will grow into a ‘dual’ economic structure characterised, on the one hand, by ultra modern Dubai-like ‘growth-poles’ and, on the other, by continuing inefficiency and ‘waste’ in general resource utilisation.

However, the GCC’s long-term economic potential is immense and we firmly believe that, with a little bit of effort, the region can capitalise on the new opportunities presented by the fast-globalising world economy and



Source: GS

emerge as a leading economic power in the coming decades.

This globally driven economic transformation and development process will also provide some strong support for regional asset prices (particularly to equity prices) and drive regional currency substantially stronger in the coming decades. In that sense, we do not see the GCC solely as a source of capital for the rest of the world, but also as a long-term investment story, with significant upside potential.

Ahmet Akarli

Appendix 1: How the GDP Projection Model Works

Growth Model

We provide detail on the underlying assumptions of our models. The model relies on a simple formulation of the overall level of GDP (Y) in terms of a) labour (L) b) the capital stock (K) and c) the level of “technical progress” (A) or Total Factor Productivity (TFP).

We assume that GDP is a simple (Cobb-Douglas) function of these three ingredients:

$$Y = AK^\alpha L^{1-\alpha}$$

where α is the share of income that accrues to capital.

We then need to describe the process by which each of the different components (labour, the capital stock and TFP) change over time.

- For L , we simply use the projections of the working age population (15-60) from the US Census Bureau.
- For K , we take the initial capital stock, assume an investment rate (investment as a % of GDP) and a depreciation rate to calculate the growth in the capital stock:

$$K_{t+1} = K_t(1 - \delta) + \left(\frac{I_t}{Y_t}\right)Y_t$$

- For A , the description of technical progress, we assume that technology changes as part of a process of catch-up with the most developed countries. The speed of convergence is assumed to depend on income per capita, with the assumption that as the developing economies get closer to the income levels of the more developed economies, their TFP growth rate slows. Developing countries can have faster growth in this area because there is room to ‘catch up’ with developed countries:

$$\frac{A_t}{A_{t-1}} = 1.3\% - \beta \ln\left(\frac{\text{Incomepercapita}_{DC}}{\text{Incomepercapita}_{US}}\right)$$

where β is a measure of how fast convergence takes place and 1.3% is our assumed long-term TFP growth

rate for the US.

The assumptions needed to generate the forecasts are summarised below:

- Labour force and population, from the US Census Bureau projections
- Depreciation rate (δ) assumed to be 4% as in the World Bank capital stock estimates
- Investment rate assumptions based on recent history, for Brazil (19%), for India (22%) for Russia (25%) for China (36% until 2010, declining to 30% thereafter).
- Income share of capital assumed to be 1/3, a standard assumption (α) from historical evidence
- US long-run TFP growth assumed to be 1.33%, implying steady-state labour productivity growth of 2% - our long-run estimate.
- Convergence speed for TFP (β) assumed to be 1.5%, within the range of estimates from academic research.

Exchange Rate Model

Our model of real exchange rates is then calculated from the predictions of labour productivity growth. Specifically, we assume that a 1% productivity differential in favour of economy A relative to the US will raise its equilibrium real exchange rate against the US dollar by 1%, where our long-run assumption for US productivity growth is again 2%.

$$\Delta \ln(e) = \Delta \ln\left(\frac{Y}{L}\right) - 0.02$$

This assumption that the relationship is one-for-one underpins our GSDEER models and the coefficient on relative productivity terms in our GSDEEMER models is generally also clustered around 1. We make the simplifying assumption that over the long term, only productivity differentials play a large role in determining real exchange rates.

Appendix 2: Technical Problems in Projecting GCC GDP levels – The ToT effect

Methodological Problems and the ToT effect

Our long-term growth models project GDP levels in real USD terms, based on the assumption that inflation differentials will be offset by PPP assumptions on the exchange rate side of the model. In other words, our methodology does not control for the impact of the shifts taking place in the terms of trade (ToT) on GDP levels. This simplifying assumption leads to certain methodological difficulties for GCC economies. Basically, the CPI and the GDP deflators tend to be substantially different for GCC economies, where the hydrocarbon sector accounts for 20%-50% of the economy and a sizeable amount of consumption goods are imported. A change in the terms of trade leads therefore to a corresponding shift in CPI and GDP differentials, which, in turn, leads to a substantially lower/higher GDP level, depending on the direction of the ToT move. So, it is important to consider also the ToT effect in projecting GDP levels for GCC economies.

Modelling the ToT effect

Let P_C be the consumer price index, P_X the price of exports (oil), P_M the price of imports, P_T the traded goods price index and P_V the GDP deflator.

Let

$$P_C = P_T^\alpha P_N^{1-\alpha} \quad (1)$$

$$P_T = P_X^\beta P_M^{1-\beta} \quad (2)$$

$$P_V = P_X^\gamma P_N^{1-\gamma} \quad (3)$$

It follows that:

$$\frac{P_V}{P_C} = \left(\frac{P_X}{P_M} \right)^{\gamma(1-\beta)} \left(\frac{P_N}{P_T} \right)^{\alpha-\gamma} \quad (4)$$

Where $\frac{P_X}{P_M}$ is the terms of trade and $\frac{P_N}{P_T}$ is the real exchange rate or the relative price of non-traded to traded goods.

It is a reasonable approximation to assume that the share of non-traded goods in the consumption bundle is the same of the share of non-traded goods production in value added, that is, $\alpha = \gamma$. So the ratio of the value-added deflator to the consumer price index simplifies to

$$\frac{P_V}{P_C} = \left(\frac{P_X}{P_M} \right)^{\gamma(1-\beta)} \quad (4)$$

which is the terms of trade to a power (less than 1) equal to the product of the share of exports in value added times the share of imports in the consumption bundle of traded goods. If the share of exports (oil) in consumption is very small (that is, $\beta \approx 0$), this further simplifies to

$$\frac{P_V}{P_C} = \left(\frac{P_X}{P_M} \right)^\gamma = \left(\frac{P_X}{P_M} \right)^\alpha \quad (4)$$

What does this imply for our projections?

A simple sensitivity analysis based on the model discussed above suggests that every \$5/bbl fall in the average oil price would trim roughly \$210bn off the 2050 GDP level and about \$2,950 off estimated per capita income – assuming that the share of imports in the consumption bundle of traded goods is 60% for the region and that the ratio does not change in time (i.e., there is no diversification)¹⁴. So, if the oil price were to fall to \$40/bbl (from the current \$65/bbl) by 2050, this could imply a GDP level of \$3.3tr, significantly below our base-line \$4.5tr projection. Per capita income would also fall to \$47,300, from the base line \$63,250.

If, however, the region can diversify and reduce its dependency on imports, it would be possible to compensate at least partly the adverse ToT impact. We calculate that every 5 percentage point fall in the import dependency ratio would add \$85bn to the estimated 2050 GDP level and \$1,200 to the projected per capita income levels. This suggests that extensive diversification will be required to minimise the region's sensitivity to potential ToT shocks.

14. Note that there are no official data on consumption prevailing throughout the region, so it is not possible to determine with accuracy the share of imports in the regional consumption bundle. The share of imports in GDP stands at around 35%-40% and does not exceed 55%. Our 60% assumption looks sufficiently conservative here.

As discussed extensively in the preceding analysis, our base-line does not assume a major deterioration in the ToT in the coming two decades, as fast-growing BRIC and N-11 energy/hydrocarbon demand exerts pricing pressure on global energy markets. The coming two decades, therefore, may be the GCC's prime opportunity to diversify and strengthen the economy. The GCC economies would also be best advised to diversify the region's vast savings base and maximise long-term investment returns, so as to minimise as much as possible the potential wealth losses that could emerge from adverse ToT shocks.

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