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## Strategy and Economics

### UAE: A Closer Look at Dubai's Debt

**In this note, we attempt to assess the extent of Dubai's public sector debt and its potential burden on the emirate's finances. We also evaluate the current pricing of Dubai's credit in relation to its peers, based on current market valuations.**

**The direct non-bank liabilities of the Dubai government currently amount to about US\$18.7 billion.** In addition, we estimate that the debt of Dubai's government-related entities (GREs) currently stands at around US\$89 billion, or 116% of the emirate's GDP.

**The burden of servicing Dubai government's direct debt is not likely to be onerous in the medium term.** However, this could change should the emirate's most strategic GREs turn to it for assistance in servicing their debt; in this case, interest expense could account for about a third of government spending by 2011.

**Debt restructuring: The more the better for the sovereign.** We considered three different restructuring scenarios and analysed the impact of different possible haircuts on external debt/GDP dynamics. We believe that a haircut on the external debt at risk in the area of 40-50% is necessary to have a notable long-term favorable impact on public debt dynamics.

**Strategy conclusion: Value in selling Dubai 5Y CDS.** The current level of 5Y Dubai CDS (450-500bp) looks attractive on a medium-term basis, and in the first instance is likely to decrease towards 300-350bp if our macro/restructuring assumption were to materialize.

#### Recent Reports

| Title  | Date         |
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| Economics: UAE: An Unexpected Restructuring<br>Mohamed W Jaber                   | Nov 26, 2009 |
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#### Outstanding Public Sector Debt as of December 2009

| US\$ million          | Disclosed Debt 1/ | Other Est. liabilities 2/ | Total Est. Liabilities |
|-----------------------|-------------------|---------------------------|------------------------|
| Dubai World           | 26,219            | 7,866                     | 34,085                 |
| Dubai Holding         | 15,090            | 4,527                     | 19,617                 |
| ICD                   | 28,275            | 5,655                     | 33,930                 |
| Dubai Government      | 18,700            | 0                         | 18,700                 |
| Other Entities        | 1,885             | 0                         | 1,885                  |
| <b>Total</b>          | <b>90,169</b>     | <b>18,048</b>             | <b>108,217</b>         |
| <i>Total (ex-Gov)</i> | <i>71,469</i>     | <i>18,048</i>             | <i>89,517</i>          |

Source: Dealogic, Loanware, Bloomberg, Morgan Stanley Research and other information sources; Notes: 1/ Publicly disclosed bonds and loans based on information from the sources above; 2/ Non-disclosed loans and other liabilities estimated at around 30% for Dubai World and Dubai Holding, 20% for ICD.

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The Dubai government's announcement on November 25 that it intended to restructure the debt of Dubai World and its subsidiary Nakheel took investors by surprise. Although the markets' initial sharp reaction has since subsided, significant uncertainty remains due to the dearth of information regarding the scale and scope of the emirate's debt problems. This event has particularly shone the light on Dubai's fiscal standing against the background of its significant public sector debt. In this note, we attempt to assess the extent of this debt and its potential burden on the emirate's finances. We also evaluate the current pricing of Dubai's credit in relation to its peers based on current market valuations.

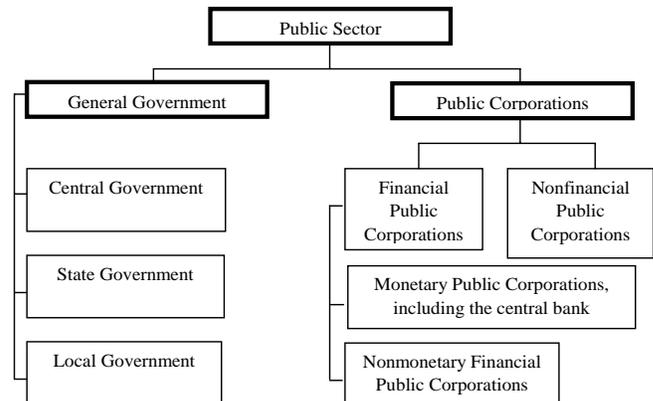
## Dubai's Debt Burden

**To most investors, the line of demarcation between the Dubai government and its quasi-public corporations was not clearly defined.** However, this issue has now been brought to the forefront following recent official statements indicating that the debt of Dubai World, a wholly-owned entity of the Dubai government, may not be guaranteed by the government. To be sure, this was not the first time that the authorities had signaled their limited liability with respect to the debt of its related entities. Back in October, it highlighted in its bond prospectus that "the Dubai government is under no obligation to extend support to any ... GRE [government-related entity]".

**Nevertheless, it may not be possible to completely absolve the government from the liabilities of its related entities.** To be sure, it has been increasingly argued that a clear distinction needs to now be drawn between the debt owed directly by the government and that owed by its quasi-public entities. However, we would argue that although this distinction may be technically correct, both types of liabilities still fall under the rubric of public sector debt. As shown in Exhibit 1, public sector debt encompasses the debt owed directly by the government as well as that owed by public corporations – i.e., entities controlled by government units. As such, it may not be possible to completely disassociate the sovereign from the debt owed by government-controlled entities. However, the extent of a government's contingent exposure to the debt owed by such entities is likely to depend on a number of factors, including the GREs' strategic importance, its systemic nature, and other political considerations (e.g., if it employs a large number of nationals).

Exhibit 1

### The IMF's Definition of the Public Sector



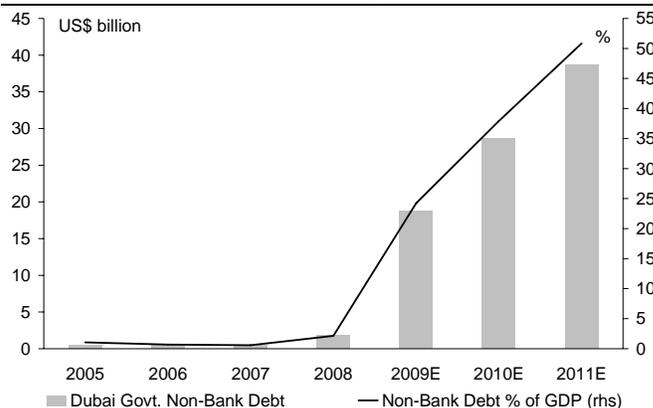
Source: GFSM 2001, IMF

## Government Debt

**The direct non-bank liabilities of the Dubai government currently amount to about US\$18.7 billion.** Prior to 2008, these debts were not economically significant as they were limited to a US\$0.41 billion dollar bond (see Exhibit 2). However, since April 2008, the government has raised an additional US\$16.93 billion worth of non-bank debt.<sup>1</sup> Little is known about the uses of these funds, other than that about \$15 billion of the newly raised debt has been earmarked to the Financial Support Fund (FSF). One of the FSF's central roles is to provide financial support and liquidity on a commercial basis to the government and the GREs that are deemed to be of strategic and developmental importance to Dubai. In fact, its establishment back in July had served to further blur the line between the government's explicit versus implicit support for GREs.

Exhibit 2

### Government's Direct Debt Expected to Increase

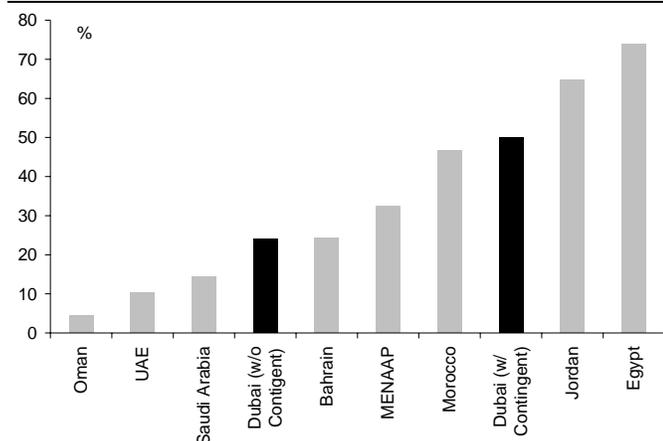


Source: Dubai Authorities, Morgan Stanley Research; E = Morgan Stanley Research estimates

<sup>1</sup>There are no publicly available estimates of the Dubai government's direct bank liabilities.

**Overall, Dubai's direct and contingent debt liabilities are estimated to stand at around 50% of GDP.** These numbers are based on an assumed nominal GDP contraction of about 6% in 2009 and 2% in 2010. In both absolute and relative terms, this level of debt is not necessarily a cause for concern and is lower than the regional average (see Exhibit 3). However, one also needs to consider the potential contingent liabilities of the Dubai government. Given the strategic significance of some of its GREs, it is difficult to see the government leaving them to fend from themselves. As such, we estimate that the government's implicit guarantee of these institutions would add contingent liabilities of about US\$20 billion to its existing debt burden, thereby raising its debt (both direct and contingent) to GDP ratio to about 50%.<sup>2</sup> Again, this level, although high, is not alarming by regional or even international standards.

Exhibit 3  
**Direct Debt Burden Lower than Regional Average, but Contingent Liabilities Need to Be Considered**



Source: Dubai Authorities, IMF, Morgan Stanley Research

**The market's appetite for Dubai's sovereign debt very much depends on how the current situation is handled.** Going forward, we believe that the Dubai government will need to tap credit markets for additional funding. This may be necessary in order to finance development expenditures and shore up the standing of some of the emirate's most strategic GREs. As a result, we expect the government's direct, non-contingent debt to increase by about 27pp to 51% of GDP by 2011. However, the ability of the Dubai government to raise additional debt on somewhat favorable terms will depend on how successful it is in managing the current debt restructuring process. It is difficult to over-emphasize the need for a timely resolution of Dubai World's debt problems. A protracted negotiation process that leaves creditors with a significant loss

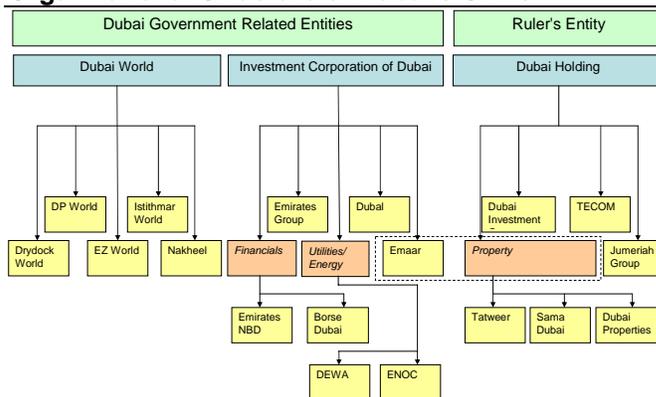
<sup>2</sup>This assumes a contingent guarantee of the disclosed debt of the following entities: Dubai Department of Civil Aviation (DCA), Dubai Electricity and Water Authority, Emirates Airlines, Dubai, Emirates Bank International, National Bank of Dubai, Emirates Islamic Bank, Ports Customs and Free Zone Corp, Emirates National Oil Company and DP World.

would not be in the emirate's interest. Neither would be the lack of timely disclosure of other potential debt challenges affecting Dubai's GREs. We believe that a clear and well-communicated government strategy to deal with the debt situation is imperative at this stage in order to quell rampant market speculation and limit the long-term reputational damage to the emirate's credit standing. Moreover, ring-fencing the troubled debt of various GREs would help to limit the impact of the current crisis on entities that have a solid business models and are able to shoulder additional debt.

### Quasi-Government Debt

There are no official estimates of the debt owed by Dubai's GREs. Calculating the overall size of their debt liabilities is further complicated by a number of factors, including: (i) the complex organizational structure of Dubai's quasi-sovereign holdings (see Exhibit 4); (ii) the lack of transparency regarding operations of its mostly unlisted companies; and (iii) the lack of data on bilateral, non-disclosed loans extended to these entities. Nevertheless, we have relied on publicly available information to derive an estimate of the value of the GRE's outstanding bonds and loans (see Appendix 1). We then adjusted these estimates in an attempt to account for non-reported debt (see Exhibit 5).

Exhibit 4  
**Organizational Structure of Dubai's GREs**



Source: Morgan Stanley Research

Exhibit 5  
**Outstanding Public Sector Debt as of December 2009**

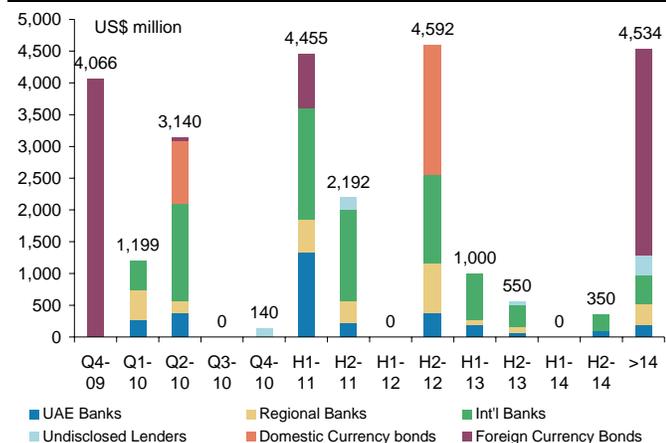
| US\$ million     | Disclosed Debt 1/ | Other Est. liabilities 2/ | Total Est. Liabilities |
|------------------|-------------------|---------------------------|------------------------|
| Dubai World      | 26,219            | 7,866                     | 34,085                 |
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| ICD              | 28,275            | 5,655                     | 33,930                 |
| Dubai Government | 18,700            | 0                         | 18,700                 |
| Other Entities   | 1,885             | 0                         | 1,885                  |
| <b>Total</b>     | <b>90,169</b>     | <b>18,048</b>             | <b>108,217</b>         |
| Total (ex-Gov)   | 71,469            | 18,048                    | 89,517                 |

Source: Dealogic, Loanware, Bloomberg, Morgan Stanley Research and other information sources; Notes: 1/ Publicly disclosed bonds and loans based on information from the sources above; 2/ Non-disclosed loans and other liabilities estimated at around 30% for Dubai World and Dubai Holding, 20% for ICD.

In total, we believe that the debt of Dubai's GREs currently stands at around US\$89 billion, or 116% of the emirate's GDP. The debt is split among the emirates' three largest holding companies, with Dubai World and the Investment Corporation of Dubai accounting for the largest shares, although the latter arguably holds a number of companies with high franchise values (see Exhibits 6-9). The GRE's disclosed debt is also held by a diverse group of investors, with about one-third held in bonds and the rest in loans. International banks hold about 44% of total GRE debt, versus 13% for UAE banks (see Exhibit 10). Moreover, about 24% of this debt is set to mature by end-2010, with another 24% maturing in 2011. In sum, Dubai's public sector debt – which includes both that of the government and its related entities – is estimated at around US\$108 billion, or 140% of GDP.

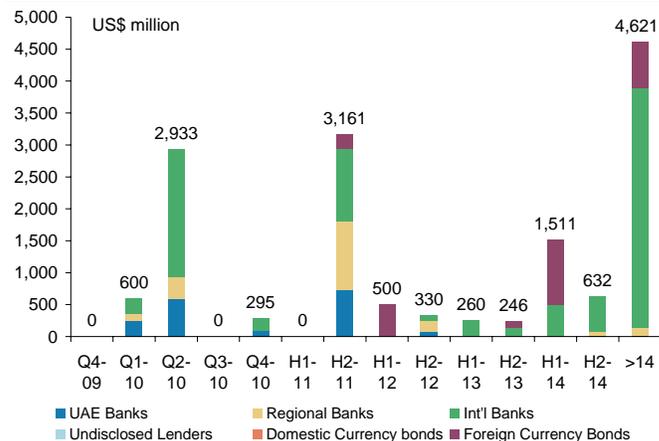
However, these estimates may overstate the real debt burden on the public sector. Unlike the general government, quasi-public corporations have quantifiable assets that could technically be liquidated in case of dissolution. Given that debt holders may have recourse to these assets, it may therefore be necessary to consider the true net worth of these GREs. To be sure, some of these entities, especially those that were heavily involved in the domestic real estate market, may have seen their balance sheets weakened by severe asset depreciation. However, other GREs are quite competitive at both regional and global levels, and are unlikely to face serious challenges in dealing with their corporate debt. Unfortunately, given the lack of sufficient financial disclosure on these GREs, we are currently obliged to focus on their gross liabilities, as opposed to their net assets.

Exhibit 6  
**Dubai World's Disclosed Debt Structure**



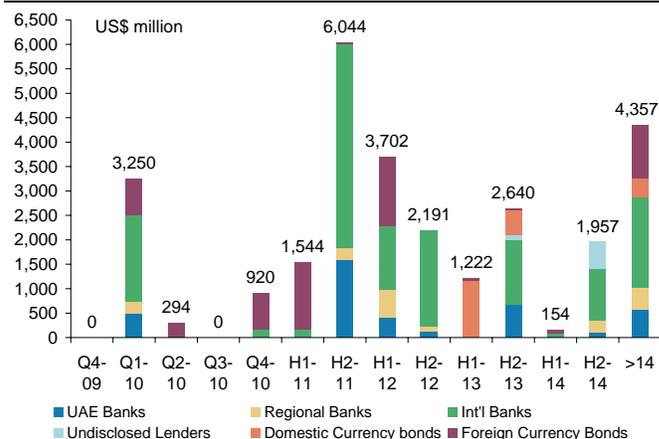
Source: Dealogic, Loanware, Bloomberg, Morgan Stanley Research and other information sources

Exhibit 7  
**Dubai Holding's Disclosed Debt Structure**



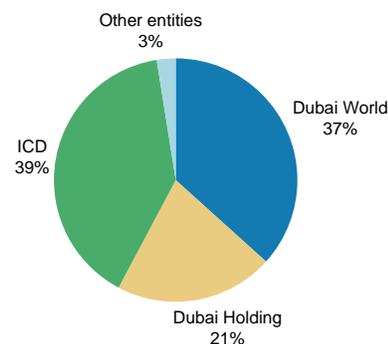
Source: Dealogic, Loanware, Bloomberg, Morgan Stanley Research and other information sources

Exhibit 8  
**ICD's Disclosed Debt Structure**



Source: Dealogic, Loanware, Bloomberg, Morgan Stanley Research and other information sources

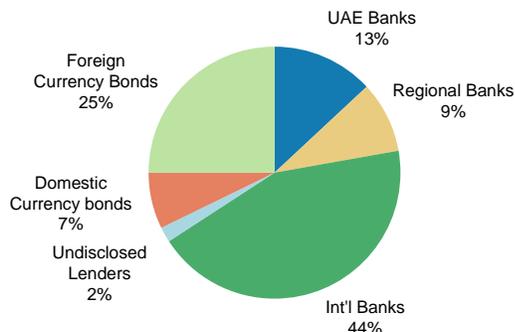
Exhibit 9  
**Share of Disclosed Debt**



Source: Dealogic, Loanware, Bloomberg, Morgan Stanley Research and other information sources

Exhibit 10

## Ownership of Disclosed Debt



Source: Dealogic, Loanware, Bloomberg, Morgan Stanley Research and other information sources

**It is likely that other GREs will also announce debt restructuring plans over the near term.** The high leverage of many of Dubai's government-related entities and their significant exposure to real estate and financial assets that have underperformed since 1H08 make it likely that further restructuring of GRE debt may be needed. The absence of detailed financial statements for these companies makes it difficult to accurately assess their financial soundness. Nevertheless, we tried to derive a guesstimate of the value of the debt that may need to be restructured by first examining the GRE's outstanding obligations and then subjectively assigning a probability of restructuring to them based on anecdotal evidence. In the process, we developed three different scenarios based on the increasing likelihood of debt restructuring of the GREs (see Exhibit 11):

*Scenario 1:* Assumes that only the recently announced Dubai World debt will be rescheduled.

*Scenario 2:* Adds to scenario 1, the assumed rescheduling of the debt of Istithmar, Drydocks, Dubai Financial Group, Dubai Holding Investment Group (holding company level) and Dubai International Capital (holding company level).

*Scenario 3:* Adds to scenario 2 the assumed rescheduling of the debt of Dubai Holding (holding company level), Dubai Holding Commercial Operations, Bourse Dubai and Dubai Sukuk Center Limited (DIFC).

Exhibit 11

## Potential Debt Value at Risk<sup>1</sup>

| US\$ million                | Scenario 1    | Scenario 2    | Scenario 3    |
|-----------------------------|---------------|---------------|---------------|
| Dubai World                 | 26,000        | 27,268        | 30,128        |
| Dubai Holding               | 0             | 7,484         | 12,299        |
| ICD                         | 0             | 0             | 3,000         |
| Other entities <sup>2</sup> | 0             | 0             | 1,250         |
| <b>Total</b>                | <b>26,000</b> | <b>34,752</b> | <b>46,677</b> |

Source: Dealogic, Loanware, Bloomberg, Morgan Stanley Research and other information sources; <sup>1</sup>Estimated debt to be restructured; <sup>2</sup>Excludes general government

Given the lack of clarity on the GRE's liquidity positions and net worth, it is not possible to foresee where along this spectrum the emirate could find itself. However, we believe that it would be unlikely that the restructuring process would be restricted to the recently announced amount (i.e., scenario 1). At the extreme, we believe that as much as US\$47 billion (or about 52% of the GRE's estimated debt) could be at risk.

## Dubai's Fiscal Position

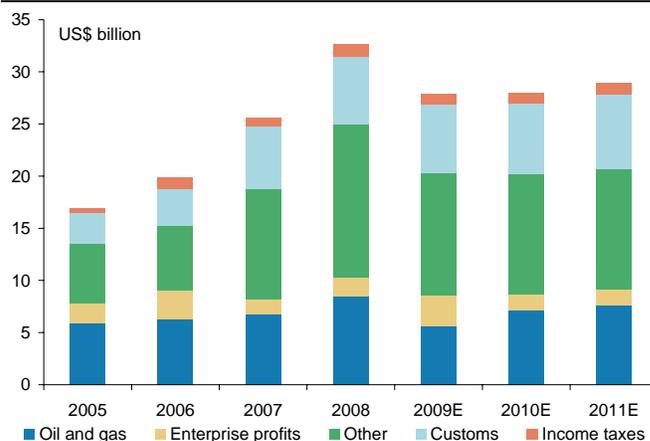
Given the attention afforded to Dubai's debt overhang, it may be useful to examine its fiscal standing and assess the impact of this debt burden on its finances (see Appendix 2).

### Dubai's fiscal revenues are dependent on fee and oil income.

As of 2008, tax income – mainly related to customs fees and limited corporate taxes (e.g., tax on foreign bank income) – accounted for no more than 23% of overall government revenues (see Exhibit 12). Conversely, proceeds from oil exports made up around 26% of government revenues. Non-customs fees – including those levied on road use and real estate – accounted for about 45% of total fiscal revenues. The latter are estimated to have dropped by about 15% in 2009, mainly due to the: (i) significant decline in Dubai's real estate sector in 2009; (ii) slowdown in domestic spending; (iii) negative population growth; and (iv) lower oil prices.

Exhibit 12

## Revenues to Stay Flat Next Year



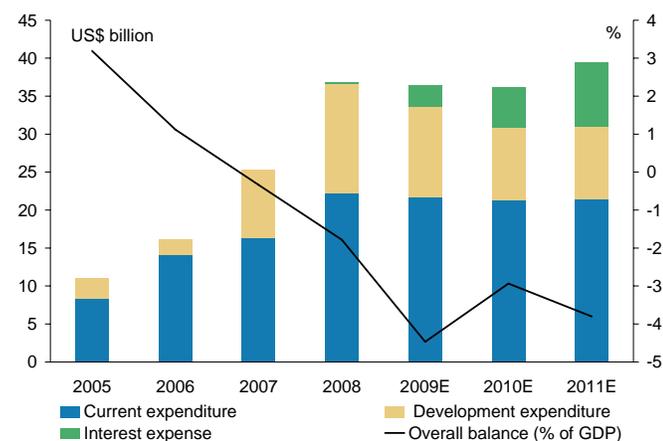
Source: Dubai Authorities, Morgan Stanley Research; E = Morgan Stanley Research estimates

### We expect fiscal expenditures to decline in 2010.

Government expenditures, which had expanded at an average annual rate of about 48% during 2007-08, are estimated to have increased by about 10% in 2009 (see Exhibit 13). We believe that the government's finances will likely be strained next year due to tighter funding channels and a continued need for government support for some of the emirate's most strategic GREs. As such, we expect public spending to decline

by about 6% next year. Current expenditures, which make up about 60% of government spending, should drop slightly in 2010, while development expenditures will likely experience a sharper decline on the back of tighter financing. On balance, we expect the fiscal accounts to register a deficit of about 4.5% of GDP in 2009 and 2.9% in 2010.

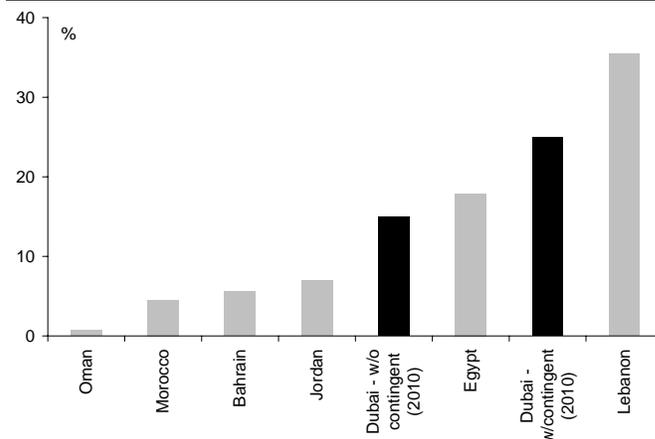
Exhibit 13  
**We Expect Government Finances to Weaken**



Source: Dubai Authorities, Morgan Stanley Research; E = Morgan Stanley Research estimates

**Although the burden of debt-servicing will likely increase over the medium term, it remains in-line with other oil-importing Middle Eastern countries.** We also attempt to assess the impact of servicing the debt on the emirates' finances. In order to perform this exercise, we assume that: (i) the government will only be responsible for servicing its direct debt obligations, not those of its GREs; (ii) the government will need to raise an additional US\$20 billion during 2009-11 to finance expenditures and shore up the finances of highly strategic GREs; and (iii) the average cost of financing will remain below market levels, mainly thanks to subsidized financing from the federal government and the emirate of Abu Dhabi. Assuming a full roll-over of debt at maturity, debt servicing expenses are expected to rise from about 7% of total expenditures in 2009 to around 22% in 2011. Although this debt-service burden exceeds that of other GCC countries, it is not the highest in the region (see Exhibit 14). If we were to take into consideration the government's contingent liabilities vis-à-vis its most strategic GREs (see footnote 2), the toll of servicing the debt on government finances would necessarily be higher. Using the same cost of financing, we estimate that, under such a scenario, interest expense would rise from about 14% of total government spending in 2009, to around 33% in 2011. Of course, should the emirate's economic performance over the near term turn out to be stronger than we currently expect, this would reflect positively on its fiscal finances and on its ability to shoulder its debt obligations.

Exhibit 14  
**Debt-Service to Increase, but Burden to Depend on Extent of Government's Contingent Liabilities<sup>1</sup>**



<sup>1</sup>Data as of 2008, except for Dubai, for which Morgan Stanley 2010 estimates are used  
Source: National Authorities, Morgan Stanley Research estimates

## Estimating the Fair Value of Dubai's Credit

### Goals of Our Scenario Analysis

The goal of this analysis is to give a quantitative frame of reference, to reconcile different markets (corporate, sovereign and global EM markets) in a context of high volatility and uncertainty. Therefore, investors should be aware that our conclusions have to be considered as indications of fair value, based on the below-listed assumptions, assumptions that could reveal themselves as strong in some peculiar market situation.

Given the anticipated debt restructuring and the recent volatility in Dubai fixed income markets, we undertook a macro/debt scenario analysis in order to:

- 1) assess if Dubai 5Y CDS is in line with a diversified sample of other emerging markets countries based on straightforward credit metrics (in this case external debt/GDP);<sup>3</sup>
- 2) assess if Dubai CDS and the Nakheel bond market are pricing in a homogenous market/debt restructuring scenario;
- 3) determine a short-term fair value range for Dubai CDS;
- 4) determine a medium-to-long-term target range for Dubai CDS.

<sup>3</sup>We define Dubai's external debt as the emirate's total public sector debt minus US\$15 billion in government bonds that are known to be held by domestic institutions. We realize that this is not fully consistent with the formal definition of external debt which is defined as the debt owed by both public and private sector entities to non-resident creditors. However, although our figures may overstate the amount of public sector debt held by non-residents, they tend to understate the extent of the private sector's borrowings from abroad. As such, we believe that they may be a reasonable gauge of the emirate's external debt position, especially given the lack of reliable data on Dubai's external debt position.

## Methodology and Assumptions

First, we regressed the total external debt/GDP ratio and the 5Y CDS level for 33 emerging countries (see Exhibit 15) to, broadly, estimate fair value levels for Dubai implied by our macro scenarios.

Exhibit 15

### Total External Debt/GDP by Country

|              |        |
|--------------|--------|
| Ukraine      | 80.4   |
| Venezuela    | 15.7   |
| Argentina    | 41.4   |
| Latvia       | 133.33 |
| Dubai        | 120.85 |
| Lithuania    | 71.11  |
| Romania      | 61.9   |
| Lebanon      | 97.5   |
| Kazakhstan   | 86.4   |
| Hungary      | 122.1  |
| Oman         | 21.4   |
| Bulgaria     | 101.8  |
| Egypt        | 17.8   |
| Indonesia    | 32.7   |
| Estonia      | 114    |
| Russia       | 40.1   |
| Turkey       | 56     |
| Philippines  | 40.8   |
| South Africa | 41.3   |
| Colombia     | 29.2   |
| Mexico       | 24.9   |
| Israel       | 49.7   |
| Poland       | 65.4   |
| Peru         | 25.6   |
| Brazil       | 18.4   |
| India        | 18     |
| Tunisia      | 50.6   |
| Qatar        | 52.5   |
| Thailand     | 23.7   |
| Malaysia     | 29.5   |
| Korea        | 37.1   |
| Saudi Arabia | 8.5    |
| Czech Rep.   | 42.6   |
| China        | 9.9    |
| Slovakia     | 56     |
| Chile        | 41.9   |

Source: Moody's

Second, we used the three different debt-restructuring scenarios outline above (see Exhibit 11) to estimate the magnitude of external debt burden going forward (see Exhibit 16).

Each of the scenarios below represents the stock of debt at risk of haircut, should a restructuring occur. As such, a higher number would imply (for a given haircut percentage) less of a debt burden on the sovereign, to the extent that we assume any debt (whether government or quasi-sovereign) is a contingent liability of the State of Dubai.

Scenario 1: US\$ 26 billion

Scenario 2: US\$ 34.7 billion

Scenario 3: US\$ 46.7 billion

Third, given concerns among investors relative to the effective value of the implicit sovereign protection of GREs, we have analysed a debt scenario which sees Dubai ring-fence its debt and the debt of its most strategic entities – what we term the Last Line of Debt restructuring scenario (LLD). Although we share the view that the sovereign will not put itself at risk to bail out the non-sovereign sector, we believe that there is a balance between sovereign debt ring-fence and preservation of a level of GDP which would prevent a deterioration of debt/GDP, also in a situation of extensive non-sovereign debt restructuring. As indicated earlier, we believe that the government's direct and contingent liabilities in this case are estimated to be around US\$39 billion, which is likely to be ring-fenced in a situation of extreme debt restructuring.

Fourth, we have assumed several haircuts on any potential restructuring. We believe that a haircut in the area of 40-50% is necessary to have a notable long-term effect on the total external debt dynamics. A haircut smaller than 25-30% is likely not to be enough to put external Debt/GDP on the right track.

Assumptions: 1) The relationship between total external debt and GDP remains stable over time. The R-squared of our binomial regression is 0.56. It seems high enough to use this function to run our projection, but it implies a notable interval of confidence and is likely to manifest in some instability in certain instances. Certainly, the cluster of points tends to scatter on the sector of the curve where Dubai CDS is currently trading.

2) The sample of emerging countries is representative of the EM world as a whole. Our sample excludes outliers where either extreme political uncertainty (i.e., Argentina and Ukraine) or swinging concerns of possible lack of willingness to pay (i.e. Venezuela) make the total external debt/GDP ratio a secondary driver of the credit market. We acknowledge that different samples would have implied slightly different results. However, we feel confident on the level of representativeness of the group of EM countries included in our analysis.

3) External debt/GDP is one of the main drivers of spreads and can be considered as a good proxy of credit risk. We acknowledge that many other indicators could have been considered and more sophisticated regression analysis could have been implemented (i.e., multi-regression as opposed to a binomial one). However, we believe that, given the high degree of uncertainty and the difficulties to gather reliable data, more sophisticated analysis would have been exposed to questionable assumptions and limits.

4) Gross external debt/GDP, we find, is a good proxy of perceived credit risk. Presumably more relevant, however, would be net external debt/GDP. That said, data availability is an issue in this case and, further, it is not clear that analyzing net debt has more impact in terms of driving creditworthiness perception.

### Conclusions and Strategy Implications

Assuming a scenario of 50% of haircut (which is also what seems to be priced in for the Nakheel 2009 bond), we draw the following conclusions for the 5Y Dubai CDS (see Exhibits 16-18):

1) The current level looks in line with the haircut projected by the Nakheel 2009 bond and the rest of the EM sovereign 5-year CDS spectrum;

2) The CDS spread is currently positioned above the upper limit of the short-term interval of confidence (based on our macro and restructuring assumptions). Therefore, it offers value if our baseline scenario (scenario 2) and our assumptions were to materialize. In which case, it could converge towards 300-350bp in the short term;

3) If we assume that, at the extreme scenario, Dubai will assume a tough line with investors exposed to the quasi-sovereign assets (LLD scenario), the CDS spread should converge towards 175-225bp in the medium-to-long term. However, if the described situation were to materialize, we cannot rule out an increase in short-term volatility, as investors' willingness to finance that particular emirate/region could temporarily fade.

Exhibit 16

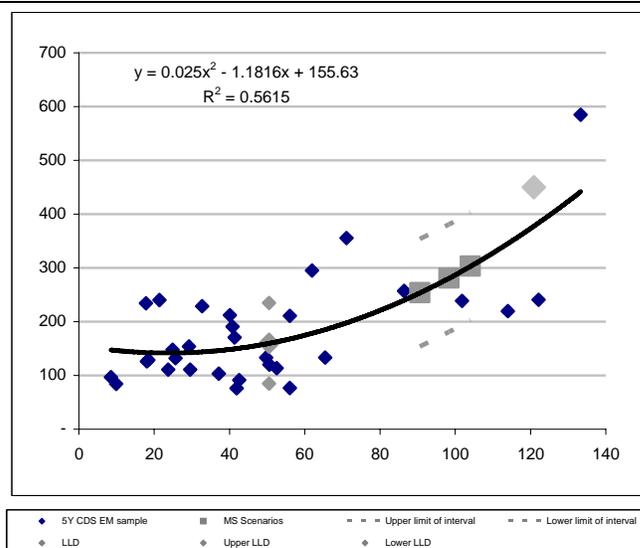
### Scenario Analysis

|  | Scenarios         | Haircut | New Dubai tot. debt | Debt/GDP | Estimated Dubai 5Y CDS |
|--|-------------------|---------|---------------------|----------|------------------------|
| Ext Debt to restructure<br>75 % of haircut | 46,677 Scenario 3 | -35,008 | 58,208              | 75%      | 209                    |
|  | 34,752 Scenario 2 | -26,064 | 67,152              | 87%      | 242                    |
|  | 26,000 Scenario 1 | -19,500 | 73,716              | 96%      | 271                    |
| Ext Debt to restructure<br>50 % of haircut | 46,677 Scenario 3 | -23,339 | 69,878              | 91%      | 254                    |
|  | 34,752 Scenario 2 | -17,376 | 75,840              | 98%      | 281                    |
|  | 26,000 Scenario 1 | -13,000 | 80,216              | 104%     | 303                    |
| Ext Debt to restructure<br>25 % of haircut | 46,677 Scenario 3 | -11,669 | 81,547              | 106%     | 310                    |
|  | 34,752 Scenario 2 | -8,688  | 84,528              | 110%     | 326                    |
|  | 26,000 Scenario 1 | -6,500  | 86,716              | 112%     | 339                    |

Source: Morgan Stanley Research

Exhibit 17

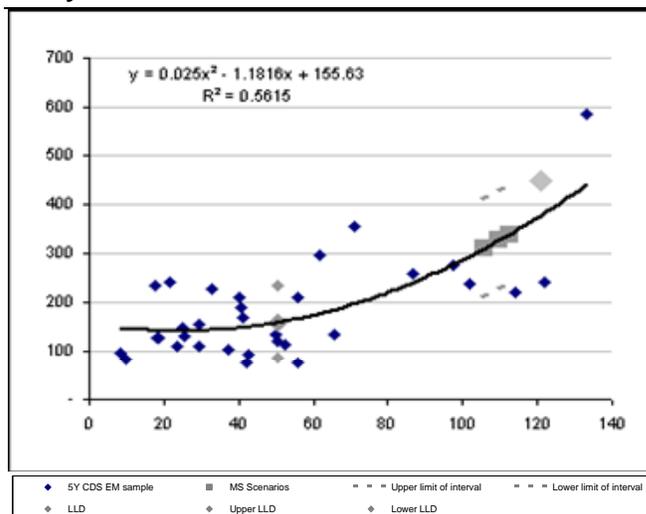
### Analysis with 50% haircut of assumed debt



Source: Bloomberg, Moody's, Morgan Stanley Research

Exhibit 18

### Analysis with 25% haircut of assumed debt



Source: Bloomberg, Moody's, Morgan Stanley Research

Appendix 1.1

## Dubai Holding's Disclosed Debt

| Borrower   | Outstanding Amount (\$MM) | Loans/Bonds |
|--|---------------------------|-------------|
| <b>Dubai Holding LLC</b>                               |                           |             |
| 08-2011  | 840                       | Loan        |
| 08-2011  | 300                       | Loan        |
| <b>Dubai Holding Commercial Operations MTN Ltd</b>     |                           |             |
| 07-2011  | 221                       | Bond        |
| 02-2012  | 500                       | Bond        |
| 07-2013  | 104                       | Bond        |
| 01-2014  | 1,016                     | Bond        |
| 02-2017  | 722                       | Bond        |
| <b>Dubai Holding Investment Group</b>                  |                           |             |
| 08-2011  | 300                       | Loan        |
| <b>Dubai Financial - DF</b>                            |                           |             |
| 08-2011  | 1,500                     | Loan        |
| 12-2012  | 330                       | Loan        |
| <b>Dubai International Capital LLC</b>                 |                           |             |
| 03-2010  | 517                       | Loan        |
| 03-2010  | 83                        | Loan        |
| 06-2010  | 1,250                     | Loan        |
| 06-2010  | 1,683                     | Loan        |
| 07-2014  | 27                        | Loan        |
| 07-2014  | 18                        | Loan        |
| 07-2015  | 36                        | Loan        |
| 07-2015  | 14                        | Loan        |
| <b>Almatis BV</b>                                      |                           |             |
| 12-2014  | 200                       | Loan        |
| 12-2014  | 50                        | Loan        |
| 12-2015  | 205                       | Loan        |
| 12-2016  | 205                       | Loan        |
| 12-2017  | 75                        | Loan        |
| <b>Doncasters Plc</b>                                  |                           |             |
| 03-2013  | 173                       | Loan        |
| 03-2013  | 87                        | Loan        |
| 03-2014  | 173                       | Loan        |
| 06-2014  | 151                       | Loan        |
| 06-2014  | 171                       | Loan        |
| 03-2015  | 173                       | Loan        |
| 06-2015  | 543                       | Loan        |
| 06-2016  | 543                       | Loan        |
| 06-2016  | 146                       | Loan        |
| <b>Travelodge Hotels Ltd</b>                           |                           |             |
| 11-2013  | 47                        | Loan        |
| 11-2013  | 95                        | Loan        |
| 11-2014  | 235                       | Loan        |
| 11-2015  | 235                       | Loan        |
| <b>Mauser AG</b>                                       |                           |             |
| 07-2014  | 102                       | Loan        |
| 07-2015  | 388                       | Loan        |
| 07-2016  | 388                       | Loan        |
| 07-2016  | 68                        | Loan        |
| 07-2017  | 191                       | Loan        |
| <b>Alliance Medical Holdings Ltd</b>                   |                           |             |
| 08-2015  | 59                        | Loan        |
| 08-2015  | 37                        | Loan        |
| 08-2016  | 204                       | Loan        |
| 08-2017  | 204                       | Loan        |
| 08-2018  | 185                       | Loan        |
| <b>Emirates Central Cooling Systems Corp - Empower</b> |                           |             |
| 12-2010  | 295                       | Loan        |
| <b>Total Debt Outstanding</b>                          | <b>15,090</b>             |             |

Source: Dealogic, Loanware, Bloomberg, Morgan Stanley Research and other information sources

Appendix 1.2

## Dubai World's Disclosed Debt

| Borrower                      | Outstanding Amount (\$MM) | Loans/Bonds |
|-------------------------------|---------------------------|-------------|
| <b>Dubai World</b>            |                           |             |
| 06-2010                       | 2,100                     | Loan        |
| 06-2011                       | 450                       | Loan        |
| 06-2011                       | 1,950                     | Loan        |
| 06-2013                       | 1,000                     | Loan        |
| <b>DMCC</b>                   |                           |             |
| 05-2010                       | 60                        | Bond        |
| <b>DP World</b>               |                           |             |
| 10-2011                       | 300                       | Loan        |
| 10-2012                       | 700                       | Loan        |
| 07-2017                       | 1,500                     | Bond        |
| 07-2037                       | 1,750                     | Bond        |
| <b>Drydocks World LLC</b>     |                           |             |
| 09-2011                       | 1,700                     | Loan        |
| 09-2013                       | 500                       | Loan        |
| <b>JAFZ</b>                   |                           |             |
| 11-2012                       | 2,042                     | Bond        |
| <b>Kerzner Istithmar Ltd</b>  |                           |             |
| 06-2016                       | 275                       | Loan        |
| 07-2017                       | 700                       | Loan        |
| <b>Limitless LLC</b>          |                           |             |
| 03-2010                       | 1,199                     | Loan        |
| <b>Nakheel</b>                |                           |             |
| 12-2009                       | 4,066                     | Bond        |
| 05-2010                       | 980                       | Bond        |
| 12-2010                       | 140                       | Loan        |
| 01-2011                       | 857                       | Bond        |
| 01-2011                       | 438                       | Loan        |
| 01-2011                       | 760                       | Loan        |
| 12-2011                       | 192                       | Loan        |
| 08-2012                       | 1,850                     | Loan        |
| 12-2013                       | 50                        | Loan        |
| 08-2014                       | 350                       | Loan        |
| 12-2015                       | 309                       | Loan        |
| <b>Total Outstanding Debt</b> | <b>26,219</b>             |             |

Source: Dealogic, Loanware, Bloomberg, Morgan Stanley Research and other information sources

Appendix 1.3

## Investment Corporation of Dubai's Disclosed Debt

| Borrower  | Outstanding Amount (\$MM) | Loans/Bonds |
|---|---------------------------|-------------|
| <b>Investment Corp of Dubai</b>                       |                           |             |
| 11-2011   | 2,500                     | Loan        |
| 11-2011   | 1,500                     | Loan        |
| 11-2013   | 1,250                     | Loan        |
| 11-2013   | 750                       | Loan        |
| <b>Borse Dubai Ltd</b>                                |                           |             |
| 02-2010   | 2,500                     | Loan        |
| <b>Dnata</b>  |                           |             |
| 05-2015   | 86                        | Loan        |
| <b>Dubai Aerospace Enterprise</b>                     |                           |             |
| 11-2011   | 500                       | Loan        |
| 11-2011   | 75                        | Loan        |
| 11-2011   | 225                       | Loan        |
| 10-2013   | 100                       | Loan        |
| 10-2014   | 317                       | Loan        |
| 10-2014   | 240                       | Loan        |
| <b>Dubai Electricity &amp; Water Authority - DEWA</b> |                           |             |
| 03-2012   | 2,200                     | Loan        |
| 06-2013   | 872                       | Bond        |
| <b>DUBAL</b>  |                           |             |
| 07-2012   | 100                       | Loan        |
| 07-2012   | 50                        | Loan        |
| 07-2012   | 100                       | Loan        |
| 07-2012   | 100                       | Loan        |
| 07-2012   | 200                       | Loan        |
| 07-2012   | 75                        | Loan        |
| <b>EMAL</b>   |                           |             |
| 07-2014   | 1,400                     | Loan        |
| 07-2024   | 935                       | Loan        |
| <b>Emirates Airlines</b>                              |                           |             |
| 10-2010   | 85                        | Loan        |
| 12-2010   | 75                        | Loan        |
| 12-2010   | 10                        | Loan        |
| 02-2011   | 85                        | Loan        |
| 03-2011   | 34                        | Loan        |
| 03-2011   | 30                        | Loan        |
| 03-2011   | 25                        | Loan        |
| 03-2011   | 500                       | Bond        |
| 06-2011   | 31                        | Bond        |
| 06-2011   | 126                       | Bond        |
| 08-2011   | 88                        | Loan        |
| 08-2011   | 26                        | Loan        |
| 11-2011   | 75                        | Loan        |
| 11-2011   | 12                        | Loan        |
| 02-2012   | 90                        | Loan        |
| 09-2012   | 66                        | Loan        |
| 07-2013   | 500                       | Bond        |
| 01-2014   | 93                        | Loan        |
| 03-2015   | 80                        | Loan        |
| 10-2015   | 112                       | Loan        |
| 10-2015   | 38                        | Loan        |
| 10-2015   | 18                        | Loan        |
| 11-2015   | 115                       | Loan        |
| 11-2015   | 38                        | Loan        |
| 11-2015   | 23                        | Loan        |
| 06-2016   | 94                        | Bond        |
| 07-2017   | 119                       | Loan        |
| 07-2018   | 79                        | Loan        |
| 02-2020   | 253                       | Loan        |
| 03-2020   | 265                       | Loan        |
| <b>Emirates Bank International BSC</b>                |                           |             |
| 04-2010   | 20                        | Bond        |
| 06-2011   | 644                       | Bond        |
| 03-2013   | 50                        | Bond        |
| <b>Emirates Bank International PJSC</b>               |                           |             |
| 02-2010   | 750                       | Bond        |
| 04-2010   | 82                        | Bond        |
| 05-2010   | 10                        | Bond        |
| 06-2010   | 158                       | Bond        |
| 06-2010   | 24                        | Bond        |
| 03-2011   | 19                        | Bond        |
| 04-2011   | 50                        | Bond        |
| 07-2011   | 40                        | Bond        |
| 02-2012   | 12                        | Bond        |
| 10-2012   | 1,500                     | Loan        |
| 03-2013   | 300                       | Bond        |
| 07-2013   | 40                        | Bond        |
| 04-2014   | 62                        | Bond        |
| 12-2016   | 500                       | Bond        |
| 03-2018   | 120                       | Bond        |
| 03-2018   | 272                       | Bond        |
| <b>Emirates Islamic Bank Sukuk</b>                    |                           |             |
| 06-2012   | 350                       | Bond        |
| <b>Emirates National Oil</b>                          |                           |             |
| 05-2017   | 500                       | Loan        |
| <b>Emirates National Oil Co</b>                       |                           |             |
| 05-2017   | 210                       | Loan        |
| <b>National Bank of Dubai PJSC</b>                    |                           |             |
| 12-2010   | 750                       | Bond        |
| 01-2012   | 500                       | Bond        |
| 10-2016   | 500                       | Bond        |
| <b>Ports Customs &amp; Free Zone Corp - PCFC</b>      |                           |             |
| 07-2011   | 150                       | Loan        |
| 07-2011   | 853                       | Loan        |
| <b>Wings FZCO</b>                                     |                           |             |
| 06-2012   | 550                       | Bond        |
| <b>Total Outstanding Debt</b>                         | <b>28,275</b>             |             |

Source: Dealogic, Loanware, Bloomberg, Morgan Stanley Research and other information sources

Appendix 1.4

## Other Sovereign and Quasi-Sovereign Debt

| Borrower  | Outstanding Amount (\$MM) | Loans/Bonds |
|---|---------------------------|-------------|
| <b>Government of Dubai</b>                      |                           |             |
| 04-2013   | 1,089                     | Bond        |
| 04-2013   | 681                       | Bond        |
| 02-2014   | 10,000                    | Bond        |
| 11-2014   | 1,250                     | Bond        |
| 11-2014   | 680                       | Bond        |
| 11-2014   | 5,000                     | Bond        |
| <b>Dubai Department of Civil Aviation (DCA)</b> |                           |             |
| 04-2012   | 464                       | Loan        |
| 04-2012   | 100                       | Loan        |
| 04-2012   | 71                        | Loan        |
| <b>Dubai Sukuk Centre Ltd (DIFC)</b>            |                           |             |
| 06-2012   | 1,250                     | Bond        |
| <b>Total Outstanding Debt</b>                   | <b>20,585</b>             |             |

Source: Dealogic, Loanware, Bloomberg, Morgan Stanley Research and other information sources

Appendix 2

## Dubai Fiscal Accounts

| (in AED millions)                   | 2005          | 2006          | 2007          | 2008          | 2009E          | 2010E         | 2011E          |
|-------------------------------------|---------------|---------------|---------------|---------------|----------------|---------------|----------------|
| <b>Non tax revenue</b>              | <b>13,583</b> | <b>15,201</b> | <b>18,767</b> | <b>25,014</b> | <b>20,333</b>  | <b>20,206</b> | <b>20,710</b>  |
| Oil and gas                         | 5,902         | 6,259         | 6,770         | 8,495         | 5,573          | 7,165         | 7,607          |
| Enterprise profits 1/               | 1,937         | 2,807         | 1,470         | 1,819         | 3,000          | 1,500         | 1,500          |
| Other 2/                            | 5,744         | 6,135         | 10,527        | 14,700        | 11,760         | 11,542        | 11,603         |
| <b>Tax revenue</b>                  | <b>3,317</b>  | <b>4,630</b>  | <b>6,838</b>  | <b>7,604</b>  | <b>7,500</b>   | <b>7,748</b>  | <b>8,199</b>   |
| Customs 3/                          | 2,897         | 3,537         | 5,996         | 6,414         | 6,500          | 6,715         | 7,106          |
| Income taxes 4/                     | 420           | 1,093         | 842           | 1,190         | 1,000          | 1,033         | 1,093          |
| <b>Total revenue</b>                | <b>16,900</b> | <b>19,831</b> | <b>25,605</b> | <b>32,618</b> | <b>27,833</b>  | <b>27,955</b> | <b>28,909</b>  |
| <b>Current expenditure</b>          | <b>8,272</b>  | <b>14,024</b> | <b>16,384</b> | <b>22,271</b> | <b>21,651</b>  | <b>21,249</b> | <b>21,361</b>  |
| Wages and salaries                  | 3,933         | 5,137         | 5,906         | 8,168         | 10,190         | 10,001        | 10,054         |
| Goods and services 5/               | 2,178         | 1,926         | 3,983         | 4,878         | 6,384          | 6,266         | 6,299          |
| Subsidies and transfers 6/          | 1,469         | 6,411         | 5,168         | 7,582         | 5,077          | 4,983         | 5,009          |
| Other                               | 692           | 550           | 1,327         | 1,643         | 0              | 0             | 0              |
| <b>Development expenditure</b>      | <b>2,716</b>  | <b>2,100</b>  | <b>8,917</b>  | <b>14,331</b> | <b>12,000</b>  | <b>9,600</b>  | <b>9,651</b>   |
| Loans and equity (net)              | 238           | 0             | 0             | 0             | 2,894          |               |                |
| <b>Interest expense</b>             |               |               |               | <b>195</b>    | <b>2,747</b>   | <b>5,270</b>  | <b>8,528</b>   |
| Grants: contrib. to federal govt.   | 1,200         | 1,200         | 1,200         | 1,200         | 1,200          | 0             | 0              |
| <b>Total expenditure and grants</b> | <b>12,426</b> | <b>17,324</b> | <b>26,501</b> | <b>37,997</b> | <b>40,492</b>  | <b>36,119</b> | <b>39,540</b>  |
| <b>Overall balance</b>              | <b>4,474</b>  | <b>2,507</b>  | <b>-896</b>   | <b>-5,379</b> | <b>-12,659</b> | <b>-8,165</b> | <b>-10,631</b> |
| Percent of Dubai GDP                | 3.2           | 1.1           | -0.3          | -1.8          | -4.5           | -2.9          | -3.8           |

Notes: 1/ Includes DUBAL, DUGAS, Emirates Airlines, Jebel Ali and other public enterprises;  
2/ Includes toll fees (salik), real estate fees collected by the Real Estate Regulatory Agency, and other fees;  
3/ Includes all revenues associated with trade and port operations, including customs duties.  
4/ Taxes on profits of foreign banks;  
5/ Includes interest and amortization on some bank loans;  
6/ Excludes Water and Electricity, which is settled in an off-budget account;  
Source: Dubai Authorities Morgan Stanley Research; E = Morgan Stanley Research estimates

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|-----------------------|-------------------|------------|----------------------------------|----------------|----------------------|
|                       | Count             | % of Total | Count                            | % of Total IBC | % of Rating Category |
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| Equal-weight/Hold     | 1077              | 45%        | 312                              | 45%            | 29%                  |
| Not-Rated/Hold        | 25                | 1%         | 2                                | 0%             | 8%                   |
| Underweight/Sell      | 384               | 16%        | 89                               | 13%            | 23%                  |
| <b>Total</b>          | <b>2,401</b>      |            | <b>687</b>                       |                |                      |

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