Economics

16 April 2012 | 14 pages

Egypt Macro View

Muddling Through Moves Mainstream

David Cowan
+44-20-7986-3285
david.cowan@citi.com

- **Presidential elections** — Egypt is quickly moving towards holding presidential elections: the first round is to be held in late May and the run-off in mid-June 2012. Given the large number of likely contestants, and rapidly shifting political scene, it is very hard to make a sensible prediction about who will win the polls.

- **Constitutional delays** — But arguably what is more interesting about the presidential elections is that those contesting the poll may not know the full extent of their future presidential powers. This is because we think it is unlikely that a new constitution will be approved prior to the elections. In fact we think it may well be delayed until September.

- **No quick deal with the IMF** — With the IMF hoping to have broad political buy-in for any lending programme it will monitor, we think it is unlikely that an agreement with the Fund can be formally signed until well into 2H 2011 and probably not before the new president is sworn in, the recently stated goal of the finance minister. Coupled with only limited support from other external donors until a deal is agreed, this suggests that the current government could potentially be in 'muddle through' policy mode for at least the next six months.

- **Is 'muddle through' sustainable?** — Although we expect capital outflows to slow significantly in 2012, the government will still needs to fund the twin deficits over the coming six months. Moreover, with reserves having fallen close to critical levels its room for manoeuvre is limited. This raises the question of whether the current government will be able to find enough resources to fund the twin deficits until the political situation is resolved, or whether the Egyptian economy will reach a crunch point at some point during the next six months

- **It will be close** — Although it is likely to be tight and the room to manoeuvre extremely limited, we think the government will just about be able to muddle through until September, and then reach an agreement with the IMF. However, the downside risks will remain considerable. Moreover, the problem is that, by attempting this course, if events do blow the economy off track in the coming months then there are few options for the government and it really could potentially face the prospect of an uncontrolled devaluation.

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

Muddling through moves mainstream

Uncertain politics: but this is not the real problem

April should provide some clarity over the presidential elections

Over the course of this April, the Higher Committee for Presidential Elections will formally decide which candidates that have entered the contest to become Egypt's next president will be eligible to contest the first round of voting on May 23/24. With various dates set for decisions and appeals, the final list of candidates is due to be announced on April 26. This will give those candidates who have qualified a final month to campaign before the first round.

Assuming no candidate secures over 50% of the vote in the first round, a run-off vote has been scheduled for June 16/17, with the authorities committed to announcing a final result by June 21. This means that by the mid-point of this year Egypt should have a new president in place, as well as the parliament that was elected earlier this year.

Predicting who will win the presidential poll is nigh on impossible

A total of 23 candidates had originally entered into the presidential contest. However, ten of these, including some who had been considered high-profile and with a considerable chance of winning the poll, were barred from contesting it on various grounds, on April 16, by the Presidential Election Commission. The ten barred candidates can appeal the decision and some may be re-instated. But what recent events probably best highlight is that, given the rapidly changing nature of the presidential election race, predicting a winner at this early, yet also relatively late, stage in the election process, is virtually impossible.

But holding a presidential poll will not necessarily end the political uncertainty

The other point to bear in mind about Egypt's current political transition is that it will not necessarily have run its course just with the holding of the presidential elections in May and June. This reflects the fact that we think that the presidential elections will be conducted without a formal constitution in place. This creates a situation where all candidates to be the next president will have little idea about their future role and powers. This is the case even to the point where it is not clear whether Egypt will have a more presidential or parliamentary biased political system.

This situation has arisen because of the way that politics have played out since early 2012. Under huge political pressure to ensure a rapid transition to civilian rule, the Supreme Council of the Armed Forces (SCAF) agreed to an accelerated timetable for holding the presidential polls, which, even if everything had gone to plan, would have run pretty much parallel to the drawing up of a new constitution. Perhaps unsurprisingly, the reality has been that efforts to draw up a new constitution have not proceeded as quickly as planned

Drawing up a new constitution will probably take longer than planned

This reflects the ongoing divisions within parliament about the membership of the Constitutional Assembly (CA), which is now trying to draw up the new constitution. Initially, around a third of the 100 members of the CA walked out in protest on the grounds that the composition of the CA was insufficiently inclusive and their actions have been supported by an Administrative Court ruling on April 10 that the CA did not reflect the diversity of Egyptian society. As a result, it may take some time to agree the exact composition of the CA.

But the potential disagreements are potentially even more significant. For example, it is still not even clear how the approval process will actually work. For example, will the CA hold a vote on each clause of the new constitution, or will there just be an overall 'yes or no' vote for the entire document, which will then be put to a national referendum? All this means that there must be a significant level of doubt about whether the CA will even be able to produce a draft constitution by its September deadline, never mind prior to the presidential poll.

What powers will the president have and who will appoint a new government?

This does, of course, create a hugely interesting political situation, in that Egypt will be electing a president whose powers are extremely unclear. Not that this need be a major problem. A dynamic president, with a strong popular mandate, for example, may well be an important figure in resolving disputes within the CA and guiding the final drafting process. But it does raise interesting issues about whether the final drafts of the constitution, notably decisions about whether to give more or less power to the president in relation to parliament, may be influenced by the outcome of the presidential poll.

It also raises question-marks over the exact procedures under which a new government is potentially appointed after the presidential polls. What has become clear in recent months is that tensions between the Faith and Justice Party (F&JP) and the SCAF have increased, with the F&JP feeling that, although it has a clear majority in parliament, it has little influence on government policy. The current government of prime minister Kamal Ganzouri was appointed by the SACF in December 2011. At present, we think that this situation will remain until after the presidential polls, but at that point the elected politicians will seek to appoint their own government.

Political uncertainty could persist for longer than expected, delaying an IMF deal

While we are positive that most of these political uncertainties can be resolved over time, arguably the more interesting question is whether the economy will run into a crisis before the political transition has run its course – especially if, as we suspect, the political transition is dragged out until at least September of this year. Although the current finance minister, Mumtaz al-Saeed, indicated on April 12 that the government would like to sign a deal with the IMF before May 15, our reading of the current political situation suggests this is unlikely. In fact, we think a more plausible scenario is that an agreement with the Fund may potentially be delayed into the second half of the year, with September a more likely outcome.

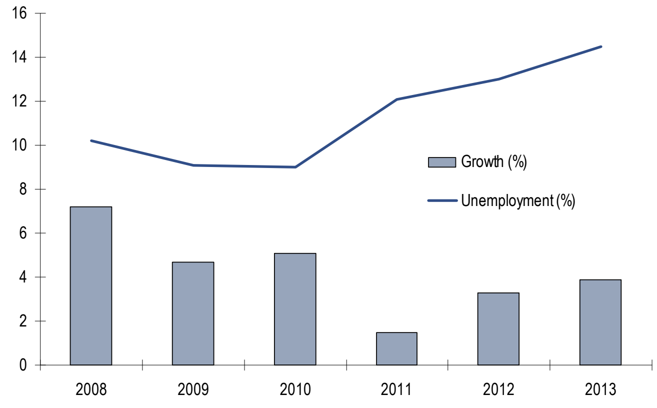
Finding a solution to the economic problems that have emerged in 2011

The emerging economic problems are understood

What is clear is that, at this point in the country's political transition, the last 18 months have taken their toll on the economy and this will not change soon. This is most visible in the fact that growth has slowed, unemployment is rising and inflation has remained high. Moreover, and crucially, the emergence of the twin budget and current account deficits and the ongoing struggle to finance them are important economic concerns.

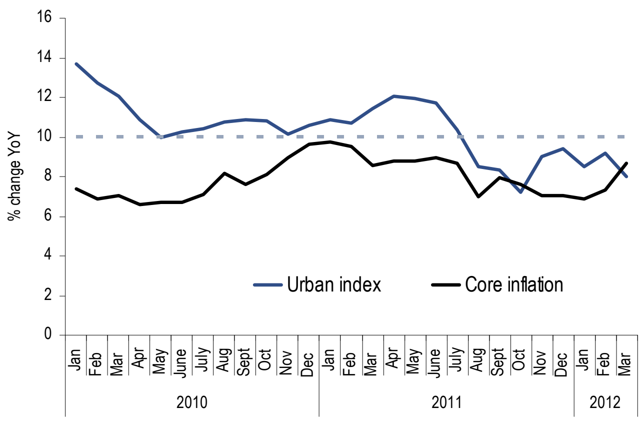
What also seems increasingly clear to us is that, while politicians and policy-makers are clearly aware of the emerging economic issues, the political transition has created a policy inertia which makes it impossible to put in place a short-term plan to close the deficits or more generally to return the economy to a path of sustainable growth. In fact, this inability to generate a local economic policy option has meant that, since late 2011, an inordinate amount of faith has been placed in the government reaching a deal with the IMF to allow the reform process to move forward.

Figure 1. Slowing growth and rising unemployment



Source: Haver Analytics

Figure 2. Stubbornly high inflation



Source: Haver Analytics

The other problem is that, while there have been a steady stream of press reports, both local and international, suggesting that donors are willing to provide support for the Egyptian government, actual substantive commitments have been much more limited to date. This highlights the fact that for some donors it is important to have an IMF deal in place before they are willing to provide significant commitments. While this is not an insurmountable problem, it is still a problem and in the interim, while there will be some promises of support, these are unlikely to be significant enough to close the financing gap.

A quick deal with the IMF seems very unlikely

Given that signing a deal with the IMF is expected to be a significant positive for the country, the lack of progress to date seems hard to explain. But we think it broadly reflects two main issues.

- First, under the current political arrangement it now seems that distrust is too high between all the major political actors to agree to a deal. This, in turn, may prove problematic for the IMF, which is seeking broad political support for any programme – at the end of its most recent mission to Egypt, it noted in its press release that “broad-based support for a national economic program is essential to bolster confidence and ensure its successful implementation in the period following the current political transition”. This, of course, makes sense for the Fund, which does not want to sign a deal with the current government, only to find that a new president and/or new government wants to re-negotiate it.

- Second, there is little incentive for any political party to make a deal with the IMF in the run-up to the presidential poll, if, as seems the case, Egypt’s current nationalist mood has made borrowing from the IMF unpopular. The clearest indication of this sentiment was provided by a March 2012 Gallup poll, which suggested that 57% of Egyptians now oppose borrowing from the IMF, compared with 36% last August.

In the medium to long term, a reform programme is clearly possible, and plausible

Not that this means that reaching a deal with the IMF is not possible in the medium to long term. In fact, an interesting part of the emerging economic story in Egypt is that many of the policies currently being proposed to help support long-term growth are relatively pro-market. In fact, what is even more interesting is that they seem little different from those being proposed by the former reformist governments in the mid-2000s.

For example, there does seem to be widespread recognition of the need to get the budget deficit under control – for example, by reducing food and fuel subsidies (notably by more effective targeting of them). Another theme that seems to persist is the need to reform the country’s internal markets to make them more efficient and help reduce inflation. Perhaps the major difference going forward will be that the democratic legitimacy of any new post presidential election government will mean that it is much better placed to push through difficult reforms in these areas.

A pro-business environment does seem on the agenda

In fact, stepping back from the more specific economic reforms required in Egypt, there still seems to be reasonably robust support for market-based economics in Egypt. In fact, we think a relatively broadly held view within the country is that, given that many of the senior leaders of the Muslim Brotherhood are businessmen, there is a strong political desire within its leadership to create an economic environment that is friendly towards the private sector, albeit with a more prominent role for Islamic finance.

Perhaps where the biggest concern might arise in this respect is that, while some politicians may have a relatively clear idea of where they want to go, they are not as clear as to which route should be taken to achieve this overall policy goal. There may also be too much faith being put in the idea that, with the end of the ‘crony capitalism’ of the late 2000s, there will be a considerable amount of additional finance available to help ease the reform process. We are concerned that the reality may be that the savings are unlikely to be as great as many people predict.

Is 'muddle through' possible for the next six months?

Back-of-the-envelope calculations

'Muddle through' moves mainstream

All this points to a situation where, although progress with reform is possible in the medium to long term, at least for the next six months the Egyptian government will try to 'muddle through' in terms of economic policy. In other words, 'muddle through' could run up to at least September of this year.

In fact, we think that political support for this option has increased in recent months as the pace of decline in Egypt's foreign exchange reserves has slowed in February and March 2012. This reflects that the most visible sign of the pressure on the economy has arguably been the ongoing fall in the country's foreign exchange reserves throughout 2011 and into 2012 and the concern that this will eventually push the central bank into a major devaluation of the currency.

The size of the fiscal and current account deficits

To understand whether 'muddle through' is possible during this time period, we have done some back-of-the-envelope calculations on the financing requirements for the twin deficits for an additional six months. These are rough and ready, but give a ball-park figure of the scale of finance required:

- First, the need to fund the budget deficit, excluding external debt service, which – given the current state of policy inertia – is unlikely to change much from its current level. We are currently forecasting a budget deficit of 9% of GDP for the 2012 calendar year. These funding needs are, of course, largely in Egyptian pounds and we estimate that the government needs to raise around EGP64.5bn during the six months.

- Second, there are the foreign currency demands on the government, largely the current account deficit and external debt repayments. Again, there are two issues here. First, with no significant recovery in tourism likely, given the political background, the reality is that the current account deficit is likely to remain unchanged at around 2.5% of GDP. Second while the government may not be required to make all repayments on its external debt owed to the Paris Club, it will have to meet its July 2012 US$1bn Eurobond repayment, although a large portion of this is held by local banks. We estimate that combined it will need a total of around US$4.5bn in the coming six months.

Possible sources of foreign funding

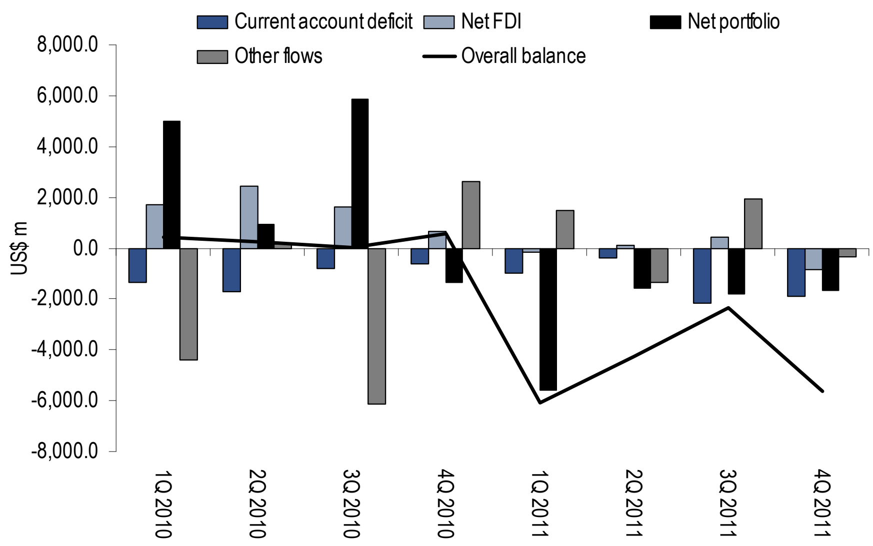
Reserve drawdown to meet capital outflows

One of the clearest economic trends in Egypt in 2011 was that, although the size of the current account deficit was little changed between 2010 and 2011 – we estimate the current account deficit in 2010 was 2.6% of GDP compared to 2.3% of GDP in 2011 – the overall balance moved sharply into a deficit, reflecting large capital outflows, notably portfolio outflows by US and European investors, but also FDI. This outflow was largely met by the government drawing down foreign exchange reserves, or 'other flows' in the balance of payments data. As a result, Egypt's net international foreign exchange reserves fell from US$36bn at the end of December 2010 to US$15.1bn at the end of March.

But lower reserves limit the room for manoeuvre

On the plus side, this level of capital outflow will not be as high in 2012 as most portfolio investors have now exited (see Figure 7). This means that the funding will largely be of the current account deficit only in 2012, which we currently forecast will be little changed from 2010 and 2011, at 2.7% of GDP. But the other side of the coin is that, having drawn down reserves significantly in 2011, the government's room for manoeuvre is now much more limited and any additional shock would leave it with even less room to manoeuvre.

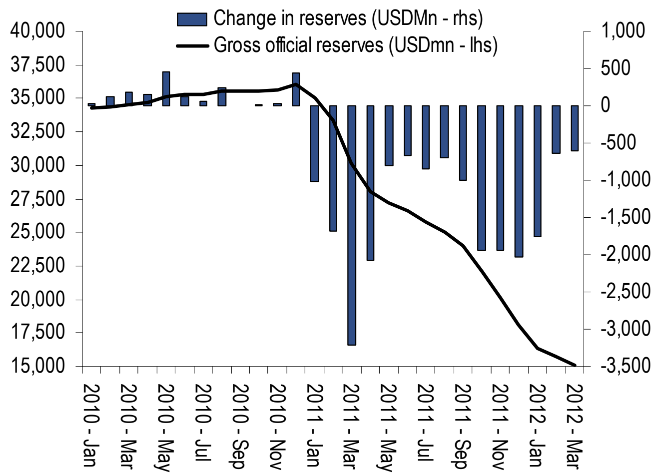
Figure 3. Funding the current account deficit



Source: Haver Analytics

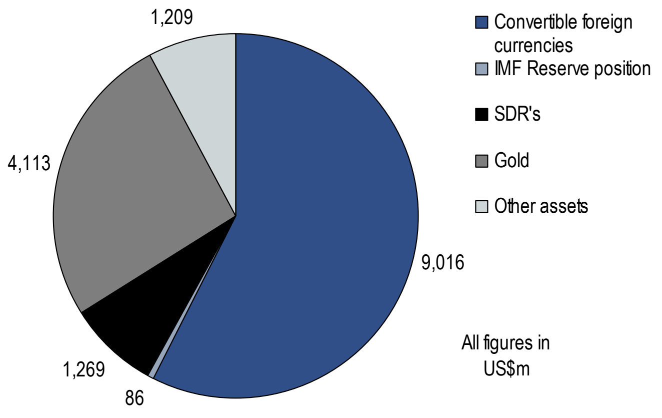
This is especially the case given that the component of the remaining reserves that are liquid is now much smaller. For example, US$4.1bn of the current total is actually held as gold assets, which are relatively illiquid and only sold as a desperate last resort. In fact, according to the official data there are only US$9.1bn of reserves held as liquid foreign exchange at the end of March 2011, of which arguably US$4.5bn are already pre-committed to repay the US dollar-denominated T bill already issued by the government.

Figure 4. Foreign exchange reserves



Source: Haver Analytics

Figure 5. Composition of foreign exchange reserves (March 2012) [1]



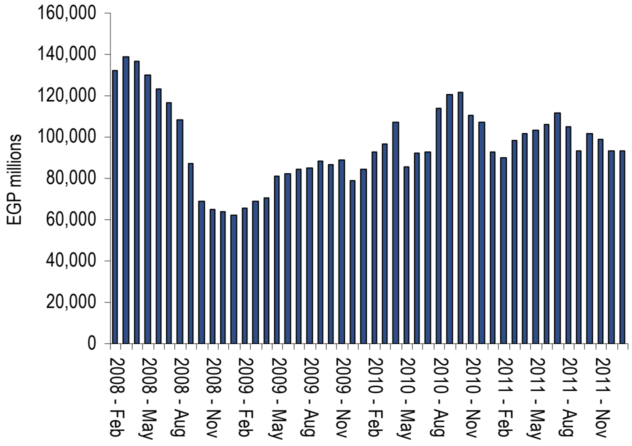
Source: Haver Analytics

[1] These numbers are taken from the CBE's balance sheet breakdown and the total differs very marginally from the number provided as Gross Official Reserves.

Alternative sources of funding: FDI and portfolio

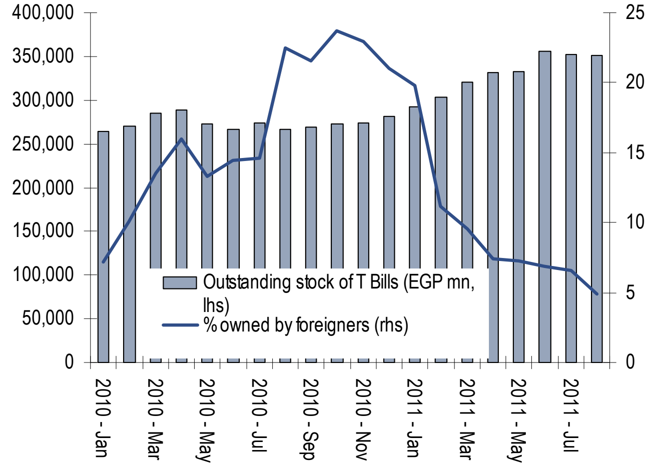
This would imply that the government will have to continue to seek alternative sources of funding from abroad: either FDI or portfolio inflows. Looking at the potential for FDI inflows, the outlook is mixed if the 2011 trend is a guide for early 2012. Net FDI inflows were, in fact, negative in the first and final quarters of the year, giving a total net outflow for the year. While it is likely that FDI inflows will start to pick up after the political uncertainty dies away, expecting any significant increase in early 2012 seems imprudent.

Figure 6. Net Foreign Assets of the commercial banks



Source: Haver Analytics

Figure 7. Foreign ownership of government debt



Source: Haver Analytics

Outflows on the portfolio account in 2011 were also strongly negative as foreign fixed income and equity investors moved money out of the country. However, there are some prospects for new portfolio inflows in the coming six months.

Diaspora bonds and land sales

First the government still believes that it can tap funds from the Diaspora. This was shown by its recent efforts to issue Diaspora bonds, notably to Egyptians living in the GCC. There is also increasing discussion about the possibility of embarking on a programme of land sales which could potentially raise US$5-6bn. The benefit of this to Egyptians living overseas is that it would provide them completely clean land title, something that has proved difficult to attain historically.

There would clearly be some logic for the Egyptian Diaspora to buy the bonds, given that the proposed interest rate of 4% is significantly above that obtainable in most saving deposits in GCC countries, although whether it is attractive enough is not clear. The other significant uncertainty is the actual size of the fund base the government can tap. In the case of land sales, the key issue is whether the sales of land would represent a new source of funds, or simply a diversion of remittances from their current use into land purchases. We think the latter is likely to prove to be the case.

The Eurobond repayment

In the case of the Eurobond repayment, the foreign currency outflow may not be as great as the repayment coupon would imply. One solution would be for the government to offer an alternative US dollar debt instrument to local bond-holders instead of making a full repayment: for example, a one-year bond at a similar interest rate. Assuming that 75% of the bonds are held by the local banks, which we think likely, this option may be very attractive. The other issue is that, because the Eurobond is held as an EGP asset by local banks, those holders are likely to sell the USD they receive back to the CBE in order to replace the bond with another EGP asset.

While much of the focus will continue to be on the speed of the draw-down of official foreign exchange reserves, it must also be remembered that the government may have access to some of the US$15.5bn of net foreign assets (NFA) that were on the balance sheets of Egyptian commercial banks at the end of 2011. Another possible source of funds that could be tapped are the financial assets held by the Egyptian military – widely thought to have its own 'off-balance sheet' sources of foreign exchange, which may have already been used to finance the repayment of the June 2011 Eurobond (although it is unclear whether the military would want to use this to support a new government).

Bilateral and multilateral lending, plus suppliers credits

Finally, there is, of course, the prospect of lending from other governments or from multilateral institutions. Such loans are also classified as 'other inflows' in the balance of payments: net borrowing in 2011 was actually positive, but this was due largely to positive inflows of medium-term suppliers' credits, which supported imports. We assume that this will remain limited until a deal is reached with the IMF[2], but there are still likely to be ad-hoc agreements which could provide additional, and potentially important, sources of finance for the government. It is also likely that suppliers will continue to have access to credit, although this could potentially wane if the political scene were to become more complicated.

Domestic borrowing

Banks continue to take on government debt

With regard to funding the budget deficit from domestic sources, the most obvious option is to continue the policy of 2012: basically issuing Treasury bills and bonds debt which will continue to be taken up by the domestic banking system. The obvious cost to this is the crowding out of lending to the private sector, which will continue to impact on growth: CBE data shows that total private business sector credit as a percentage of total credit fell from over 40% in 2010 to only 33.1% in December 2011, with this trend looking set to continue in 2012. The corresponding trend, of course, is the rise in government debt as a percentage of total credit.

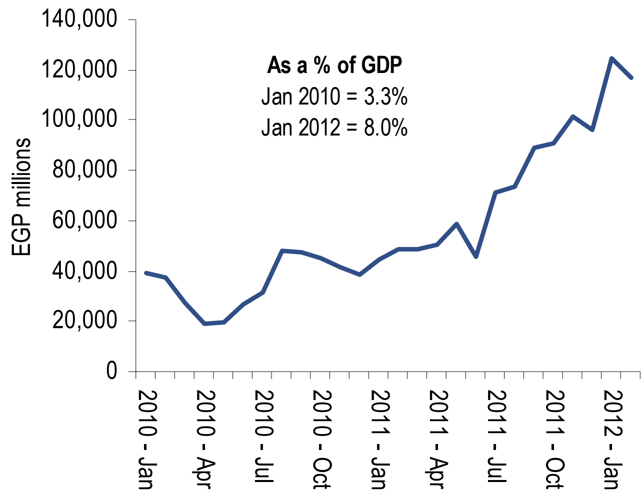
While there are no strong indications yet that the banking sector cannot absorb this additional government debt, there are signs of strain. For example, there has been a steady increase in household local currency deposits in the banking system: CBE data shows these rose from around 75% of total deposits in 2019-10 to 82% in December 2011. But the rate of growth of local currency deposits slowed sharply during 2011, which may limit the banks' ability to take on new debt.

Second, there may now be some signs in the data that the government is having to expand the sources of buyers of government securities. In addition to banks, specialized banks, investment companies and mutual funds[3] have grown holdings of domestic debt. In addition, the government has also increased its use of the CBE as a source of financing: CBE credit facilities to the government rose by EGP68.3bn between February 2011 and February 2012, or around 5% GDP. Although the government is paying interest on these claims, further use of the CBE's balance sheet could quickly raise inflation expectations and further increase demand for dollars.

[2] An interesting unknown is whether these flows would pick up, notably from the GCC, if the Egyptian government signed a memorandum of understanding with the IMF about implementing a deal after the presidential elections.

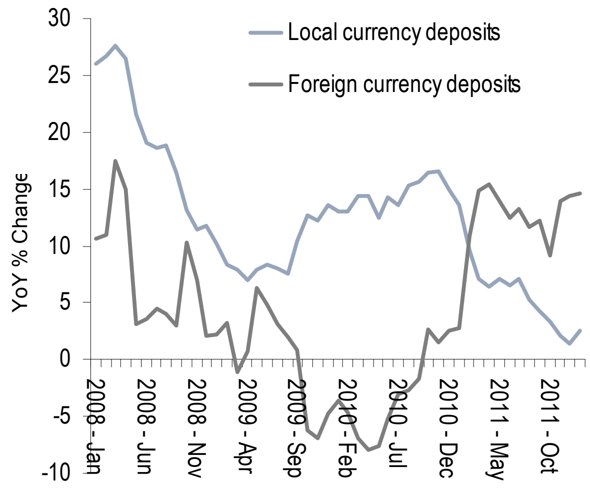
[3] As classified by the CBE.

Figure 8. CBE credit facilities to the government



Source: Haver Analytics

Figure 9. Growth in local and foreign currency deposits



Source: Haver Analytics

Conclusion

'Muddle through' is possible, but fraught with banana skins

Although it is likely to be tight and the room to manoeuvre extremely limited, the government may just about be able to muddle through until September, and then formally sign an agreement with the IMF. But this also implies that the downside risks, notably to the Egyptian pound, will remain considerable during this time. Moreover, the problem is that, by attempting to follow this course, if events do blow the economy off track then there are few options for the government and it really could potentially face the prospect of an uncontrolled devaluation. In fact, at this point, it would have only more radical and drastic policy options, such as the imposition of capital controls.

In this respect, it is also worth highlighting that arguably one of the most interesting features of the political transition in Egypt to date is the fact that Egyptians have, by and large, maintained their faith in the pound, although there is now some evidence of deposit dollarization. However, were there to be a more to wider dollarization, due either to rising inflation, or to concerns that EGP:USD stability could not be maintained, then this could become a self-fulfilling prophecy, with rising demand for foreign currency eventually pushing the CBE into a devaluation.

Delaying decisions makes them no easier

Finally, although the current government can potentially put off decisions until after the political transition is completed, the policy decisions facing the new government are no easier. In fact, because of the delay they will arguably be harder. The only plus is that the addition of international support, led by the signing of an agreement with the IMF, could provide additional funds to ease the pain of a potentially difficult, but necessary transition.

Appendix A-1

Analyst Certification

The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

IMPORTANT DISCLOSURES

Analysts' compensation is determined based upon activities and services intended to benefit the investor clients of Citigroup Global Markets Inc. and its affiliates ("the Firm"). Like all Firm employees, analysts receive compensation that is impacted by overall firm profitability which includes investment banking revenues.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Investment Research & Analysis product ("the Product"), please contact Citi Investment Research & Analysis, 388 Greenwich Street, 28th Floor, New York, NY, 10013, Attention: Legal/Compliance [E6WYB6412478]. In addition, the same important disclosures, with the exception of the Valuation and Risk assessments and historical disclosures, are contained on the Firm's disclosure website at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures. Valuation and Risk assessments can be found in the text of the most recent research note/report regarding the subject company. Historical disclosures (for up to the past three years) will be provided upon request.

NON-US RESEARCH ANALYST DISCLOSURES
Non-US research analysts who have prepared this report (i.e., all research analysts listed below other than those identified as employed by Citigroup Global Markets Inc.) are not registered/qualified as research analysts with FINRA. Such research analysts may not be associated persons of the member organization and therefore may not be subject to the NYSE Rule 472 and NASD Rule 2711 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. The legal entities employing the authors of this report are listed below:

Citigroup Global Markets Ltd	David Cowan

OTHER DISCLOSURES

For securities recommended in the Product in which the Firm is not a market maker, the Firm is a liquidity provider in the issuers' financial instruments and may act as principal in connection with such transactions. The Firm is a regular issuer of traded financial instruments linked to securities that may have been recommended in the Product. The Firm regularly trades in the securities of the issuer(s) discussed in the Product. The Firm may engage in securities transactions in a manner inconsistent with the Product and, with respect to securities covered by the Product, will buy or sell from customers on a principal basis.

Securities recommended, offered, or sold by the Firm: (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Citibank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. Although information has been obtained from and is based upon sources that the Firm believes to be reliable, we do not guarantee its accuracy and it may be incomplete and condensed. Note, however, that the Firm has taken all reasonable steps to determine the accuracy and completeness of the disclosures made in the Important Disclosures section of the Product. The Firm's research department has received assistance from the subject company(ies) referred to in this Product including, but not limited to, discussions with management of the subject company(ies). Firm policy prohibits research analysts from sending draft research to subject companies. However, it should be presumed that the author of the Product has had discussions with the subject company to ensure factual accuracy prior to publication. All opinions, projections and estimates constitute the judgment of the author as of the date of the Product and these, plus any other information contained in the Product, are subject to change without notice. Prices and availability of financial instruments also are subject to change without notice. Notwithstanding other departments within the Firm advising the companies discussed in this Product, information obtained in such role is not used in the preparation of the Product. Although Citi Investment Research & Analysis (CIRA) does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of CIRA to provide research coverage of the/those issuer(s) mentioned therein, including in response to news affecting this issuer, subject to applicable quiet periods and capacity constraints. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security. Any decision to purchase securities mentioned in the Product must take into account existing public information on such security or any registered prospectus.

Investing in non-U.S. securities, including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of the U.S. Securities and Exchange Commission. There may be limited information available on foreign securities. Foreign companies are generally not subject to uniform audit and reporting standards, practices and requirements comparable to those in the U.S. Securities of some foreign companies may be less liquid and their prices more volatile than securities of comparable U.S. companies. In addition, exchange rate movements may have an adverse effect on the value of an investment in a foreign stock and its corresponding dividend payment for U.S. investors. Net dividends to ADR investors are estimated, using withholding tax rates conventions, deemed accurate, but investors are urged to consult their tax advisor for exact dividend computations. Investors who have received the Product from the Firm may be prohibited in certain states or other jurisdictions from purchasing securities mentioned in the Product from the Firm. Please ask your Financial Consultant for additional details. Citigroup Global Markets Inc. takes responsibility for the Product in the United States. Any orders by US investors resulting from the information contained in the Product may be placed only through Citigroup Global Markets Inc.

Important Disclosures for Morgan Stanley Smith Barney LLC Customers: Morgan Stanley & Co. LLC (Morgan Stanley) research reports may be available about the companies that are the subject of this Citi Investment Research & Analysis (CIRA) research report. Ask your Financial Advisor or use

smithbarney.com to view any available Morgan Stanley research reports in addition to CIRA research reports.
Important disclosure regarding the relationship between the companies that are the subject of this CIRA research report and Morgan Stanley Smith Barney LLC and its affiliates are available at the Morgan Stanley Smith Barney disclosure website at www.morganstanleysmithbarney.com/researchdisclosures.
For Morgan Stanley and Citigroup Global Markets, Inc. specific disclosures, you may refer to www.morganstanley.com/researchdisclosures and https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.
This CIRA research report has been reviewed and approved on behalf of Morgan Stanley Smith Barney LLC. This review and approval was conducted by the same person who reviewed this research report on behalf of CIRA. This could create a conflict of interest.

The Citigroup legal entity that takes responsibility for the production of the Product is the legal entity which the first named author is employed by. The Product is made available in **Australia** through Citigroup Global Markets Australia Pty Ltd. (ABN 64 003 114 832 and AFSL No. 240992), participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in Australia to Private Banking wholesale clients through Citigroup Pty Limited (ABN 88 004 325 080 and AFSL 238098). Citigroup Pty Limited provides all financial product advice to Australian Private Banking wholesale clients through bankers and relationship managers. If there is any doubt about the suitability of investments held in Citigroup Private Bank accounts, investors should contact the Citigroup Private Bank in Australia. Citigroup companies may compensate affiliates and their representatives for providing products and services to clients. The Product is made available in **Brazil** by Citigroup Global Markets Brasil - CCTVM SA, which is regulated by CVM - Comissão de Valores Mobiliários, BACEN - Brazilian Central Bank, APIMEC - Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais and ANBID - Associação Nacional dos Bancos de Investimento. Av. Paulista, 1111 - 11º andar - CEP. 01311920 - São Paulo - SP. If the Product is being made available in certain provinces of **Canada** by Citigroup Global Markets (Canada) Inc. ("CGM Canada"), CGM Canada has approved the Product. Citigroup Place, 123 Front Street West, Suite 1100, Toronto, Ontario M5J 2M3. This product is available in **Chile** through Banchile Corredores de Bolsa S.A., an indirect subsidiary of Citigroup Inc., which is regulated by the Superintendencia de Valores y Seguros. Agustinas 975, piso 2, Santiago, Chile. The Product is made available in **France** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 1-5 Rue Paul Cézanne, 8ème, Paris, France. The Product is distributed in **Germany** by Citigroup Global Markets Deutschland AG ("CGMD"), which is regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin). CGMD, Reuterweg 16, 60323 Frankfurt am Main. Research which relates to "securities" (as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong)) is issued in **Hong Kong** by, or on behalf of, Citigroup Global Markets Asia Limited which takes full responsibility for its content. Citigroup Global Markets Asia Ltd. is regulated by Hong Kong Securities and Futures Commission. If the Research is made available through Citibank, N.A., Hong Kong Branch, for its clients in Citi Private Bank, it is made available by Citibank N.A., Citibank Tower, Citibank Plaza, 3 Garden Road, Hong Kong. Citibank N.A. is regulated by the Hong Kong Monetary Authority. Please contact your Private Banker in Citibank N.A., Hong Kong, Branch if you have any queries on or any matters arising from or in connection with this document. The Product is made available in **India** by Citigroup Global Markets India Private Limited, which is regulated by Securities and Exchange Board of India. Bakhtawar, Nariman Point, Mumbai 400-021. The Product is made available in **Indonesia** through PT Citigroup Securities Indonesia. 5/F, Citibank Tower, Bapindo Plaza, Jl. Jend. Sudirman Kav. 54-55, Jakarta 12190. Neither this Product nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable capital market laws and regulations. This Product is not an offer of securities in Indonesia. The securities referred to in this Product have not been registered with the Capital Market and Financial Institutions Supervisory Agency (BAPEPAM-LK) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market laws and regulations. The Product is made available in **Israel** through Citibank NA, regulated by the Bank of Israel and the Israeli Securities Authority. Citibank, N.A, Platinum Building, 21 Ha'arba'ah St, Tel Aviv, Israel. The Product is made available in **Italy** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. Via dei Mercanti, 12, Milan, 20121, Italy. The Product is made available in **Japan** by Citigroup Global Markets Japan Inc. ("CGMJ"), which is regulated by Financial Services Agency, Securities and Exchange Surveillance Commission, Japan Securities Dealers Association, Tokyo Stock Exchange and Osaka Securities Exchange. Shin-Marunouchi Building, 1-5-1 Marunouchi, Chiyoda-ku, Tokyo 100-6520 Japan. If the Product was distributed by SMBC Nikko Securities Inc. it is being so distributed under license. In the event that an error is found in an CGMJ research report, a revised version will be posted on the Firm's Citi Velocity website. If you have questions regarding Citi Velocity, please call (81 3) 6270-3019 for help. The Product is made available in **Korea** by Citigroup Global Markets Korea Securities Ltd., which is regulated by the Financial Services Commission, the Financial Supervisory Service and the Korea Financial Investment Association (KOFIA). Citibank Building, 39 Da-dong, Jung-gu, Seoul 110-180, Korea. KOFIA makes available registration information of research analysts on its website. Please visit the following website if you wish to find KOFIA registration information on research analysts of Citigroup Global Markets Korea Securities Ltd. http://dis.kofia.or.kr/fs/dis2/fundMgr/DISFundMgrAnalystPop.jsp?companyCd2=A03030&pageDiv=02. The Product is made available in **Malaysia** by Citigroup Global Markets Malaysia Sdn Bhd (Company No. 460819-D) ("CGMM") to its clients and CGMM takes responsibility for its contents. CGMM is regulated by the Securities Commission of Malaysia. Please contact CGMM at Level 43 Menara Citibank, 165 Jalan Ampang, 50450 Kuala Lumpur, Malaysia in respect of any matters arising from, or in connection with, the Product. The Product is made available in **Mexico** by Acciones y Valores Banamex, S.A. De C. V., Casa de Bolsa, Integrante del Grupo Financiero Banamex ("Accival") which is a wholly owned subsidiary of Citigroup Inc. and is regulated by Comision Nacional Bancaria y de Valores. Reforma 398, Col. Juarez, 06600 Mexico, D.F. In **New Zealand** the Product is made available to 'wholesale clients' only as defined by s5C(1) of the Financial Advisers Act 2008 ('FAA') through Citigroup Global Markets Australia Pty Ltd (ABN 64 003 114 832 and AFSL No. 240992), an overseas financial adviser as defined by the FAA, participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in **Pakistan** by Citibank N.A. Pakistan branch, which is regulated by the State Bank of Pakistan and Securities Exchange Commission, Pakistan. AWT Plaza, 1.1. Chundrigar Road, P.O. Box 4889, Karachi-74200. The Product is made available in the **Philippines** through Citicorp Financial Services and Insurance Brokerage Philippines, Inc., which is regulated by the Philippines Securities and Exchange Commission. 20th Floor Citibank Square Bldg. The Product is made available in the Philippines through Citibank NA Philippines branch, Citibank Tower, 8741 Paseo De Roxas, Makati City, Manila. Citibank NA Philippines NA is regulated by The Bangko Sentral ng Pilipinas. The Product is made available in **Poland** by Dom Maklerski Banku Handlowego SA an indirect subsidiary of Citigroup Inc., which is regulated by Komisja Nadzoru Finansowego. Dom Maklerski Banku Handlowego S.A. ul.Senatorska 16, 00-923 Warszawa. The Product is made available in the **Russian Federation** through ZAO Citibank, which is licensed to carry out banking activities in the Russian Federation in accordance with the general banking license issued by the Central Bank of the Russian Federation and brokerage activities in accordance with the license issued by the Federal Service for Financial Markets. Neither the Product nor any information contained in the Product shall be considered as advertising the securities mentioned in this report within the territory of the Russian Federation or outside the Russian Federation. The Product does not constitute an appraisal within the

meaning of the Federal Law of the Russian Federation of 29 July 1998 No. 135-FZ (as amended) On Appraisal Activities in the Russian Federation. 8-10 Gasheka Street, 125047 Moscow. The Product is made available in **Singapore** through Citigroup Global Markets Singapore Pte. Ltd. ("CGMSPL"), a capital markets services license holder, and regulated by Monetary Authority of Singapore. Please contact CGMSPL at 8 Marina View, 21st Floor Asia Square Tower 1, Singapore 018960, in respect of any matters arising from, or in connection with, the analysis of this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). The Product is made available by The Citigroup Private Bank in Singapore through Citibank, N.A., Singapore Branch, a licensed bank in Singapore that is regulated by Monetary Authority of Singapore. Please contact your Private Banker in Citibank N.A., Singapore Branch if you have any queries on or any matters arising from or in connection with this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). This report is distributed in Singapore by Citibank Singapore Ltd ("CSL") to selected Citigold/Citigold Private Clients. CSL provides no independent research or analysis of the substance or in preparation of this report. Please contact your Citigold//Citigold Private Client Relationship Manager in CSL if you have any queries on or any matters arising from or in connection with this report. This report is intended for recipients who are accredited investors as defined under the Securities and Futures Act (Cap. 289). Citigroup Global Markets (Pty) Ltd. is incorporated in the **Republic of South Africa** (company registration number 2000/025866/07) and its registered office is at 145 West Street, Sandton, 2196, Saxonwold. Citigroup Global Markets (Pty) Ltd. is regulated by JSE Securities Exchange South Africa, South African Reserve Bank and the Financial Services Board. The investments and services contained herein are not available to private customers in South Africa. The Product is made available in **Spain** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 29 Jose Ortega Y Gassef, 4th Floor, Madrid, 28006, Spain. The Product is made available in the **Republic of China** through Citigroup Global Markets Taiwan Securities Company Ltd. ("CGMTS"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan, subject to the respective license scope of each entity and the applicable laws and regulations in the Republic of China. CGMTS and CSTL are both regulated by the Securities and Futures Bureau of the Financial Supervisory Commission of Taiwan, the Republic of China. No portion of the Product may be reproduced or quoted in the Republic of China by the press or any third parties [without the written authorization of CGMTS and CSTL]. If the Product covers securities which are not allowed to be offered or traded in the Republic of China, neither the Product nor any information contained in the Product shall be considered as advertising the securities or making recommendation of the securities in the Republic of China. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security or financial products. Any decision to purchase securities or financial products mentioned in the Product must take into account existing public information on such security or the financial products or any registered prospectus. The Product is made available in **Thailand** through Citicorp Securities (Thailand) Ltd., which is regulated by the Securities and Exchange Commission of Thailand. 18/F, 22/F and 29/F, 82 North Sathorn Road, Silom, Bangrak, Bangkok 10500, Thailand. The Product is made available in **Turkey** through Citibank AS which is regulated by Capital Markets Board. Tekfen Tower, Eski Buyukdere Caddesi # 209 Kat 2B, 23294 Levent, Istanbul, Turkey. In the **U.A.E**, these materials (the "Materials") are communicated by Citigroup Global Markets Limited, DIFC branch ("CGML"), an entity registered in the Dubai International Financial Center ("DIFC") and licensed and regulated by the Dubai Financial Services Authority ("DFSA") to Professional Clients and Market Counterparties only and should not be relied upon or distributed to Retail Clients. A distribution of the different CIRA ratings distribution, in percentage terms for Investments in each sector covered is made available on request. Financial products and/or services to which the Materials relate will only be made available to Professional Clients and Market Counterparties. The Product is made available in **United Kingdom** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. This material may relate to investments or services of a person outside of the UK or to other matters which are not regulated by the FSA and further details as to where this may be the case are available upon request in respect of this material. Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB. The Product is made available in **United States** by Citigroup Global Markets Inc, which is a member of FINRA and registered with the US Securities and Exchange Commission. 388 Greenwich Street, New York, NY 10013. Unless specified to the contrary, within EU Member States, the Product is made available by Citigroup Global Markets Limited, which is regulated by Financial Services Authority.

Pursuant to Comissão de Valores Mobiliários Rule 483, Citi is required to disclose whether a Citi related company or business has a commercial relationship with the subject company. Considering that Citi operates multiple businesses in more than 100 countries around the world, it is likely that Citi has a commercial relationship with the subject company.

Many European regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of investment research. The policy applicable to CIRA's Products can be found at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.

Compensation of equity research analysts is determined by equity research management and Citigroup's senior management and is not linked to specific transactions or recommendations.

The Product may have been distributed simultaneously, in multiple formats, to the Firm's worldwide institutional and retail customers. The Product is not to be construed as providing investment services in any jurisdiction where the provision of such services would not be permitted.

Subject to the nature and contents of the Product, the investments described therein are subject to fluctuations in price and/or value and investors may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Certain investments contained in the Product may have tax implications for private customers whereby levels and basis of taxation may be subject to change. If in doubt, investors should seek advice from a tax adviser. The Product does not purport to identify the nature of the specific market or other risks associated with a particular transaction. Advice in the Product is general and should not be construed as personal advice given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice, consider the appropriateness of the advice, having regard to their objectives, financial situation and needs. Prior to acquiring any financial product, it is the client's responsibility to obtain the relevant offer document for the product and consider it before making a decision as to whether to purchase the product.

With the exception of our product that is made available only to Qualified Institutional Buyers (QIBs), CIRA concurrently disseminates its research via proprietary and non-proprietary electronic distribution platforms. Periodically, individual CIRA analysts may also opt to circulate research posted on such platforms to one or more clients by email. Such email distribution is discretionary and is done only after the research has been disseminated via the aforementioned distribution channels. CIRA simultaneously distributes product that is limited to QIBs only through email distribution.

The level and types of services provided by CIRA analysts to clients may vary depending on various factors such as the client's individual preferences as to the frequency and manner of receiving communications from analysts, the client's risk profile and investment focus and perspective (e.g. market-wide, sector specific, long term, short-term etc.), the size and scope of the overall client relationship with Citi and legal and regulatory constraints.

CIRA product may source data from dataCentral. dataCentral is a CIRA proprietary database, which includes Citi estimates, data from company reports and feeds from Reuters and Datastream.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST