Morgan Stanley

MORGAN STANLEY RESEARCH

Morgan Stanley & Co. International plc+

Rashique Rahman
Global EM Macro Strategy
rashique.rahman@morganstanley.com
+44 207 677 7295

Morgan Stanley & Co. International plc+

Regis Chatellier
Global EM Credit Strategy
regis.chatellier@morganstanley.com
+44 207 677 6982

May 12, 2010

EM Profile

Ten takeaways from EM sovereign debt restructuring

Sovereign debt distress and default has a long history and there are many aspects – financial, economic, political and legal – involved.

In this report, we take a look at the essential aspects, and provide some context for the current developments related to sovereign risk, based on recent episodes of EM sovereign distress and default.

- Sovereign defaults tend to happen in periodic clusters
- Ability versus willingness – the importance of the political dimension
- Liquidity versus solvency – the initial impetus to 'buy time'
- Initial conditions – it is more about the *flow* than the *stock* that drives market sentiment
- Collective action and the creditor coordination problem – there are wide variations in outcome largely related to market-based ad-hoc resolutions
- Methods of restructuring sovereign debt – contractual arrangement or voluntary exchange
- Equivalence – the treatment of different creditor classes and bondholders
- Dynamics of debt renegotiation – examples of sovereign debt distress episodes
- Price action in the prelude to distress or default
- Private sector involvement – bailing in the bondholders

We also discuss the case of Uruguay (2003) and map ways in which sovereign debt has been restructured since the Brady Plan era.

Material in this report was first published in *EMU Sovereign Risk: Lessons from EM sovereign restructuring/default*, April 27, 2010.

Ten takeaways from EM sovereign debt restructuring

Sovereign debt distress and default has a long history and there are many aspects – financial, economic, political and legal – involved. Our aim is not to provide an exhaustive treatise on sovereign distress and default. Rather, we aim to provide guidance on what we believe to be essential aspects that can provide context for the recent developments related to sovereign risk based on a more recent history of EM sovereign distress and default episodes.

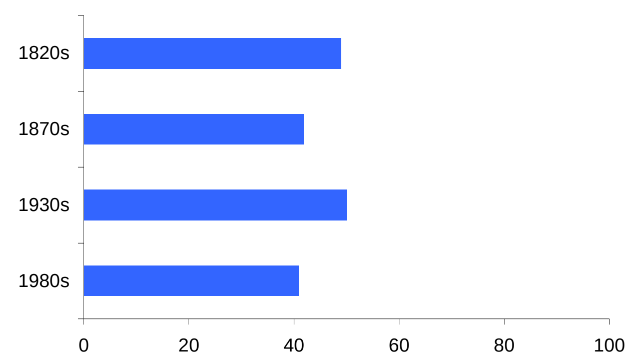
What follows may or may not be relevant for any particular instance of sovereign distress, whether in EM or DM.

One of the main takeaways from recent episodes is that the features surrounding sovereign default/restructuring and resolution of these episodes – initial conditions, recovery rates, duration in default – all vary considerably across cases. This is due in large part to the market-based, ad-hoc approach to sovereign crisis resolution as well as to the importance of the political dimension (impacting incentives in whether or not to pay as well as in subsequent negotiations with creditors) in assessing sovereign distress episodes. Moreover, the lack of clarity in response of the various agents involved – which can include the IMF, other multilateral or bilateral actors, domestic versus foreign creditors – as well as uncertainty regarding their particular involvement complicates the uncertainty surrounding sovereign restructuring and default.

Note that the emphasis here is on 'external-currency' bond default as opposed to 'local-currency' or domestic bond default. By 'external-currency' it is assumed that the central bank of the country cannot generate the currency (foreign exchange) required to repay the debt, irrespective of whether or not this currency is part of the government's revenue base. This may induce a credit event in the case of payment duress, as opposed to an inflation event in the case of payment duress for 'local-currency' bonds. We consider Eurozone economies to be operating under a regime of 'external-currency' debt since their central banks are not able to 'print' EUR required to repay their EUR-denominated obligations – just as an EM economy is not able to 'print' USD required to repay their USD-denominated obligations, even if the economy is effectively dollarized. Recent default/restructuring of local-currency denominated government debt has nonetheless occurred, such as in Ecuador (1999), Russia (1998), Ukraine (1998) and most recently in the case of Jamaica (2010).[1]

1. Sovereign defaults tend to happen in periodic clusters, and historically are rarely isolated incidents – Typically linked to boom/bust cycles, easy credit leads to a boom in borrowing and tight credit leads to difficulty in refinancing and ultimately default. Since the 19th century, sovereign default episodes have occurred on average 50 years apart, with some less onerous episodes in between. This includes the 1820s, 1870s, 1930s and 1980s. During these periods, a significant number of sovereigns were in default.

Exhibit 1
Percent of sovereigns in default/restructuring



Source: Morgan Stanley, Reinhart & Rogoff (2009)

2. Ability versus willingness – When it comes to sovereigns, ability and willingness are both determinants of the prospects of debt repayment. Sovereigns tend to default when there is no access to refinancing and domestic political considerations often come into play. The dimension of external versus internal constituents factors in here, with policymakers tending to retain scarce resource for domestic residents over that of external creditors (see #7: Equivalence).

[1] *Bond credit spreads for 'external-currency' bonds are a function of default probabilities and an assumed recovery rate.*
Estimate for default probability given the credit spread:

Instantaneous Default probability ≈ (Spread to risk-free in bp/10,000) / (1 – Recovery rate in %)

Not only are there weak international institutional arrangements for dealing with sovereign debt and repayment duress, but there have been legal precedents established which mitigate creditor claims on sovereign assets in the event of technical/legal default. This is due to the principle of *sovereign immunity*, as pertains to sovereign assets.

Such legal precedents have the impact of impeding creditor claims on a sovereign and therefore of increasing the influence of political incentives whether or not to repay (foreign) creditors. It still may be in the interest of the sovereign to mitigate the risk and cost of litigation, which could include attempts at attachment on sovereign assets and/or to maintain (international) market access.

Political and economic incentive (willingness), therefore, plays a large part in the decision whether or not to default or restructure – and how to restructure. Recent research indicates that political factors relating to the debtor nation can and has had considerable influence on restructuring negotiations, delays and the duration a sovereign in default.[2]

3. Liquidity versus solvency – "New money and buying time" has characterized the initial reaction to payment duress in the midst of sovereign crises, to the extent that they were considered by authorities as liquidity rather than solvency related (even when from the standpoint of external observers solvency was clearly a concern). In fact, it's the norm.

We review two specific examples:

1. In response to the syndicated loan defaults to emerging nations in the 1980s, the Baker Plan in 1985 preceded the Brady Plan in 1989 and called for new money operations to fund debt refinancing. This was in large part based on the assumption that it was a liquidity crisis and needed only time to resolve itself. It did not work. The Brady Plan followed, which called for market-based and voluntary debt reduction negotiated between creditors and debtors.

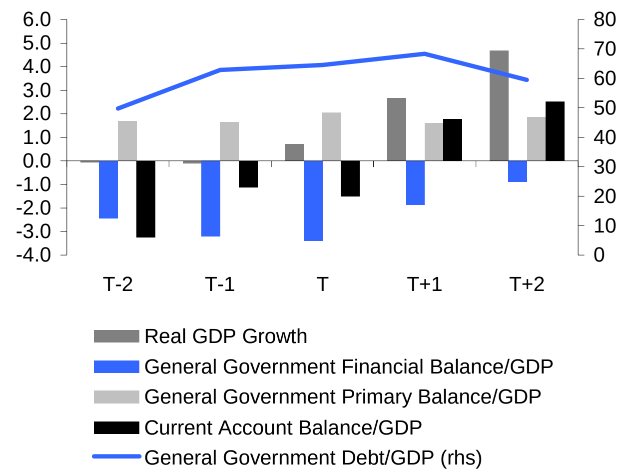
2. The Argentina 'mega-swap' of June 2001 termed out bond payments in an effort to buy time but it did little to address the underlying solvency issue of the government. In fact, it increased the NPV of the debt by nearly 30%[3]. Argentina attempted another exercise at relieving the short-term repayment burden in November 2001 involving domestic investors – but the sovereign subsequently defaulted end-2001 (missed the first bond payment January 2002) and engineered a 75% NPV reduction in its bonds by 2005.

The distinction between liquidity and solvency is oftentimes difficult a priori to ascertain, complicating the path to resolution. As such, the initial impetus to repayment duress has been to 'buy time' and in the process effectively deny a more serious underlying payment problem if it exists.

Two types of restructuring have taken place in recent years (see section: Recent Forms of Sovereign Restructuring). *Pre-emptive* restructuring has involved sovereigns in distress but still current on their bonds – and could be considered instances of liquidity constraints. *Post-default* restructuring has involved unilateral default – and could be considered instances of solvency constraints.

In many cases, what was initially considered a liquidity problem turned into what was increasingly considered a solvency problem. Post-default debt restructuring (as in the case of Argentina and Russia) were also typically preceded by pre-emptive re-profiling/restructuring exercises – voluntary exchanges aimed at terming out the debt – utilized as a means to 'buy time' due to what was deemed by authorities as temporary liquidity constraints and to stave off default.

Exhibit 2
Macro conditions pre/post restructuring event (T)



The average for the indicators for Argentina, Dominican Republic, Ecuador, Ivory Coast, Jamaica, Pakistan, Russia, Ukraine and Uruguay
Source: Morgan Stanley

4. Initial conditions – What is characteristic from a macroeconomic perspective of individual instances of sovereign default?

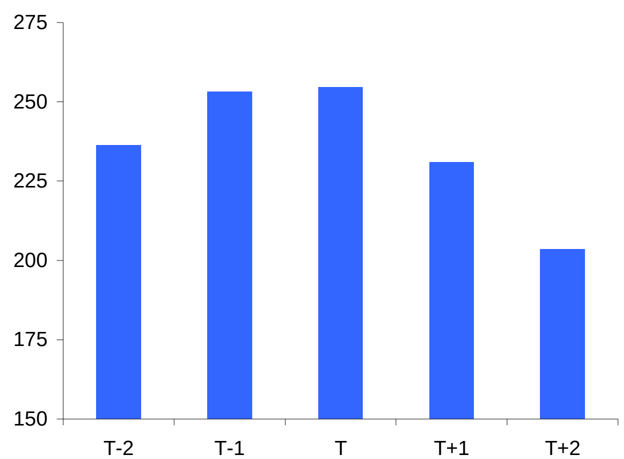
[2] *See Delays in Sovereign Debt Restructuring. Should We Really Blame the Creditors?, Christoph Trebesch (Free University of Berlin), September 2009.*
3 See Cross-country experience with Restructuring of Sovereign Debt and Restoring Debt Sustainability, August 2006 – International Monetary Fund.

Though high government debt/GDP figured prominently in recent sovereign default episodes, fiscal deficits combined with recession/negative growth have been more-prevalent features in what eventually turn out to be sovereign debt restructuring/default episodes – more so than high government debt/GDP ratios, per se.

Moreover, as repayment capacity becomes paramount, and as we are considering here external debt repayment, indicators of external debt repayment capacity (such as external debt/export receipts or external debt service ratios) have tended to be more reliable indicators of impending repayment duress than the aggregated debt stock.

Exhibit 3

External debt/exports (%)



The average for the indicators for Argentina, Dominican Republic, Ecuador, Ivory Coast, Jamaica, Pakistan, Russia, Ukraine and Uruguay
Source: Morgan Stanley

External debt was 2.5 times that of export receipts on average going into recent episodes of sovereign credit events. At the same time, recent EM bond defaults show in many cases sovereigns had relatively low debt/GDP ratios at the time (60% or lower).

The trigger for market concern over default relates more to repayment prospects – the *sustainability* – of the debt (the flow) rather than the overall *level* of debt (the stock). In all cases debt/GDP was rising rapidly prior to the distress/default episodes.

There is also a strong link between sovereign distress/default and banking/currency (balance of payments) crisis. Banking sector stress and capital flight has, in the past, tended to exacerbate the perception of the sovereign in duress and worsened external debt repayment capacity.

Emphasis on debt *stock* becomes more prevalent in the restructuring, related to considerations of what, post-default, would be considered sustainable as far as the debt level is concerned and how that may influence the haircut in a restructuring.

The *NPV reduction* of the debt becomes an important consideration for the market in assessing the prospects for post-default debt sustainability. This will have a bearing on exit yields (the discount rate that the market applies to a voluntary debt restructuring or post-default debt restructuring cashflows).

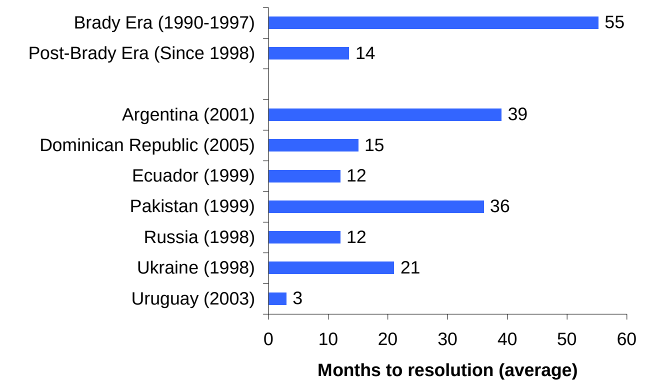
5. Collective action and the creditor coordination problem – relates to the difficulty in coordinating the actions of creditors when there is payment duress and/or default. In early sovereign default episodes, there was considerable difficulty in coordinating the actions of creditors to resolve default and this dragged on the curing of these defaults and complicated the path towards restructuring of the debt. Ad-hoc creditor committees typically were established and later, more formal mechanisms were institutionalized. The sovereign bond defaults of the late 1820s, in fact, took decades to finally resolve.

In general, the more dispersed the bondholders, the more difficult the collective action problem.

Sovereign bond covenants – under New York law – had specified a majority of bondholders (in some cases 100%) to agree to a change in payment terms, which complicated the resolution of sovereign default and/or restructuring.

This problem induced a move towards voluntary restructurings – bond exchanges – for EM sovereigns, even as collective action clauses (CACs) were introduced into sovereign bond contracts in early 2003. CACs allowed for a qualified majority of bondholders (typically 75%) to represent creditors in terms of a modification of payment terms to reduce the potentially disruptive impact of holdouts. In some cases, CACs included aggregation clauses through which a super-majority could modify each bond if a minimum required threshold is reached for each class of outstanding bond. Some recent contracts also facilitated the establishment of creditor committees (so-called *engagement provisions*).

Exhibit 4
Time to resolution of sovereign debt distress



Source: Morgan Stanley; Christoph Trebesch, Delays in Sovereign Debt Restructuring. Should We Really Blame the Creditors? (Free University of Berlin), September 2009.

In practice, collective action and coordination problems have been less of an issue in recent sovereign bond restructurings, with the exception of Argentina where in the 2005 exchange there had been a sizable proportion of holdouts. Argentina has yet to fully cure the default – and is attempting a swap on untendered bonds in the coming weeks – and as such, its access to international markets remains impaired.

Market responses to the lack of formally-established mechanisms of sovereign restructuring have been met with so-called soft-law principles, based on guidelines established by various creditor groups and agreed upon by a group of sovereign borrowers. These guidelines or the ‘Principles’ are voluntary but again are intended to mitigate some of the uncertainty surrounding the still largely ad-hoc approach taken between creditor and debtor in dealing with sovereign debt crises.

6. Methods of restructuring sovereign debt – (a) contractual arrangements; or (b) voluntary restructuring are possible avenues. Unlike a corporate bond restructuring, sovereign bond restructuring does not benefit (as of yet) from an internationally recognized bankruptcy/resolution procedure. This was the motivation for the establishment of a Sovereign Debt Restructuring Mechanism (SDRM) as proposed by the IMF in 2002, to provide an orderly and efficient restructuring – or curing of default – of sovereign debt. SDRM did not receive a critical mass of support and was shelved as a policy initiative in 2003, in favor of more market-based approaches (such as inclusion of CACs).

Even so, enforcement against a sovereign may be a concern even if an orderly process towards restructuring and renegotiation of debt were to be established. As such, due to the limited scope for enforcement, sovereign debt restructuring has tended to be on the basis of negotiation rather than adjudication.

a. Contractual arrangements – Typically associated with unilateral default, in this case the repayment terms and/or bond covenants are amended at the request of the debtor. Such procedures are usually instituted only after a technical/legal default has occurred – though certainly need not be, and any such request may itself trigger technical default and acceleration of principal repayment if voted on by bondholders. Due to collective action problems, such instances have been rare in recent sovereign bond default episodes – but have occurred. Uruguay used the CAC clause in the Samurai bond in 2003 to reprofile the bond while still remaining current on its debt payments and Belize used contractual arrangements (facilitated by CACs) to restructure its sovereign debt in 2006 after suspending external debt payments for a time, for example.

b. Voluntary exchanges – otherwise known as distressed bond exchanges or swaps, these have become more regular occurrences in EM and involve the exchange of outstanding bonds for new bonds that typically have a longer maturity (average life of principal repayment), lower (below-market) coupons and/or reduced principal. In some recent cases in EM, the bonds were already in default (Argentina 2001, Ecuador 2002, Russia 1998, Ukraine 2001) and in others, the bonds were current but the issuer was in distress (Argentina mega-swap 2001, Pakistan 1998, Ukraine 1998, Uruguay 2003). Even in the cases of distressed exchanges (with no unilateral default), rating agencies considered the operations events of distress/selective default because they resulted in NPV losses for bondholders.

Some incentive is necessary to induce bondholders to agree to the swap. This can be (1) the threat of non-payment on outstanding bonds for holdouts (the new bonds would include *exit consents* – including provisions for excluding cross-default of the old bonds to the new bonds); (2) ‘sweeteners’/’kickers’ – an additional instrument (with additional cashflows on event triggers) or inducement (such as a proportion in up-front cash) to tender into the exchange; and/or (3) depending on prevailing market prices, a higher NPV post the swap on the assumption that the resolution of payment duress as a result of the voluntary exchange would lower yields and raise prices of the new bonds (even with below-market coupons or extended maturities).

Therefore, the market's confidence in the exchange being an *exit restructuring* (i.e., putting the sovereign on the path towards debt repayment sustainability) is crucial in determining (1) the participation rate of the exchange; and (2) the exit yield/spread.

Typically, the larger the implied NPV haircut, the lower is the yield/spread after the exchange as the market factors in a more-sustainable debt trajectory for the sovereign. This can offset the reduction in NPV stemming from a reduction in the notional cash-flow stream.

7. Equivalence – There are several aspects related to equivalence, or similar/dissimilar treatment across creditors/bondholders, including: (a) Legal jurisdictions – local versus foreign bondholders; and (b) NPV versus par claim.

a. Legal jurisdictions – Bonds relating to differing legal jurisdictions may be treated differently in a restructuring/default scenario – particularly local holders versus foreign holders. In some cases, foreign debt may be implicitly senior to that of local debt. Local holders may be penalized more than foreign holders where international law does not apply, particularly where weak domestic enforcement mechanisms prevail or where it may be easier to identify and negotiate favourable terms with creditors.

The sovereign also holds considerable sway on domestic creditors and bondholders, which has at times led to efforts at inducing domestic agents to absorb stresses experienced by the sovereign – such as the purchase and holding of sovereign bonds.

Furthermore, the rationale for a sovereign remaining current on foreign jurisdiction obligations and defaulting at the same time on local jurisdiction obligations is that it may preserve some degree of access to new money in international markets. Russia initially defaulted on domestic-currency bonds in August 1998 (70% of which were held by domestic residents), remaining current on external bonds for a time and in fact never defaulting on Russian Federation global/Eurobonds.

In practice, the treatment of domestic versus foreign creditors has been uneven and has depended on the costs involved in absorbing a write-down of debt on domestic agents – particularly where the banks (and more broadly the domestic financial system) are involved. In Ecuador and Ukraine, terms of restructuring were, for example, more onerous for foreign creditors/bondholers than for domestic creditors/bondholders – for Ukraine this was even where the same domestic-currency instruments were involved.

b. NPV versus par claim – Some recent EM sovereign bond restructurings tended to emphasize the curing of defaults by concentrating new issues in larger, more liquid new bonds with limited consideration made to the NPV losses suffered across the curve or creditor classes.

Instead, restructurings included new bonds that provided the sovereign with a low repayment burden in early years and a rising repayment burden in later years (Argentina, Russia), not just a terming out of the debt. This included features such as step-up coupons, capitalizing principal, pay-in-kind (PIKs), and/or amortizing principal. In these cases, assuming the holder held on through the period of payment duress and default/restructuring, if they held a short-tenor high coupon bond they would have suffered significantly larger NPV losses relative to a holder of a longer-tenor lower coupon bond.

Practically speaking however, NPV gains or losses will, in the end, depend on where an investor bought the bond and the market discount rate on the cash flow stream of the restructured bonds over a given time horizon.

More recently, in an effort to be fair across the curve to bondholders, there have been *NPV-equivalent* exchanges (Ecuador 2002, Uruguay 2003).

In these cases, the attempt was to treat bondholders across the curve more or less equally from the standpoint of NPV losses. In the case of Uruguay, the exchange involved a terming out of maturities, in order to have the same NPV impact across the curve. In this case, bond prices had already converged reflecting the market's assumption of recovery value, obviating the need for considering fair treatment across bondholders on an NPV basis.

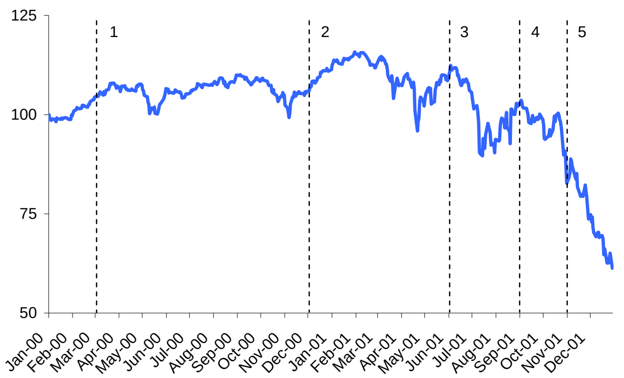
8. Dynamics of debt renegotiation – EM sovereign bond default episodes do not take a straight line from the market sensing payment duress to default. Most episodes involve policymakers denying the existence of payment duress and attempting many approaches – including soliciting outside assistance and support (bilateral or multilateral aid) – before considering a (voluntary) restructuring in some cases involving terming out of the debt or moving towards default as these attempts fail to instill market confidence.

The larger, more prominent EM sovereign default episodes (Argentina, Russia) have been characterized by interim periods of optimism and pessimism before the eventual defaults (Exhibit 5).

We outline a possible path of sovereign debt distress, based on recent episodes (Exhibit 10).

Exhibit 5

Argentina: bond price dynamics before default



1 IMF SBA program approved
2 First disbursement under IMF program and program increase one month later
3 Mega-swap terming out maturities
4 Additional IMF program increase
5 Swap of locally-held bonds for guaranteed loans
EMBI+ Argentina bond total return index rebased to January 2000 = 100
Source: Morgan Stanley, Bloomberg

9. Price action in the prelude to distress or default – As the market front-loads the probability of default the credit curve necessarily inverts as the likelihood of default becomes more immediate. Cash-at-risk becomes the paramount consideration as the market's anticipation of a credit event rises. In fact, as default risk becomes tangible, the probability to receive future cash flows is seen as very low so that yield and spread concepts become irrelevant in terms of return, and so the duration for hedging purposes. The price of each bond then reflects the sole recovery value anticipated by investors.

While little is known about the potential restructuring terms, the market tends to assume a percentage of par recovery across the curve so that bond prices converge across the curve, towards the assumed recovery value.

Typically, this means the market value of shorter-tenor and/or with higher coupon bonds falls more relative to longer-tenor and/or lower coupon bonds (see Exhibits 6 and 7). However, distinction is made between bonds with the highest accrued coupon and those with lowest accrued coupon. Bonds with higher past-due interest (PDI) will stabilize at higher market prices to reflect the fact a certain percentage of PDI is expected to be acknowledged in the restructuring process. However, prior to default, bonds with higher accrued coupon will fall more than bonds with lower accrued coupon. On many occasions, market practice in EM has been to trade bonds flat (of accrued) in anticipation of/following default.

Bond prices tend to converge prior to default as the market's anticipation of a credit event increases. The market moves from a yield/spread (duration) basis to a price (cash-at-risk) basis. This process can happen (and has happened) at prices well above eventual assumed recovery.

Exhibit 6

Uruguay 2027 v 2010 yield differential (bp)

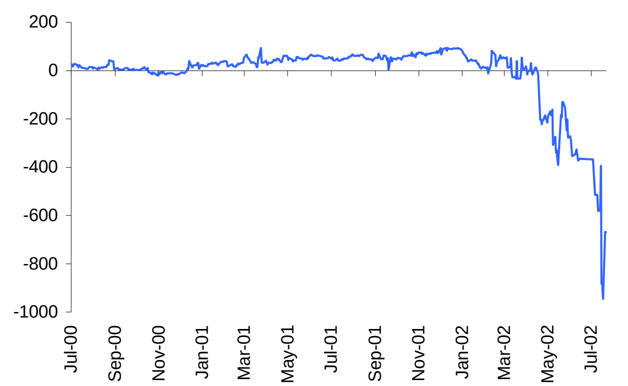
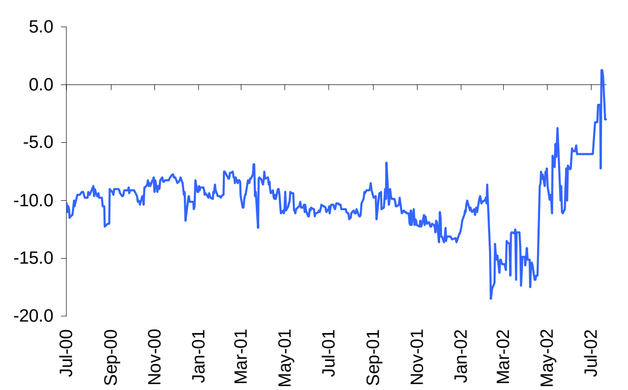


Exhibit 7

Uruguay 2027 v 2010 clean price differential



Source: Morgan Stanley

In terms of sequence:

(1) The curve starts trading on a price and not yield basis as the notion of default or restructuring becomes widespread – the yield/spread curve flattens and then inverts;

(2) as default intensity rises, price convergence begins and bonds across the curve gravitate towards the same cash price;

(3) prices fall further, towards the assumed recovery value of the market. Note, in the process of price convergence, higher coupon bonds may trade at a modest premium to lower coupon bonds but bonds with higher accrued interest fall more than bonds with lower accrued interest.

The more the market anticipates NPV equivalence, the less likely prices are to converge. However, there is usually a considerable degree of uncertainty with respect to future events, and the market has tended to gravitate towards the assumption of a par claim across the curve. Moreover, the more onerous the debt burden, the more likely the market may consider a larger NPV reduction exercise, beyond which NPV equivalence could be affected.

10. Multilateral engagement and private sector involvement (PSI) – Official sector and IMF involvement in sovereign debt crises has taken several forms. First, the IMF may have been providing financial assistance under standard programs to a sovereign in the run-up to repayment duress; or the Fund might get involved once the sovereign has fallen into arrears with private creditors. With the exception of Belize, the IMF had financial programs in place during recent sovereign bond restructuring episodes (Exhibit 9). Bilateral creditor groups – the so-called *Paris Club* of official lenders – has also had influence on sovereign bond restructuring.

The IMF can influence debt restructuring under its lending into arrears (LIA) policy. Under LIA, the IMF can provide financial assistance to a sovereign that has fallen into arrears with other (private) creditors. But as a condition for providing the financial assistance, the IMF can seek to affect policy change on the debtor nation via an adjustment program and take a mediating role with respect to negotiations with creditors – though the LIA policy itself is ambiguous on this aspect.

What is instructive regarding IMF practice in recent cases of sovereign debt duress is the steady loosening in conditionality that applied as a response to failures to meet program requirements. In these – Argentina and Russia – the eventual suspension of the IMF program and disbursements set the stage for eventual default.

Moreover, the involvement of the IMF in private creditor debt workouts has at times compromised its position in the minds of market participants given that the IMF itself is a creditor.

The IMF is a preferred creditor and though not explicitly recognized, implicitly multilateral/IMF debt is often considered by the market as senior to private creditor debt. Sovereigns were less likely to default on multilateral debt as IMF aid was a last resort in terms of access to external financing – particularly given that bilateral aid was typically tied to an agreement with the IMF and private creditor sentiment was enhanced with the existence of IMF backing. This, however, depended and is likely to depend on the relative share of the debt repayment burden across creditor classes. In the past, bilateral debt was considered implicitly subordinate to private creditor debt, and private creditor debt implicitly subordinate to multilateral/IMF debt. Due to the principle of *comparability of treatment* (discussed below), this dynamic has changed.

The tying of multilateral financial assistance to the restructuring of private creditor debt has given rise to the premise of private-sector burden-sharing. Otherwise known as private sector involvement (PSI), this has become a more familiar feature of sovereign distress episodes in recent years.

Indeed we feel it important to emphasize the potential adverse aspects of official/IMF involvement in sovereign support, from the vantage point of private creditors. The official sector has, in recent episodes pushed for ‘bailing-in’/burden-sharing of private creditors in the resolution of sovereign payment debt duress.

Exhibit 8

Pre-restructuring IMF involvement

Country	Program	Approval	Status
Argentina	SBA	Mar-00	Emphasis on fiscal adjustment. Program failed.
	1st increase	Jan-01	Relaxation of fiscal targets and reviews approved despite not having met fiscal targets. Support for the mega-swap.
	2nd increase	Sep-01	Did not complete 5th review.
Pakistan	EFF/ESAF	Oct-97	Program off track in Jul-99.
Russia	EFF/ESAF	Mar-96	Targets relaxed.
	1st increase	Jul-98	Support for GKO into Eurobond swap. Program suspended once Duma failed to ratify fiscal adjustment.
Ukraine	SBA	Apr-96	Progam successfully implemented.
		Aug-97	Conditionality not satisfied.
Uruguay	SBA	May-00	Loose conditionality given emphasis as a precautionary program due to Argentina contagion.
		Apr-02	Tighter conditionality but successful implementation.

Source: Morgan Stanley, Bank of Spain (Occasional Paper 805)

Another related aspect of IMF involvement revolves around the exceptional access framework (EAF) which was introduced in 2002 and detailed conditions under which it would provide financial assistance beyond standard limits. Under the EAF, the IMF would provide debt-sustainability analysis and if the sovereign were deemed to be under unsustainable debt conditions, the debtor would receive financial aid only after a process of restructuring had begun.

Liquidity facilities have, nonetheless, taken centre stage. Since the 2008/2009 financial crisis, the IMF has introduced new lending and liquidity facilities, eliminated others and has extended the flexibility of the Stand-by arrangement (SBA). Moreover, program conditionality and the frequency of reviews have, in general, declined.

Even so, IMF and official sector involvement in private sector restructuring has been a recent feature of sovereign debt distress episodes. Earlier this year, Jamaica's local-currency government bonds were restructured as part of the IMF program (Jamaica remains current on its foreign-currency denominated bonds).

Looking back, the IMF conditioned its lending programs to Ecuador and Ukraine on private creditor debt relief. Similarly, as was previously mentioned, the IMF had originally called for a more onerous restructuring of Uruguay's private creditor obligations (note, 45% of Uruguay's external debt was to multilaterals, including the IMF at the time).

And what of the Paris Club? In 1999, Pakistan was compelled by the official sector to re-profile its Eurobonds as a condition for Paris Club aid on the principle of debt-forgiveness equivalence – so-called *comparability of treatment* – with bilateral debt relief. Similarly, for the Dominican Republic in 2005, bonds and commercial debt were restructured to comply with comparability of treatment standards vis-à-vis Paris Club debt.

Whether the changing program stance at the IMF, in response to the financial crisis, alters the approach it takes towards sovereigns in distress with respect to private creditors remains to be seen. But based on historical precedent, the involvement of the official sector in providing aid likely increases the prospect of some form of private-sector 'bail-in' in our view as far as the resolution of sovereign payment duress is concerned, to the extent that official-sector liquidity provision is considered ineffective in restoring market confidence.

Box 1: The case of Uruguay (2003)

The proximate cause of Uruguay's financial and economic duress in 2001-2003 was the suspension of the Convertibility Law in Argentina in 2001 and subsequent debt default. The abandonment of the currency board (in which the Argentine peso was linked 1 for 1 with the US dollar and each peso in circulation backed by US dollar reserves) led to a collapse in real economic activity, real depreciation of the ARS of 150% and a run on the currency following the asymmetric "pesification" as well as freeze of bank deposits. Uruguay had strong links with Argentina, in particular via trade and its banking system, leading to contagion and ultimately a run on the country's banks in mid-2001. Uruguay did receive multilateral support from the IMF and engineer policy adjustments, including a crawl and eventual float of its currency, fiscal adjustment and a shutting down of insolvent banks. But this proved to be insufficient given the sustained reversal in financial flows at the time and ongoing economic contraction.

In an effort to stave off a liquidity crisis, Uruguay engineered a bond exchange operation in May 2003 that effectively termed out the bond redemption profile by five years. Officials were initially at odds with the IMF over the solution to the banking system and bond payment duress, with the IMF arguing for a more-onerous burden-share by private creditors and securitization of bank deposits (into bonds) but Uruguayan officials with US backing insisting on retaining as much as possible creditor rights. Uruguayan officials insisted the country was in the face of a liquidity crisis and not solvency crisis and as such, "buying time" – in large part to allow the external market environment and domestic growth conditions to improve – would be sufficient to stave off outright default.

The market had a sense of the payment duress that the sovereign was under, as traded prices for USD-denominated bonds were in 50-60 range prior to the announcement of the exchange. It was clear to market participants that a significant adjustment needed to take place, but that said at the time it was not evident that Uruguay was beyond the tipping point with respect to debt sustainability and solvency.

Uruguay's sovereign credit ratings had already declined from mid-BBB in 1997 to low-B in 2003, prior to the exchange.

The bond exchange took place across three jurisdictions consistent with where the bonds were originally issued – locally, internationally and Japan. In all cases but the Samurai bond, a voluntary exchange mechanism was introduced. In the case of the Samurai bond, given the CAC provisions in the bond a contractual arrangement was executed at a bondholders meeting.

The structure of the exchange was as follows – an effective 5-year terming out of the bond redemption profile, with coupon structures maintained.

More specifically:

1. Three new benchmark USD-denominated global bonds were to be issued, in which the outstanding bonds would be exchanged – the 2011, 2015 and 2033.

2. Investors were given several options in the exchange, with the effect of attempting to equalize the NPV impact across the curve. Some options even included the provision for up-front cash in addition to new bonds, particularly for shorter-tenor bonds to sweeten participation in the exchange – given the priorities of reducing the near-term redemption burden.

3. There were specific threshold conditions under which the exchange itself would become effective. At least 80% participation was required for the exchange offer to become valid.

Eligible securities were 46 domestically issued T-bills and bonds, 18 internationally issued USD and EUR-denominated bonds, and 1 Samurai JPY-denominated bond.

Overall participation in the exchange was 93% and represented USD5.2bn of securities. Participation ranged from 25-100% depending on the security. In the case of the Brady bonds, participation rates were very low, in part given the embedded US Treasury collateral and that some holders who did not require marking-to-market, would need to do so (and as a result take a loss) following the exchange.

A number of important mechanisms were employed to reduce the prospect of holdouts and to enhance overall participation in the exchange.

Exit consents were employed, which effectively altered some of the contractual terms of the to-be-exchanged bonds, effectively making them subordinate to the new bonds. Such provisions included de-listing the outstanding bonds to reduce liquidity and removing provisions relating to cross-default and acceleration. This prevented holdouts from forcing cross-default on new bonds in the case of default on outstanding bonds; this also gave confidence to participants that non-payment on old bonds would not trigger cross-default.

Another aspect employed was the establishment of a trust indenture mechanism that replaced the fiscal agent for the new bonds. This had the effect of mitigating the risk of legal attachment of bond payment flows for outstanding bondholders in case of litigation for creditor claims.

NPV reduction was achieved by extension of maturities alone. NPV losses were on the order of 13% based on a post-exchange/exit yield of 12% – but in time there was effectively no NPV loss as yields post-exchange declined and bond prices increased as macroeconomic and financial conditions for Uruguay improved. Post-exchange, NPV losses were higher for domestic bonds compared to international bonds. Though not a technical/legal default, the exchange was deemed an episode of default by the credit rating agencies given their criteria that the exchange, though voluntary, was executed under duress with the intent of reducing the NPV of debt leading to bondholder losses.

The exchange had the effect of reducing the payment burden over the prevailing five years (2003-2008) by 5.1% of GDP. But this was not enough. The country had to engage in fiscal consolidation to an extent that put debt/GDP on a sustainable path. At the time, it was recognized that Uruguay would need to grow by on average 3% per year and sustain a primary fiscal surplus of 3% of GDP as well. Uruguay was able to tap the international markets five months later, with USD200mn-equivalent 3-year bond issued in Uruguay pesos and linked to CPI. Though arguably largely aided by a vast improvement in external macroeconomic and market conditions after 2003, a sustained commitment to fiscal adjustment and the floating of the exchange rate were likely important preconditions for the sustained recovery in Uruguay that followed the bond exchange operation.

Uruguay represents one rare example in recent episodes of sovereign distress of a successful ‘buying of time’ to allow external and domestic economic conditions to improve, such that a more onerous treatment of bonds was avoided.

Recent forms of sovereign restructuring

There is any number of possible structures for a given debt re-profiling episode. That said, the structure of any particular debt re-profiling exercise will tend depend on a number of factors, including (1) the extent of debt relief or NPV reduction that is required to aid in achieving debt sustainability; (2) legal jurisdictions involved; (3) specific contractual terms of the debt; (4) the extent of dispersion of bondholders; (5) mark-to-market implications for bondholders when participating in an exchange; (6) the extent to which NPV equivalence is considered an objective; and (7) affecting a high participation rate, including the use of exit consents and sweeteners.

One of the primary goals of any re-profiling, whether unilateral or voluntary, is to ensure a high participation rate. This necessarily improves the extent of debt relief, but just as important mitigates the potential disruptive impact of holdouts.

With respect to debt relief, it is important to distinguish between liquidity and solvency. To the extent that the nature of payment duress is considered temporary, a terming out of the debt may be sufficient to allow external conditions and market access to improve. This will also tend to aid in achieving NPV equivalence. To the extent that it is considered a solvency issue, a more onerous NPV reduction of the debt is likely to be required, including principal haircuts. This may also complicate – though not necessarily eliminate – the prospect of NPV equivalence across the curve.

In the more recent EM sovereign bond re-profiling episodes, distressed exchanges in which the sovereign remained current on its bonds tended to be associated with much lower NPV reduction than re-profiling episodes that occurred post-default. In all such cases, pre-default sovereign bond re-profiling involved a terming out of bond maturities and involved no principal write-downs.

That said, in the case of Argentina, the so-called mega-swap of June 2001 amounted to a terming of bond redemptions and the country was at the time current on its debt. It did little to affect favorably the country’s debt repayment ability and Argentina subsequently called a standstill on debt repayment in December 2001 (missing the first bond payment in January 2002), leading to a much more onerous write-off of its bonded debt in the exchange of 2005.

Recent episodes of sovereign bond restructuring ended in NPV reduction on average or value-weighted average of 23% or 53%, respectively corresponding to recovery rates of 47-77% (Exhibit 9). Traded prices tended to decline further prior to the credit events, anticipating even larger NPV losses but this also reflected forced selling of defaulted debt by market participants. Traded prices then increased post-event as exit yields declined into and out of the bond exchanges.

In most cases, the NPV reduction was modest. Argentina and Russia did include a significant principal reduction of the bonds – 18% in the case of Russia and 56% in the case of Argentina, for example.

Participation rates were generally high, over 85%.

In almost all recent cases, high participation rates facilitated the payment in full of holdouts.

We outline below two possible scenarios of sovereign restructuring. In the first case, a liquidity crisis is likely considered to be at play rather than a solvency crisis and in this case it is more in line with pre-default distressed exchange episodes in recent history, such as Uruguay (2003). The second scenario considers a more onerous NPV reduction of the debt and is more reminiscent of unilateral default episodes as in the case of Argentina (2001) and Russia (1998).

Scenario 1 – Pre-emptive: Terming out the redemption profile. In this case, a re-profiling amounts to extending maturities of all eligible bonds. The goal is less NPV reduction per se, but more immediate repayment relief. New bonds would have similar coupons as the outstanding bonds. To achieve NPV equivalence, the terming out would be identical across instruments. Participation rates are likely to be a function of how confident bondholders are that this will ease payment duress and the extent to which they are induced to participate in the exchange. Exit consents, sweeteners (such as up-front cash or value kickers) coupled with an understanding that a strong contingent of bondholders will in any case go into the exchange may influence this decision.

Scenario 2 – Post-default: More-onerous NPV reduction. Such a scenario involves a more-onerous treatment of outstanding obligations in an effort to achieve a larger more-impactful NPV reduction of the debt. The goal is to provide an *exit restructuring* that helps achieve long-term debt sustainability. Typically, this has happened after a sovereign has fallen into default. Such an exercise may involve the exchange into new bonds with below-market coupons, and/or a terming out of maturities. Principal reduction may also be involved. In such a case, bondholders exchange outstanding bonds for a smaller notional equivalent of new bonds. To affect a more front-loaded reduction in repayment burden and on the assumption that repayment capacity will improve in later years, the exchange may involve new bonds with step-up coupons, capitalization of coupons, amortizing principal and/or PIKs.

In the Brady/London Club deals in the 1980s and 1990s, principal collateral was also provided in the form of US Treasury bonds as well as some extent of rolling coupon coverage. These exchanges may also involve the use of sweeteners that have asymmetric payoff profiles (to the benefit of bondholders), which are important to enhance participation. Argentina's 2005 exchange also involve the introduction of GDP-linked warrants as sweeteners to the deal; similarly Brady/London Club exchanges in the 1990s and more recently involved the use of similar warrants (such as oil-linked warrants for Mexico, Nigeria and Venezuela).

Exhibit 9

Recent sovereign bond restructuring episodes

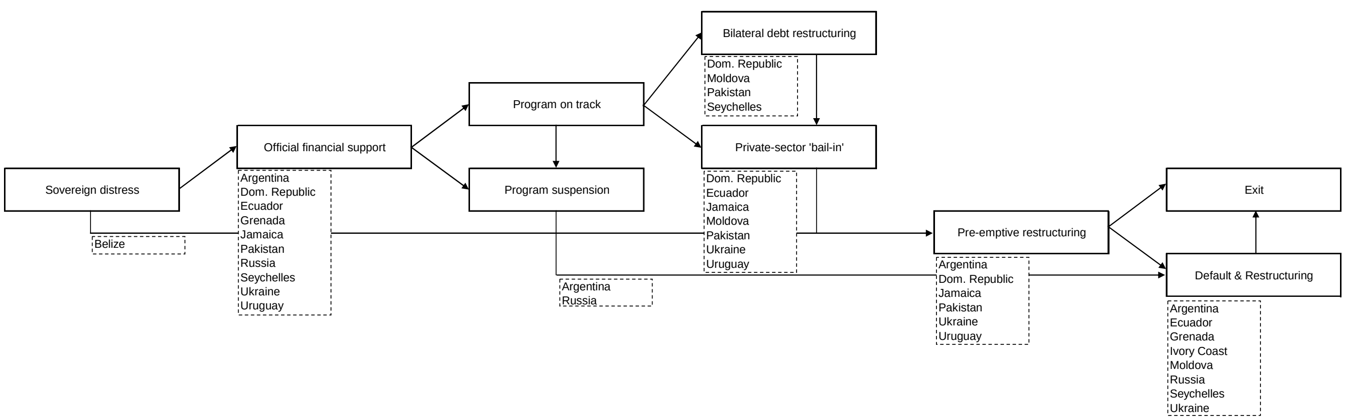
Country	Event year	Year Cured	Bonds USDbn	Type	Bond prices [1] Pre	Bond prices [1] Post	Part. Rate	Est. NPV loss [2]
Russia	1998	2000	72.7	Default	18	50	98	44
Pakistan	1999	-	1.6	Pre-emptive	52	65	95	8
Ecuador	1999	2000	6.6	Default	44	60	97	25
Ukraine	1998, 2000	2000	1.1	Pre-emptive/Default	69	60	95	5
Ivory Coast	2000	2010	2.8	Default	18	61	91	20
Argentina	2001	2005	82.3	Pre-emptive/Default	27	30	76	75
Uruguay	2003	-	5.7	Pre-emptive	66	85	93	8
Dominican Republic	2005	-	1.6	Pre-emptive	95	95	-	1
Ecuador	2008	2008	3.2	Default	26	38	-	-
Jamaica [3]	2010	-	7.8	Pre-emptive	-	-	97	20
Average					**46**	**60**	**92**	**23**
Value-weighted average					**25**	**41**	**85**	**53**

* We exclude some more recent sovereign bond defaults/restructurings including Moldova (2001, 2002), Grenada (2004), Belize (2006), Seychelles (2008)
[1] 30 days prior to default or exchange and 30 days after
[2] Ratio of PV received in the exchange relative to what was initially promised using the yield that prevailed prior to default/exchange
[3] Restructuring of local and foreign-currency denominated government debt

Data based on best estimates
Source: Morgan Stanley, IMF, Moody's

Exhibit 10

Path to sovereign restructuring



Based on recent episodes as detailed in Exhibit 9
Source: Morgan Stanley

EM Strategy and Economics Teams

EM Fixed Income and Foreign Exchange Strategy

London

Rashique Rahman	Team Head, EM Macro Strategy	Rashique.Rahman@morganstanley.com	+44 (0)20 7677 7295
Paolo Batori, CFA	Head of CEEMEA Strategy	Paolo.Batori@morganstanley.com	+44 (0)20 7677 7971
Regis Chatellier	Global EM Credit Strategy	Regis.Chatellier@morganstanley.com	+44 (0)20 7677 6982
Chuan Lim, CFA	CEEMEA Trade Strategy	Chuan.Lim@morganstanley.com	+44 (0)20 7677 7597
James Lord	CEEMEA Macro Strategy		
Robert Tancsa	EM Analytics	Robert.Tancsa@morganstanley.com	+44 (0)20 7677 6671

New York

Rogerio Oliveira	Head of EM Trade & Quant Strategy	Rogerio.Oliveira@morganstanley.com	+55 11 3048 6039
Vitali Meschoulam	Latin America Macro Strategy	Vitali.Meschoulam@morganstanley.com	+1 212 761 1889

Hong Kong

Viktor Hjort	Head of AXJ Strategy	Viktor.Hjort@morganstanley.com	+852 2848 7479
Stewart Newnham	AXJ Currency Strategy	Stewart.Newnham@morganstanley.com	+852 2848 5320
Yee Wai Chong	AXJ Currency Strategy	Yee.Wai.Chong@morganstanley.com	+852 2239 7117
Rohit Arora	AXJ Rates Strategy	Rohit.Arora@morganstanley.com	+852 2848 8894

EM Economics

Tevfik Aksoy	Turkey, Israel and MENA	Tevfik.Aksoy@morganstanley.com	+44 (0)20 7677 6917
Mohamed Jaber	MENA	Mohamed.Jaber@morganstanley.com	+44 (0)20 7677 8189
Michael Kafe	South Africa, Nigeria	Michael.Kafe@morganstanley.com	+27 11 507 0891
Andrea Masia	South Africa	Andrea.Masia@morganstanley.com	+27 11 507 0887
Oliver Weeks	Russia, Kazakhstan, Ukraine	Oliver.Weeks@morganstanley.com	+44 (0)20 7677 6302
Pasquale Diana	Poland, Hungary, Czech, Romania	Pasquale.Diana@morganstanley.com	+44 (0)20 7677 4183
Alina Slyusarchuk	Russia, Kazakhstan, Ukraine, Baltics	Alina.Slyusarchuk@morganstanley.com	+44 (0)20 7677 6869
Gray Newman	LatAm	Gray.Newman@morganstanley.com	+1 212 761-6510
Marcelo Carvalho	Brazil	Marcelo.Carvalho@morganstanley.com	+55 11 3048-6272
Luis Arcentales	Chile, Mexico	Luis.Arcentales@morganstanley.com	+1 212 761-4913
Daniel Volberg	Argentina	Daniel.Volberg@morganstanley.com	+1 212 761-0124
Giuliana Pardelli	Venezuela	Guiliana.Pardelli@morganstanley.com	+55 11 3048-6195
Qing Wang	Greater China	Qing.Wang@morganstanley.com	+852 2848 5220
Denise Yam	China, Hong Kong	Denise.Yam@morganstanley.com	+852 2848 5301
Sharon Lam	Korea, Taiwan	Sharon.Lam@morganstanley.com	+852 2848 8927
Steven Zhang	China, Hong Kong	Steven.Zhang@morganstanley.com	+86 21 2326 0015
Katherine Tai	China, Hong Kong, Korea, Taiwan	Katherine.Tai@morganstanely.com	+852 2848 8191
Chetan Ahya	ASEAN, India	Chetan.Ahya@morganstanley.com	+65 6834 6738
Deyi Tan	Singapore, Malaysia	Deyi.Tan@morganstanley.com	+65 6834 6703
Shweta Singh	ASEAN	Shweta.Singh@morganstanley.com	+65 6834 6739
Tanvee Gupta	India	Tanvee.Gupta@morganstanley.com	+91 22 2209 7927

EM Equity Strategy

Jonathan Garner	Asia	Jonathan.Garner@morganstanley.com	+44 (0)20 7425 9237
Vincius Silva	LatAm	Vincius.Silva@morganstanley.com	+1 212 761 7674

Disclosure Section

The information and opinions in Morgan Stanley Research were prepared or are disseminated by Morgan Stanley & Co. Incorporated and/or Morgan Stanley C.T.V.M. S.A. and/or Morgan Stanley & Co. International plc and/or RMB Morgan Stanley (Proprietary) Limited and/or Morgan Stanley MUFG Securities, Co., Ltd. and/or Morgan Stanley Asia Limited and/or Morgan Stanley Asia (Singapore) Pte. (Registration number 199206298Z) and/or Morgan Stanley Asia (Singapore) Securities Pte Ltd (Registration number 200008434H) and/or Morgan Stanley Taiwan Limited and/or Morgan Stanley & Co International plc, Seoul Branch, and/or Morgan Stanley Australia Limited (A.B.N. 67 003 734 576, holder of Australian financial services license No. 233742, which accepts responsibility for its contents), and/or Morgan Stanley Smith Barney Australia Pty Ltd (A.B.N. 19 009 145 555, holder of Australian financial services license No. 240813, which accepts responsibility for its contents), and/or Morgan Stanley India Company Private Limited and their affiliates (collectively, "Morgan Stanley").

For important disclosures, stock price charts and equity rating histories regarding companies that are the subject of this report, please see the Morgan Stanley Research Disclosure Website at www.morganstanley.com/researchdisclosures, or contact your investment representative or Morgan Stanley Research at 1585 Broadway, (Attention: Research Management), New York, NY, 10036 USA.

Analyst Certification

The following analysts hereby certify that their views about the companies and their securities discussed in this report are accurately expressed and that they have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report: Rashique Rahman, Regis Chatellier.

Unless otherwise stated, the individuals listed on the cover page of this report are research analysts.

Global Research Conflict Management Policy

Morgan Stanley Research has been published in accordance with our conflict management policy, which is available at www.morganstanley.com/institutional/research/conflictpolicies.

Important US Regulatory Disclosures on Subject Companies

The equity research analysts or strategists principally responsible for the preparation of Morgan Stanley Research have received compensation based upon various factors, including quality of research, investor client feedback, stock picking, competitive factors, firm revenues and overall investment banking revenues.

Morgan Stanley and its affiliates do business that relates to companies/instruments covered in Morgan Stanley Research, including market making, providing liquidity and specialized trading, risk arbitrage and other proprietary trading, fund management, commercial banking, extension of credit, investment services and investment banking. Morgan Stanley sells to and buys from customers the securities/instruments of companies covered in Morgan Stanley Research on a principal basis. Morgan Stanley may have a position in the debt of the Company or instruments discussed in this report.

Certain disclosures listed above are also for compliance with applicable regulations in non-US jurisdictions.

STOCK RATINGS

Morgan Stanley uses a relative rating system using terms such as Overweight, Equal-weight, Not-Rated or Underweight (see definitions below). Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, Not-Rated and Underweight are not the equivalent of buy, hold and sell. Investors should carefully read the definitions of all ratings used in Morgan Stanley Research. In addition, since Morgan Stanley Research contains more complete information concerning the analyst's views, investors should carefully read Morgan Stanley Research, in its entirety, and not infer the contents from the rating alone. In any case, ratings (or research) should not be used or relied upon as investment advice. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations.

Global Stock Ratings Distribution

(as of April 30, 2010)

For disclosure purposes only (in accordance with NASD and NYSE requirements), we include the category headings of Buy, Hold, and Sell alongside our ratings of Overweight, Equal-weight, Not-Rated and Underweight. Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, Not-Rated and Underweight are not the equivalent of buy, hold, and sell but represent recommended relative weightings (see definitions below). To satisfy regulatory requirements, we correspond Overweight, our most positive stock rating, with a buy recommendation; we correspond Equal-weight and Not-Rated to hold and Underweight to sell recommendations, respectively.

	Coverage Universe		Investment Banking Clients (IBC)		
Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category
Overweight/Buy	**1065**	**42%**	**328**	**42%**	**31%**
Equal-weight/Hold	**1118**	**44%**	**357**	**46%**	**32%**
Not-Rated/Hold	**14**	**1%**	**4**	**1%**	**29%**
Underweight/Sell	**366**	**14%**	**88**	**11%**	**24%**
Total	**2,563**		**777**		

Data include common stock and ADRs currently assigned ratings. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months.

Analyst Stock Ratings

Overweight (O or Over) - The stock's total return is expected to exceed the total return of the relevant country MSCI Index or the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis over the next 12-18 months.

Equal-weight (E or Equal) - The stock's total return is expected to be in line with the total return of the relevant country MSCI Index or the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis over the next 12-18 months.

Not-Rated (NR) - Currently the analyst does not have adequate conviction about the stock's total return relative to the relevant country MSCI Index or the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Underweight (U or Under) - The stock's total return is expected to be below the total return of the relevant country MSCI Index or the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

Analyst Industry Views

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.
In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below.
Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below.
Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index.
.

Important Disclosures for Morgan Stanley Smith Barney LLC Customers

Citi Investment Research & Analysis (CIRA) research reports may be available about the companies or topics that are the subject of Morgan Stanley Research. Ask your Financial Advisor or use Research Center to view any available CIRA research reports in addition to Morgan Stanley research reports.

Important disclosures regarding the relationship between the companies that are the subject of Morgan Stanley Research and Morgan Stanley Smith Barney LLC, Morgan Stanley and Citigroup Global Markets Inc. or any of their affiliates, are available on 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.citigroupgeo.com/geopublic/Disclosures/index_a.html.

Each Morgan Stanley Equity Research report is reviewed and approved on behalf of Morgan Stanley Smith Barney LLC. This review and approval is conducted by the same person who reviews the Equity Research report on behalf of Morgan Stanley. This could create a conflict of interest.

Other Important Disclosures

Morgan Stanley produces an equity research product called a "Tactical Idea." Views contained in a "Tactical Idea" on a particular stock may be contrary to the recommendations or views expressed in research on the same stock. This may be the result of differing time horizons, methodologies, market events, or other factors. For all research available on a particular stock, please contact your sales representative or go to Client Link at www.morganstanley.com.

For a discussion, if applicable, of the valuation methods and the risks related to any price targets, please refer to the latest relevant published research on these stocks.

Morgan Stanley Research does not provide individually tailored investment advice. Morgan Stanley Research has been prepared without regard to the individual financial circumstances and objectives of persons who receive it. Morgan Stanley recommends that investors independently evaluate particular investments and strategies, and encourages investors to seek the advice of a financial adviser. The appropriateness of a particular investment or strategy will depend on an investor's individual circumstances and objectives. The securities, instruments, or strategies discussed in Morgan Stanley Research may not be suitable for all investors, and certain investors may not be eligible to purchase or participate in some or all of them.

The fixed income research analysts or strategists principally responsible for the preparation of Morgan Stanley Research have received compensation based upon various factors, including quality, accuracy and value of research, firm profitability or revenues (which include fixed income trading and capital markets profitability or revenues), client feedback and competitive factors. Fixed Income Research analysts' or strategists' compensation is not linked to investment banking or capital markets transactions performed by Morgan Stanley or the profitability or revenues of particular trading desks.

Morgan Stanley Research is not an offer to buy or sell or the solicitation of an offer to buy or sell any security/instrument or to participate in any particular trading strategy. The "Important US Regulatory Disclosures on Subject Companies" section in Morgan Stanley Research lists all companies mentioned where Morgan Stanley owns 1% or more of a class of common equity securities of the companies. For all other companies mentioned in Morgan Stanley Research, Morgan Stanley may have an investment of less than 1% in securities/instruments or derivatives of securities/instruments of companies and may trade them in ways different from those discussed in Morgan Stanley Research. Employees of Morgan Stanley not involved in the preparation of Morgan Stanley Research may have investments in securities/instruments or derivatives of securities/instruments of companies mentioned and may trade them in ways different from those discussed in Morgan Stanley Research. Derivatives may be issued by Morgan Stanley or associated persons.

With the exception of information regarding Morgan Stanley, Morgan Stanley Research is based on public information. Morgan Stanley makes every effort to use reliable, comprehensive information, but we make no representation that it is accurate or complete. We have no obligation to tell you when opinions or information in Morgan Stanley Research change apart from when we intend to discontinue equity research coverage of a subject company. Facts and views presented in Morgan Stanley Research have not been reviewed by, and may not reflect information known to, professionals in other Morgan Stanley business areas, including investment banking personnel.

Morgan Stanley Research personnel may participate in company events such as site visits and are generally prohibited from accepting payment by the company of associated expenses unless pre-approved by authorized members of Research management.

The value of and income from your investments may vary because of changes in interest rates, foreign exchange rates, default rates, prepayment rates, securities/instruments prices, market indexes, operational or financial conditions of companies or other factors. There may be time limitations on the exercise of options or other rights in securities/instruments transactions. Past performance is not necessarily a guide to future performance. Estimates of future performance are based on assumptions that may not be realized. If provided, and unless otherwise stated, the closing price on the cover page is that of the primary exchange for the subject company's securities/instruments.

Morgan Stanley may make investment decisions or take proprietary positions that are inconsistent with the recommendations or views in this report.

To our readers in Taiwan: Information on securities/instruments that trade in Taiwan is distributed by Morgan Stanley Taiwan Limited ("MSTL"). Such information is for your reference only. Information on any securities/instruments issued by a company owned by the government of or incorporated in the PRC and listed in on the Stock Exchange of Hong Kong ("SEHK"), namely the H-shares, including the component company stocks of the Stock Exchange of Hong Kong ("SEHK")'s Hang Seng China Enterprise Index; or any securities/instruments issued by a company that is 30% or more directly- or indirectly-owned by the government of or a company incorporated in the PRC and traded on an exchange in Hong Kong or Macau, namely SEHK's Red Chip shares, including the component company of the SEHK's China-affiliated Corp Index is distributed only to Taiwan Securities Investment Trust Enterprises ("SITE"). The reader should independently evaluate the investment risks and is solely responsible for their investment decisions. Morgan Stanley Research may not be distributed to the public media or quoted or used by the public media without the express written consent of Morgan Stanley. Information on securities/instruments that do not trade in Taiwan is for informational purposes only and is not to be construed as a recommendation or a solicitation to trade in such securities/instruments. MSTL may not execute transactions for clients in these securities/instruments.

To our readers in Hong Kong: Information is distributed in Hong Kong by and on behalf of, and is attributable to, Morgan Stanley Asia Limited as part of its regulated activities in Hong Kong. If you have any queries concerning Morgan Stanley Research, please contact our Hong Kong sales representatives.

Certain information in Morgan Stanley Research was sourced by employees of the Shanghai Representative Office of Morgan Stanley Asia Limited for the use of Morgan Stanley Asia Limited.

Morgan Stanley Research is disseminated in Japan by Morgan Stanley MUFG Securities, Co., Ltd.; in Hong Kong by Morgan Stanley Asia Limited (which accepts responsibility for its contents); in Singapore by Morgan Stanley Asia (Singapore) Pte. (Registration number 199206298Z) and/or Morgan Stanley Asia (Singapore) Securities Pte Ltd (Registration number 200008434H), regulated by the Monetary Authority of Singapore, which accepts responsibility for its contents; in Australia to "wholesale clients" within the meaning of the Australian Corporations Act by Morgan Stanley Australia Limited A.B.N. 67 003 734 576, holder of Australian financial services license No. 233742, which accepts responsibility for its contents; in Australia to "wholesale clients" and "retail clients" within the meaning of the Australian Corporations Act by Morgan Stanley Smith Barney Australia Pty Ltd (A.B.N. 19 009 145 555, holder of Australian financial services license No. 240813, which accepts responsibility for its contents; in Korea by Morgan Stanley & Co International plc, Seoul Branch; in India by Morgan Stanley India Company Private Limited; in Canada by Morgan Stanley Canada Limited, which has approved of, and has agreed to take responsibility for, the contents of Morgan Stanley Research in Canada; in Germany by Morgan Stanley Bank AG, Frankfurt am Main and Morgan Stanley Private Wealth Management Limited, Niederlassung Deutschland, regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin); in Spain by Morgan Stanley, S.V., S.A., a Morgan Stanley group company, which is supervised by the Spanish Securities Markets Commission (CNMV) and states that Morgan Stanley Research has been written and distributed in accordance with the rules of conduct applicable to financial research

Additional information on recommended securities/instruments is available on request.

05-12-10 sm

Morgan Stanley

The Americas
1585 Broadway
New York, NY 10036-8293
United States
Tel: +1 (1)212 761 4000

Europe
20 Bank Street, Canary Wharf
London E14 4AD
United Kingdom
Tel: +44 (0) 20 7 425 8000

Japan
4-20-3 Ebisu, Shibuya-ku
Tokyo 150-6008
Japan
Tel: +81 (0)3 5424 5000

Asia/Pacific
1 Austin Road West
Kowloon
Hong Kong
Tel: +852 2848 5200