

OLIVER WYMAN

Financial Services

Managing Country Risks

Perspectives for the Post-Crisis Landscape

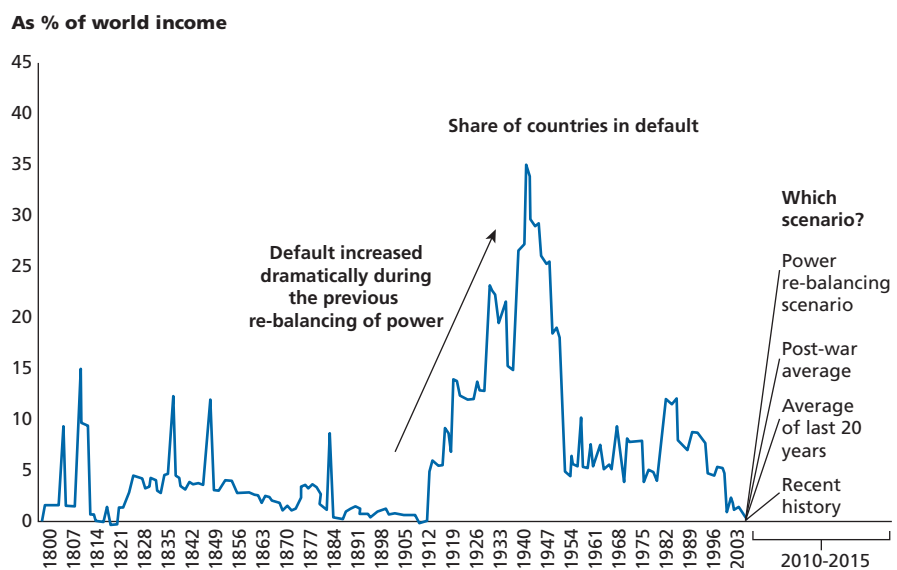
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Introduction

During the 25 year “Great Moderation” that ended with the financial crisis in 2008, developed economy sovereign defaults were unknown and the very idea came to seem fanciful. As Exhibit 1 shows, however, it is this recent uneventful history that is unusual. And things appear to be retuning to “normal”. Greece and Ireland were both saved from defaulting in 2010 only by bailouts that violated the rules of the Eurozone, and the spreads on Portuguese, Spanish and Italian sovereign debt also suggest material concerns about their solvency.

Exhibit 1: Share of countries in default, as % of world income



Source: Reinhart, Carmen M and Rogoff, Kenneth S; This Time is Different: Eight Centuries of Financial Folly. ©2011 Princeton University Press. Reprinted by permission of Princeton University; Oliver Wyman analysis

These concerns about sovereign debt are reminding bankers of the reality of “country risk” and the need to measure and manage it. Alas, perhaps as a result of complacency induced by good times, few banks are well equipped to do so. Specifically, country risk management at most banks tends to suffer from one or more of three common defects:

- Country risk and its varieties are not properly defined, making it difficult to understand the nature and size of country risk exposures or to set country risk limits
- The estimation of country risk is distorted by a misleading method for allocating exposures to countries (i.e. to chalking, as it is commonly known)

- The absence of internally developed, and thus transparent, country risk models makes it difficult to respond adequately to the changing global macro-economic landscape.

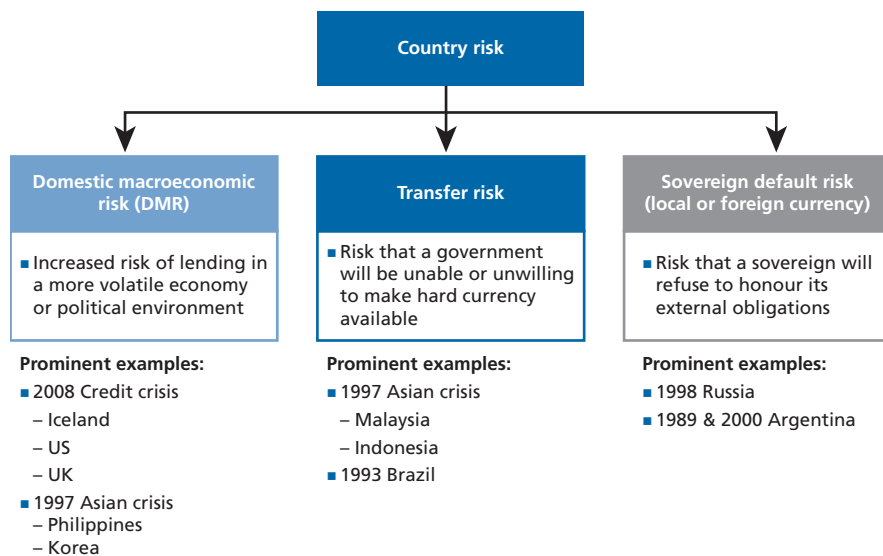
This short report discusses these shortcomings and suggests remedies.

Defining country risk

In regional and global banks, strategic decisions cannot sensibly be taken without considering their implications for country risk appetite. For example, an expansion strategy in a target market may require increasing the country limit and hence the capital allocation. Before a bank can set a risk limits for country risk, however, it must know what country risk is. Which risks are included and which are excluded? Get this wrong and the bank is likely to over- or under-estimate its risk position with respect to various countries.

Three varieties of country risk should be distinguished:

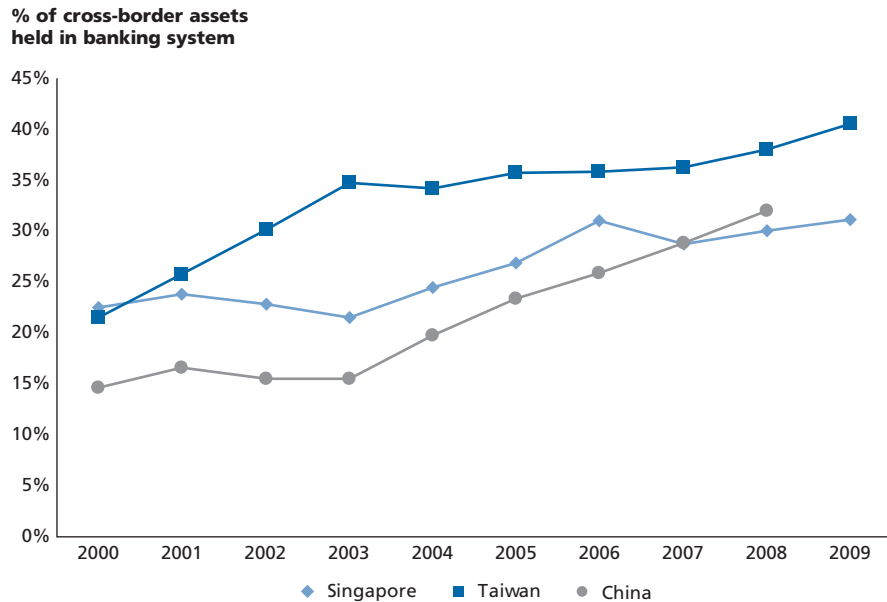
Exhibit 2: Components of country risk



Sovereign risk refers to the risk that a sovereign entity will fail to honour its debt obligations. This risk is increasing because sovereign credit quality has declined on the back of increased public indebtedness arising from long-term structural deficits and fiscal stimulus in response to the global credit crisis.

Transfer risk refers to the risk that the government will be unable or unwilling to make foreign currency available for remittance out of the country. Transfer risk will continue to increase as cross border assets grow with international trade.

Exhibit 3: Cross Border Banking Assets



Source: Data from central banks of Singapore, Taiwan and China

Domestic macro-economic risk refers to the risk of lending in a volatile domestic economic and political environment. Domestic risk will grow in importance, as banks implement regional or global strategies that require lending to foreign customers, even if these exposures are funded in the customers' home currencies.

Many banks fail to adhere to this three part definition of country risk, thereby making their measurement and management of country risk either incomplete or opaque. Three shortcomings are most common:

- Many banks set limits for transfer risk arising from cross-border exposures, but fail to differentiate them from sovereign risk limits. Yet differentiating them is important since the drivers of these two risks can be very different: Transfer risk being dependent upon the country's ability to generate foreign currency earnings, while sovereign risk being dependent upon the government's ability and willingness to repay. Accordingly, managing them under the same limit does not allow the bank to tailor and manage risk appetite for the underlying drivers appropriately

- Sovereign risk exposures are often subsumed and managed as credit risk under issuer limits, where the assigned resources may not specialise in assessing country risk
- Domestic risk is rarely managed directly. More often it is assumed to be implicitly constrained by the capital invested in overseas subsidiaries. Yet it can be a major contributor of risk, especially at global or regional banks. For example, 74% of Standard Chartered Bank's 2010 operating income, 66% of advances and 60% of deposits are derived from countries outside of its "home" markets of Singapore and Hong Kong¹

Such "fudges" can obscure managers' view of their bank's exposure to a given country. Although the information required for a complete view will usually exist in the bank, it is often fragmented, both in terms of where it is stored and the kinds of measures used. This inability to produce a coherent and comprehensive view of country risk hinders banks ability to formulate sound strategies and, in crises, to provide the quick responses demanded by the board, regulators or public.

Most banks with material country risk exposures will benefit from rationalising their country risk management framework. Of course, the framework may need to be tailored to the institution's portfolio and strategy. For example, a regional bank that focuses on a few countries is likely to value an in-depth understanding of these countries' domestic risk while accepting a simpler T&C risk framework. Nevertheless, any bank with material foreign exposure should consider the following:

- Develop a country risk management framework that addresses all components of country risk, including domestic risk explicitly. This would include setting explicit limits for key country exposures
- Even if no limits are set for domestic risk and invested capital is used implicitly to constrain it, exposures to domestic risk should still be monitored to provide the bank with the missing part of a complete picture of their exposure to individual countries
- As the components of country risk are macro-economic in nature and therefore similar to a certain degree, banks should assign a distinct unit with the relevant expertise to set country risk limits, and to monitor and assess country risk. This unit will then work closely with the relevant country or regional business units to manage country risk exposures

¹ Source: Standard Chartered Bank 2010 annual report.

Chalking country risk exposures

Once the country risk management framework is established, and the risk appetite and limits are set, exposures must be measured, monitored and managed. Among other challenges (not discussed in this paper), this requires exposures to be allocated or “chalked” to countries and hence to country limits. For transfer risk, this task is not as straightforward as it may initially seem because modern corporate borrowers are rarely constrained by borders. A company may be incorporated in one country but have operational assets in, and derive revenues from, many countries.

For example, BHP Billiton is incorporated in Australia but has assets not only in Australia but across the globe, with about 25% of revenues derived from China. Should exposures to BHP be chalked as a transfer risk exposure to Australia only, based solely upon incorporation? It could be argued that China is also a “country of risk” for chalking purposes, since China is more likely to impose exchange controls than Australia is.

Banks take a variety of approaches to chalking which differ in their granularity, accuracy and difficulty. Most opt for a simple approach, justified by the difficulty of implementing anything more thorough and accurate:

Exhibit 4: Common transfer risk chalking approaches

Approach	Drawbacks
A Chalking to country of incorporation	<ul style="list-style-type: none">■ Does not recognise that other countries may contribute more significantly to transfer risk. Extreme example of borrower incorporated in a ‘tax haven’ country
B Chalking to highest risk country amongst countries of incorporation, revenue or assets	<ul style="list-style-type: none">■ Results in an inordinate amount of exposure being chalked to a few high risk countries■ Ignores exposures to countries with lower risk
C Pro-rata split based on source of revenue	<ul style="list-style-type: none">■ Does not chalk full exposure to any of the countries in question – if transfer event occurs in any one country, the full amount is in fact exposed to the country if it is a significant source of revenue
D Even split between countries of incorporation, revenue or assets	<ul style="list-style-type: none">■ Does not chalk full exposure to any of the countries in question – if transfer event occurs in any one country, the full amount is in fact exposed to the country if it is the country of incorporation or a significant source of revenue or assets

Approaches A, B and C will completely omit exposures to certain countries, while approaches C and D will under-report exposures to countries.

An alternative approach involves chalking 100% of each exposure to all countries that contribute significantly² to transfer risk. For example, if a borrower is incorporated in Vietnam and operates in China, a \$10 MM loan to the borrower will result in \$10 MM of transfer risk exposure in Vietnam and \$10 MM of transfer risk exposure in China.

This approach provides the most comprehensive view of country risk because, if any of the countries to which the borrower is exposed imposes transfer controls, the borrower will probably be unable to repay the entire obligation. Chalking this way avoids any “hidden” exposures, in contrast to approaches A to D listed above.

From a technical perspective, this approach is consistent with the commonly-used Expected Loss (EL) framework. For every exposure, each country of risk will present a Probability of a Transfer Event occurring (PTE), a Loss Given Transfer Event (LGTE) and Exposure at Transfer Event (EATE). These three parameters can be used to calculate the Expected Loss (EL) and transfer risk capital for each country of risk. The total transfer risk EL (or capital) of the exposure is then a sum of the EL (or capital) of the various countries of risk. Because the probability of an event in each country is taken into account in calculation of EL, along with, in the case of capital, the correlation between such events in different countries, this approach does not involve the double counting of risks that would result from purely summing the nominal exposures.

Using internal ratings to measure country risk

Many banks currently rely on external rating agencies for their assessment of sovereign and T&C risks. These ratings are often reasonable long-term assessments but may not be the most suitable for a bank’s specific risk management purposes:

- **Reactivity** External ratings are meant to be long-term measures of risk, catering to a wide range of stakeholders. Rating changes are therefore not lightly undertaken. For example, downgrading a country below investment grade will have serious consequences for the ability of the country to issue new debt. This conservative approach is unlikely to suit a bank’s desire for a more risk-sensitive measure
- **Risk components** Although ratings are widely available for sovereign and T&C risks, there is no commonly used measure for domestic

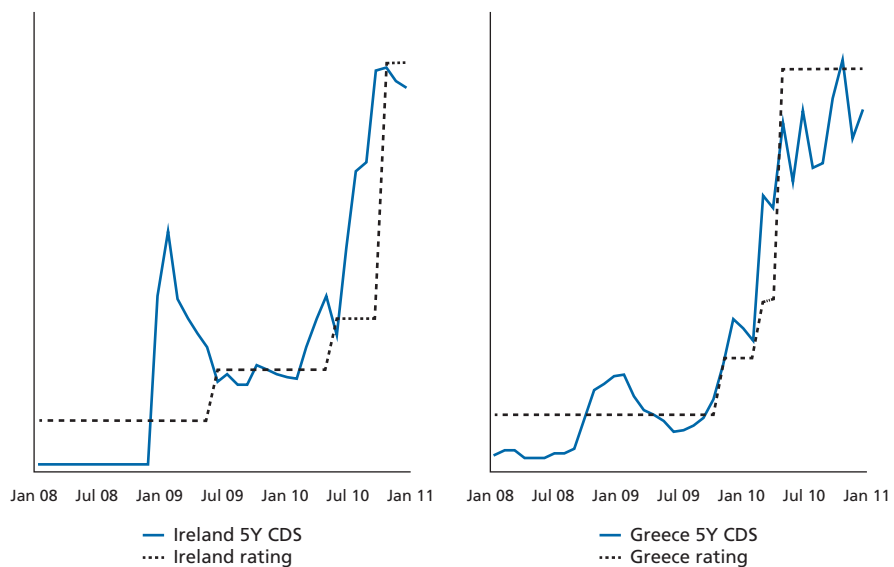
² Significance can be defined as the country being the country of incorporation or making up more than 30-50% of revenues or assets, where controls around the repatriation of funds would render the company unable to make repayments, even though it may be otherwise healthy.

risk. Domestic risk may often be embedded within each counterparty rating, but there is no easily accessible indicator of a country's domestic macroeconomic wellbeing for the bank to monitor

- **Coverage** Some countries are not rated or have their ratings withdrawn, especially when they are not willing to pay for it or do not agree with the rating

The figures below, tracking the changes in sovereign ratings and CDS spreads for Ireland and Greece, illustrate the point about reactivity. For Ireland, the sovereign rating was initially downgraded only six months after the CDS market had reacted significantly, while the most recent downgrade occurred only three months after the last significant widening in spread. For Greece, the initial CDS market reaction also occurred well before the first rating downgrade, although the gaps between subsequent corrections are shorter.

Exhibit 5: Ireland and Greece CDS spreads vs. ratings



Source: Bloomberg

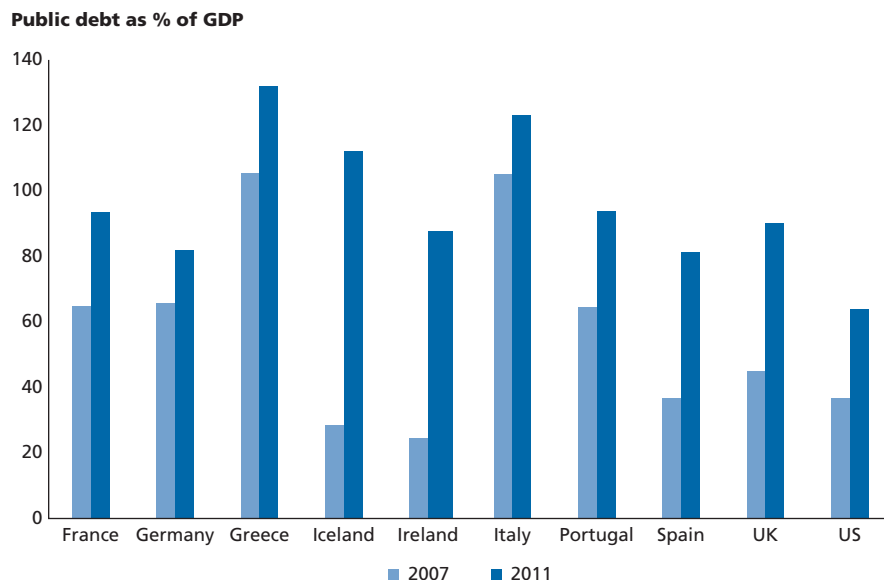
Developing internal ratings for country risk

More banks are now developing their own internal risk assessments for the different components of country risk. This is a challenging endeavour. Modelling T&C or sovereign risks is hindered by a lack of publicly available event data. Sovereign debt defaults are not always published, especially when governments borrow from domestic lenders in the domestic currency. Transfer events are even more poorly documented, with less than 20 events listed on commonly referenced public sources.

Alternative statistical approaches or event definitions must be employed. For example, the IMF publishes an “Annual Report on Exchange Arrangements and Exchange Restrictions” (AREAER) with almost 200 indicators of exchange controls and restrictions, which can be condensed to provide an alternative definition of a transfer event. Careful use of such indicator data can help define the modelled event in terms of key risk indicators with implications for the size of the dependent pool, without compromising the consistency or logic of the modelling process.

When it comes to explanatory variables, the evolving drivers of country risk mean that traditional segmentation of countries and model factors may no longer be predictive. For example, it has been commonly accepted that developed countries can have higher levels of public debt than developing countries while still maintaining a good rating, with the United States as a prime example. This assumption is almost certainly changing as shown by speculation over the PIIGS’ (Portugal, Italy, Ireland, Greece and Spain) credit-worthiness. Significant and unexpected increases in public debt arising from supporting bank bailouts, instead of being “absorbed” into a market willingness to accept higher levels of indebtedness in developed countries, has contributed strongly to market concerns over solvency.

Exhibit 6: Public debt as % of GDP



Whatever the longer-term implications of these developments, it seems clear that historical data on sovereign risk – at least from the last twenty years – is only a weak guide to how this risk is likely to evolve over the next decade.

These are but two questions amongst many that model developers must grapple with. Despite such challenges, banks should attempt to develop a transparent, internal view on these risk measurement issues rather than depend on an external party's input.

However ratings are derived, whether externally or from internal models, they should not be the only way country risk is assessed. Scenario analysis provides a valuable supplementary assessment, especially for T&C risk. The deterioration of a country's economy does not have the same effect on all borrowers but varies according to factors that can be assessed in the scenario. Examples include the cyclical nature of the borrower's products in relation to the domestic economy, the portion of its revenue that is derived from the domestic economy and the quantity of collateral, especially real estate, based in the country.

The scenario approach allows risk managers to "stress" a variety of other country risk issues that need to be considered: how correlations, interdependencies and contagion between countries can affect outcomes, and how different risk types may be affected in a crisis. And these stress tests can, in turn, help risk managers see where their chosen framework needs to be modified to capture risks that were unanticipated before the scenarios were conceived.

Conclusion

With international trade expanding, financial markets globalising and most sovereign borrowers' credit quality deteriorating, country risk is an increasing source of anxiety for bankers. Alas, the long period of economic stability, from the early 1980s until 2007, means that few banks have invested in country risk management frameworks and skills adequate to today's challenges. Most use risk measures that do not readily reveal the banks' true exposure to a country and they are overly reliant on external suppliers of risk assessment. For banks with material foreign exposures, this is a dangerous predicament which they should act quickly to remedy.

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