ABSTRACT

Over the past decade, frontier equity markets--or those equity markets of the least rich and developed countries--have experienced strong returns with low correlation to traditional asset classes. However, as frontier markets constitute an unfamiliar and high-risk asset class, it has yet to garner broad acceptance from the institutional investor community. The objective of this white paper is to explore frontier equity markets as an asset class and to assess its value within an institutional investor's portfolio. For investors that are willing to assume a long-term perspective, frontier markets may be a beneficial addition to their portfolios.

DEFINITION

Broadly defined as the least developed of the developing countries, frontier markets have investable stock markets that are excluded from traditional emerging market indices. Though similar, frontier and emerging markets are different: frontier markets are considered less economically and financially developed than emerging markets.[1] In essence, frontier markets can be defined as developing economies with underdeveloped equity markets, in the sense that they suffer from illiquidity, low transparency, low levels of foreign investment, high corruption, and a weak regulatory framework.

Frontier markets constitute a broad set of countries and markets. Of the more than 115 stock markets worldwide, roughly 60 may be characterized as frontier markets. Collectively, frontier markets represent approximately two billion people, a GDP of $11 trillion, and an equity market capitalization of $1.1 trillion.[2] Table 1 lists some of the larger frontier markets, categorized across five broad geographical regions.

Table 1. A Representative List of Frontier Markets

Asia	Eastern Europe	Africa	Middle East	South America
Vietnam	Cyprus	Nigeria	Kuwait	Colombia
Sri Lanka	Slovenia	Kenya	U.A. Emirates	Panama
Bangladesh	Romania	Cote d'Ivoire	Qatar	Ecuador
Kazakhstan	Croatia	Tunisia	Jordan	Argentina
Pakistan	Estonia	Mauritius	Oman	Venezuela
	Ukraine	Ghana	Lebanon	
	Georgia	Botswana	Bahrain	
		Zambia		
		Namibia		

[1] However, the point at which a market moves from frontier to emerging, or even when a frontier market is finally considered to be "investable," is largely a matter of opinion.
[2] Source: Population and GDP data from CIA World Factbook (2009).

INVESTING RATIONALE

As of 2009, emerging markets had grown to represent 24.5% of the world's equity market capitalization.[3] Furthermore, the list of the fifteen countries with the largest GDP included seven emerging markets (see Table 2). It was not always so. In fact, many of today's emerging markets would have been considered yesterday's frontier markets. Over the ensuing years, however, many emerging markets have developed and now feature a relatively high degree of political, financial, and economic stability. As a result, investors who had invested in emerging markets when those markets were less developed have experienced strong returns.

Table 2. GDP Rank by Country (PPP basis)

Rank	Country	GDP	
1	United States	14,264,600	
2	China	7,916,429	Emerging Market
3	Japan	4,354,368	
4	India	3,288,345	Emerging Market
5	Germany	2,910,490	
6	Russia	2,260,907	Emerging Market
7	United Kingdom	2,230,549	
8	France	2,130,383	
9	Brazil	1,981,207	Emerging Market
10	Italy	1,814,557	
11	Mexico	1,548,007	Emerging Market
12	Spain	1,396,881	
13	South Korea	1,342,338	Emerging Market
14	Canada	1,303,234	
15	Turkey	915,184	Emerging Market

Source: CIA World Factbook, 2009

Current investors in frontier markets hope that these markets develop as successfully as today's emerging markets have. Several positive trends over the past decade suggest that they may. These include increased political stability, improving legal and regulatory environments, deepening financial liquidity, and growing global demand for natural resources.[4] Furthermore, for some frontier markets the prospect of acceptance into the

[3] Source: CIA World Factbook (2009), MSCI.

[4] For example, in 1999 Nigeria adopted a new constitution and held national and state elections in 2003 and 2007, respectively. Nigeria's elections, however imperfect, were considered a step forward for a country with a history of authoritarian rule and political instability.

European Union encourages political and economic reform and reinforces peace and stability.

In addition, as economic development proceeds, the demand for natural resources increases. Today's emerging markets originally were beneficiaries of this trend, since many were commodity exporters. Now, however, these same emerging markets—particularly China and India—are joining the developed markets as net resource importers. Today's frontier markets may help to supply this growing world demand (see Table 3); for better or for worse, frontier markets' economic development is highly dependent on exports.

Table 3. Resource Exports and Exports as % of GDP for Select Frontier Markets[5]

	Major Resource Exports	Exports (% GDP)
U.A.E.	Oil, Natural Gas	76
Kuwait	Oil	43
Kazakhstan	Oil, Metals, Grains, Meat, Coal	39
Algeria	Oil, Natural Gas	39
Ukraine	Metals, Oil	36
Zambia	Metals, Agricultural	36
Nigeria	Oil, Natural Gas	27
Romania	Metals, Minerals, Agricultural	24
Argentina	Soybeans, Oil, Grains	20
Kenya	Tea, Agricultural, Coffee, Oil	15
Venezuela	Oil, Minerals, Metals, Agricultural	15
Colombia	Oil, Coffee, Coal	14

PERFORMANCE

Though the concept of frontier markets has existed since the 1990s, investable frontier market indices are a recent development.[6] In July 2007, S&P introduced the S&P/IFC Extended Frontier 150, which consists of the largest and most liquid 150 stocks from twenty-seven frontier countries. This index builds on the S&P/IFC Frontier Composite (now known as the S&P BMI Frontier ex-GCC index[7]), which was established in 1996. In December 2007, Morgan Stanley introduced the MSCI Frontier Markets Index, which as of June 2009 consisted of 183 companies from twenty-five countries. Both indices are capitalization-weighted and have a relatively small average market capitalization of $200 to

[5] Source: CIA Factbook, 2009.

[6] Note that the listed frontier market indices have been "back-filled" with data (including returns) such that their "inception" pre-dates their creation.

[7] The S&P/IFC Frontier Composite originally excluded the Gulf Cooperation Council (GCC) countries because of a lack of foreign investor access. This is a significant exclusion, as the GCC markets constitute over 55% of the indices that include them.

$400 million. In addition, the FTSE Frontier Index, launched in July 2008, tracks 50 of the most liquid stocks from an eligible universe of twenty-three frontier markets. Though these indices represent important developments in the growth of frontier markets as an asset class, they fail to capture the entire opportunity set of over 60 Frontier Market exchanges.[8]

Performance for all of the indices has been strong—both in relative and absolute terms—but highly volatile. Table 4 and Table 5 compare the returns, standard deviations, and correlations for each frontier index with several familiar indices. The returns below are denominated in U.S. dollars and hence are additionally affected by changes in exchange rates.[9]

Table 4. Return, Standard Deviation, and Other Relevant Statistics (2002-2009)

June 2002 to Dec. 2009[10]	Returns in U.S. Dollars	Std. Deviation	Sharpe Ratio	Correlation with MSCI Frontier
MSCI Frontier Markets	11.3%	26.1%	0.34	1.00
S&P BMI ex-GCC Frontier	14.0	22.3	0.52	0.74
MSCI Emerging Markets	17.6	30.5	0.50	0.57
MSCI EAFE	6.6	20.1	0.21	0.61
S&P 500	2.6	16.4	0.01	0.52
Barclays Aggregate	5.3	4.1	0.73	0.06

Table 5. Return, Standard Deviation, and Other Relevant Statistics (1999-2009)

January 1999 to Dec. 2009[11]	Return in U.S. Dollars	Std. Deviation	Sharpe Ratio	Correlation with S&P ex GCC Frontier
S&P BMI ex-GCC Frontier	9.4%	18.6%	0.34	1.00
MSCI Emerging Markets	14.0	29.3	0.38	0.59
MSCI EAFE	3.3	18.4	0.01	0.64
S&P 500	0.9	16.3	Neg.	0.48
Barclays Aggregate	5.7	4.0	0.66	0.03

While frontier markets lagged the performance of emerging markets in both time periods by 3.6% and 4.6%, respectively, they outperformed developed markets (EAFE and S&P 500) by wide margins. Volatility, however, was second only to that of emerging markets.

8 However, excluding countries may be justified given limited liquidity or foreign investment.

9 Note that most foreign equity markets benefitted from a tailwind of currency appreciation versus the dollar during these periods.

10 June 2002 is the inception date of the MSCI Frontier Markets index. Hence, June 2002 through December 2009 represents the longest common period.

11 January 1999 is the inception date for the MSCI Emerging Markets Index. Hence, January 1999 through December 2009 represents the longest common period.

Nevertheless, the risk-adjusted returns as measured by the Sharpe ratios were comparable to emerging markets' and remarkably better than developed markets'.

Notably, frontier market indices have also displayed relatively modest correlation to other equity market indices. This makes intuitive sense, as frontier economies are often domestically focused and thus driven largely by the needs or desires of the local population. As a result, frontier markets may not be influenced by global economic forces to the same extent as developed markets. Nevertheless, frontier markets that grow increasingly reliant on exports are likely to become more highly correlated with global equity markets.

The positive trends observed in the prior section lead Meketa Investment Group to expect that investments in frontier markets will produce returns similar to those of traditional emerging equity markets. As these markets expose investors to high levels of risk, investors should demand higher returns to justify the investment. Therefore, we generally expect that frontier markets will garner a premium over U.S. equities, though we acknowledge this could contract rapidly as more institutional assets flow into this space and as frontier market risk is perceived to diminish. The combination of high expected returns and relatively low correlations suggest that frontier markets may be a valuable addition to a well-diversified portfolio.

RISKS

As with any other investment that offers the potential for relatively high returns, the risks associated with frontier markets are considerable; some of which are outlined below.

Illiquidity

Frontier market stocks tend to be more thinly traded and thus, by definition, are less liquid than developed market stocks. A frontier market manager may need up to two weeks to build a position in a security, and, conversely, may need even more time to exit—even under normal market conditions.

This lack of liquidity can affect an investor in three ways. First, the low volume of trading generally results in wider bid-ask spreads and, hence, higher trading costs. Second, it may be difficult to trim or to liquidate the investment on short notice—especially during a market downturn. Finally, the cash flows from other investors can have a significant impact on the market's returns. For example, many frontier market *economies* were largely unaffected by the recent global credit crisis; however, the crisis did provoke a widespread move to liquidity and quality, which resulted in investors reducing their frontier market exposure. This "flight to quality" by foreign investors partly caused a 53% decline in the MSCI Frontier Markets index in 2008.

Volatility

As noted previously, the frontier market indices have exhibited high levels of volatility. However, it is possible that the historical standard deviation did not fully capture the overall level of realized risk in the market. This underestimation may be the result of illiquidity *lowering* the observed volatility (i.e., if nobody is willing to transact a stock at the current price because the sellers want too much and the buyers will pay too little, there is no new, lower price to observe).

Individual markets and stocks will be even more volatile than the index, as the low correlation among constituent markets reduces the index-wide volatility measure. For example, the Ukrainian market declined 84% in 2008 while the Tunisian market dropped just 6%.

Political and Social Instability

Frontier markets are prone to political, social, and economic instability. While most exhibit positive economic and demographic factors (see Appendix A), as well as favorable growth outlooks, these countries often have insufficient infrastructure and fragile economies. Some are plagued with social and civil unrest and have a non-democratic form of government. In addition, public data are sparse and often unreliable, and accounting standards are unfamiliar (or even inadequate). Many of these markets suffer from high levels of corruption (see Appendix B for a map of the corruption level by country). Similarly, corporate theft and other criminal activity may be widespread, and the lack of corporate transparency makes it harder to uncover malfeasance. Investors do not just bear the risk that an investment may not generate profits, but quite literally the risks of theft, government chicanery, and even country dissolution.

Currency

As with most foreign investments, frontier markets are exposed to currency risk. Currency risk is the risk that the value of an investment may decline due to the conversion from one currency to another. For example, the price of a stock domiciled in Zimbabwe may appreciate, but if the dollar appreciates against the Zimbabwe currency by a greater amount, the stock's performance translates to a net negative return in dollar terms.

Frontier economies are, by definition, immature and *may* be more highly exposed to currency mismanagement by their central banks and governmental authorities. Hyperinflation is probably a greater risk in frontier markets than in developed markets.[12]

Taxes and Other

Some frontier market countries impose taxes on foreign investors; these can be significant and are subject to change at random.[13] Furthermore, custody costs and investment management fees tend to be higher, thus driving down the net return to investors. Custodial charges for holding assets in frontier markets countries are as high as 45 basis points

[12] For example, during November 2008, prices in Zimbabwe doubled approximately every twenty-four hours.
[13] For example, Ukraine imposed a 15% withholding tax on all security sale proceeds in July 2007.

annually, significantly higher than custodial charges for developed international markets (1.25 basis points) or for emerging markets (3.5 basis points).[14] Commissions and other fees can boost transaction costs to as much as 3% to 5% per trade.[15] In addition, management fees can range from 0.70% for index products to 2.5% for actively managed products, and some investment vehicles carry a performance-based fee. These combined costs present a high hurdle for investors to overcome.

STRATEGIC ALLOCATION

In the 1970s and 1980s, portfolio strategists highlighted the diversification benefits of investing overseas, and investors began to add foreign stocks to their portfolios. Initially, such investing was confined primarily to Western Europe and Japan. In the early 1990s, emerging markets investing began to gain acceptance. As these economies have become more integrated into the global economy, their stock markets have (almost by definition) become more highly correlated with developed markets. Investors are now turning to frontier markets, whose relatively modest correlations (between 0.45 and 0.65) are like those that first attracted U.S. investors to overseas markets.

In addition, frontier markets may act as a commodity-led inflation hedge, providing additional portfolio diversification benefits. As Table 6 shows, frontier market indices have exhibited moderate correlations with commodity prices historically (as proxied by the Dow Jones-UBS Commodity Index.[16]

Table 6. Frontier Market Index Correlation with Commodities

June 2002 to Dec. 2009	MSCI Frontier Markets	S&P Frontier Markets ex-GCC	DJ UBS Commodity
MSCI Frontier Markets	1.00		
S&P Frontier Markets ex-GCC	0.74	1.00	
DJ UBS Commodity Index	0.51	0.59	1.00

For investors who are willing and able to accept the risks and to assume a truly long-term approach toward the asset class (i.e., they have sufficient risk tolerance and liquidity), we believe that frontier markets can be a valuable portfolio addition. Investors may want to consider an allocation to frontier markets as a subset of an emerging markets allocation. The historical results shown in Table 7 demonstrate that a portfolio consisting of 70% emerging markets and 30% frontier markets provided a comparable return to an emerging market-only portfolio with significantly lower volatility. Furthermore, they suggest that a modest allocation to frontier markets would have improved the performance of a typical portfolio from January 1999 through December 2009. While the historical data may point toward a larger allocation when used within a standard mean-variance optimization framework,

[14] Source: State Street Bank.
[15] Source: Larry Speidell, "Frontier Markets - Asset Class or Curiosity," July 2008.
[16] This index was formerly called the Dow Jones AIG Commodity Index.

Meketa Investment Group recommends limiting exposure to one-third of an emerging markets allocation or 15% of the total foreign equity allocation. Constraining frontier market exposure will help alleviate liquidity issues and limit overall portfolio risk.

Table 7. Risk-Adjusted Performance Benefits of Frontier Markets

June 2002 to Dec. 2009	MSCI Frontier Markets	MSCI Emerging Markets	70% EM/30% Frontier
Return	11.3%	17.6%	16.3%
St. Dev.	26.1%	30.5%	26.4%
Sharpe Ratio	0.34	0.50	0.53

January 1999 to Dec. 2009	S&P Frontier Markets ex-GCC	MSCI Emerging Markets	70% EM/30% Frontier
Return	9.4%	14.0%	13.1%
St. Dev.	18.6%	29.3%	24.0%
Sharpe Ratio	0.34	0.38	0.42

January 1999 to Dec. 2009	60% S&P, 40% MSCI EAFE	60% S&P, 30% MSCI EAFE, 10% MSCI EM	60% S&P, 25% MSCI EAFE, 10% MSCI EM, 5% S&P Frontier
Return	1.9%	3.0%	3.4%
St. Dev.	16.6%	17.3%	17.0%
Sharpe Ratio	Negative	0.00	0.02

IMPLEMENTATION

An investor can gain exposure to frontier markets through index funds, ETFs, actively managed (long-only) accounts, and long-short hedge funds. However, one barrier to frontier market investing is the relative dearth of these investment products and managers. Though the numbers of products and managers is constantly changing, Table 8 provides an estimate of the number of products available to investors in each category as of December 2009.

Table 8. Current Vehicles and Attendant Fees for Frontier Market Exposure

Product Types	Number of Options	Fee Range (in bp)
Index Funds	1	75
ETFs	3	70-95
Long-only Managers	9	125-228

Benchmarks

The available benchmarks have several problems as frontier markets investment vehicles. As noted earlier, there are over 60 stock markets around the world that could be considered frontier markets. Despite this, the S&P and MSCI benchmarks comprise only twenty-seven and twenty-five markets, respectively. In some cases, exclusion is justified due to minimum liquidity requirements; however, liquidity alone does not explain the lack of breadth. Furthermore, Middle Eastern markets constitute over 55% of each index as a result of the market-capitalization weighting; investors may not want this region bias. Fortunately, both S&P and MSCI also produce "ex-GCC" versions of the index, which exclude Gulf Cooperation Council (i.e., oil-exporting) countries and thus limit the amount of Middle Eastern exposure. Finally, there are several variations of the standard indices. For example, S&P has introduced the S&P Select Frontier, which attempts to capture the most liquid subset of the Extended Frontier 150.

Active vs. Passive Investing

A case can be made for active management in frontier markets. Whereas the indices are not necessarily well diversified, an active manager may construct a portfolio that provides improved diversification across countries and regions. Furthermore, active managers can position their portfolio to take advantage of possible macroeconomic insights. In addition, the volatile nature of individual stocks and markets provides a wider range of entry and exit points which skilled managers can use to their advantage.

In general, the information constraints described previously (e.g., inadequate accounting standards and a lack of transparency) mean that these markets are far less efficiently priced than the blue chip stocks that dominate many investors' portfolios. This implies that investors who independently perform due diligence on these companies may stand a better chance to profit from their efforts.

Note that capacity is an issue for active managers in illiquid markets. Across Africa, Frontier Asia, and Eastern Europe, total daily trading volume was roughly $175 million in September of 2009, up from a low of $58 million in March of 2009. If a portfolio were invested in the most liquid quartile of stocks, the total daily trading volume of the positions would be roughly $40 million. If the portfolio managers were open to holding up to 10 days trading volume, they could invest no more than $400 million.[17]

Unfortunately, finding dedicated and experienced portfolio management in this asset class is challenging. Few managers have a track record longer than one or two years. Thus far active managers have outperformed the benchmark as a group, though the sample size and extremely short period make it very difficult to draw a definitive conclusion.

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[17] Source: Frontier Market Asset Management, "Frontier Market Liquidity in a Dry Season," Larry Speidell, March 2009.

Because of the lack of diversification in most indices and the inherent inefficiencies in these markets, active management is the preferred investment approach. Active frontier markets managers primarily offer commingled, open-ended funds. Separate accounts are not recommended given the difficulty and expense of establishing custody accounts in many of these markets. Regardless of the approach (passive or active), expenses will be higher than they are for their development market equivalents.

Carve-outs vs. Dedicated Mandates

Active management in frontier markets demands having a detailed knowledge of each country, region, and company. A specialist approach, with individuals dedicated to frontier investing, would be preferred over allowing an emerging markets team to make sporadic frontier markets investments.

Social Responsibility Issues

Several frontier countries may not have ideal practices with regards to social and environmental issues. Unfortunately, this may not be altogether different from some emerging—or even developed—markets (e.g., in China, Russia). Of particular concern, labor conditions may be substandard, and there is a tendency for developing nations to accept environmental costs to promote economic growth. Plan sponsors should acknowledge that social issues exist before making their decision.

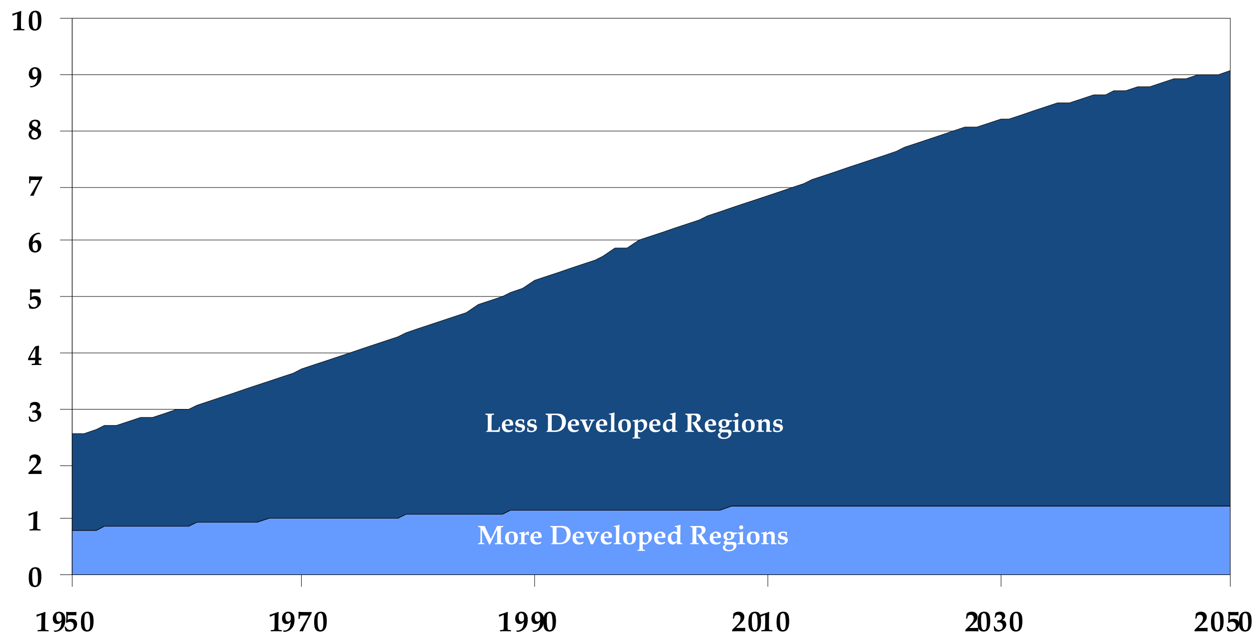
SUMMARY

Frontier markets offer an appealing investment proposition for some long-term investors. The history of emerging markets and some positive trends imply that frontier markets may generate similarly high investment returns. With a high expected return and moderate (but rising) correlation with developed markets, frontier markets may be an attractive addition to a portfolio. What's more, frontier markets are currently experiencing limited institutional participation, providing attractive investment opportunities for active managers. Nevertheless, frontier markets suffer from significant political, economic, and social risks: frontier investing is not for the faint of heart and should be approached with a long-term mindset.

We recommend that plan sponsors consider the risks carefully before making an investment in frontier markets. Those who wish to invest should constrain their allocation to no more than one-third of their emerging market equity allocation, due to myriad risks and liquidity constraints. This allocation can be either a dedicated mandate or a carve-out of a broader emerging markets portfolio. Despite its costs, an actively managed portfolio is preferred over a passive approach.

APPENDIX A

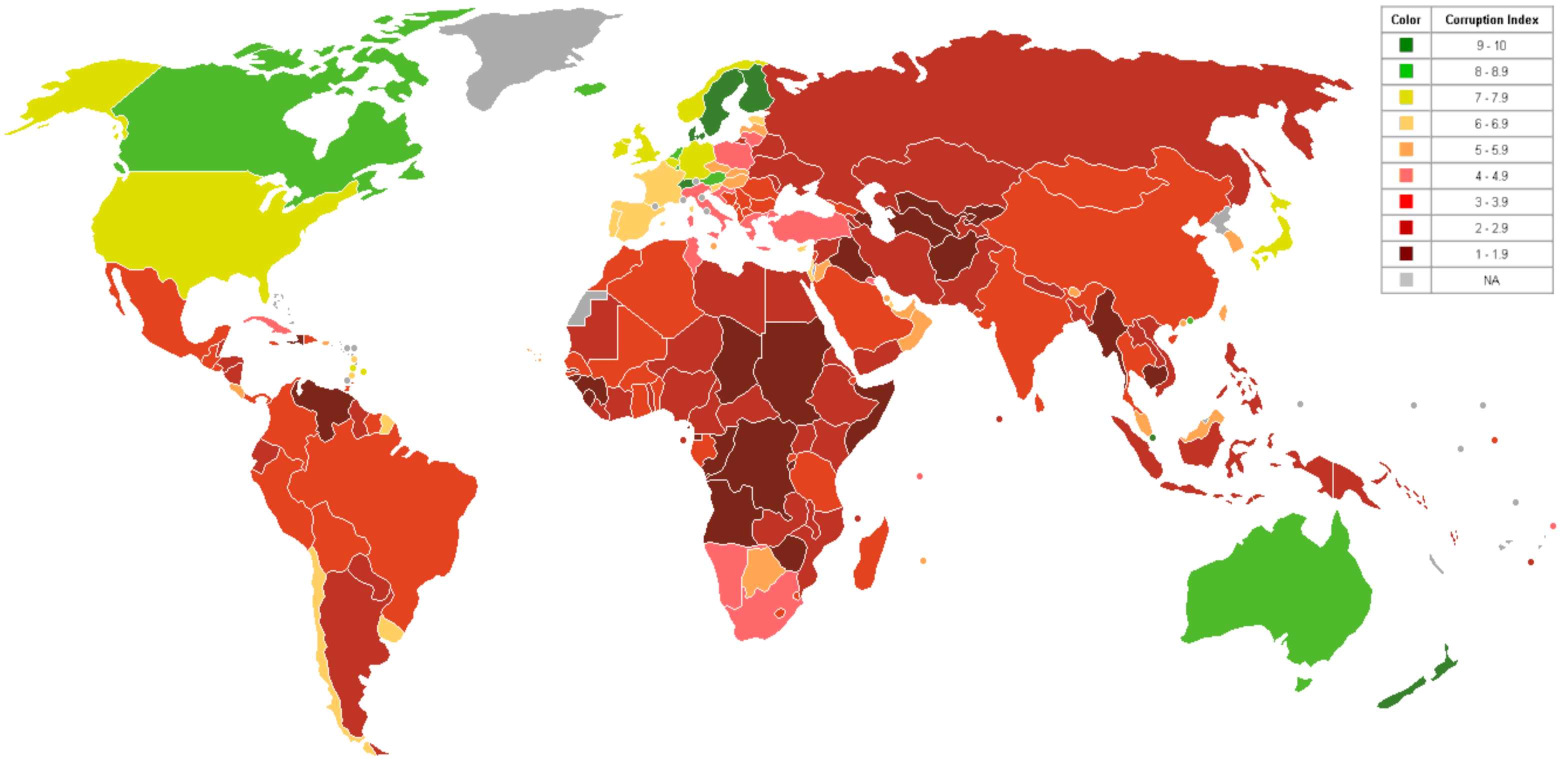
Population Levels in Less/More Developed Countries



Source: United Nations, World Population Prospects: The 2004 Revision (medium scenario), 2005.

APPENDIX B

The Corruption Perceptions Index



Source: Transparency International, 2007.

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