RESOURCE ALLOCATION AND INSTITUTIONS: EXPLORATIONS IN ECONOMICS, FINANCE AND LAW

Edited by
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ATHENS INSTITUTE FOR EDUCATION AND RESEARCH
2006

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PUBLISHED BY
ATHENS INSTITUTE FOR EDUCATION AND RESEARCH
8 Valaoritou Street, Kolonaki, 10671 Athens, Greece
Tel. + 30 210 36.34.210 Fax + 30 210.36.34.209
Email: atiner@atiner.gr URL: www.atiner.gr

First Published 2006
ISBN 960-6672-01-8

Typeset, Printed and Bound in Greece by Theta Corp.

CHAPTER TWENTY THREE

The Effect of Sovereign Credit Rating Announcements on Emerging Stock Markets: *An Event Study*

Miroslav Mateev & Atanas Videv

Introduction

This paper examines the impact of sovereign credit rating changes on capital markets in emerging economies. There has been almost no research on this topic outside the US despite the growing importance of ratings in global financial markets (Dale and Thomas, 1991). The motivation behind previous research in this area has been to evaluate the relevance of bond ratings for efficiency of capital markets; in particular, do rating agencies have superior information and/or analytical skills and hence can their announcements influence excess bond and equity returns?

The prior work that has used bond price data to examine the effect of rating changes has been mix. Weinstein (1977) and Wakeman (1978) do not find significant abnormal returns, Pinches and Singleton (1978) affirm the proposition that the information content of bond rating changes is very small, while Katz (1974), Grier and Katz (1976), Ingram, Brooks and Copeland (1983), Wansley and Clauretie (1985), and Hand, Holthausen and Leftwich (1992) do find evidence of abnormal returns, associated in particular with downgrades and additions to Credit Watch List. These conflicting results are due to the differences in bond market coverage, frequency of observations (daily or monthly), contamination with news, and different sample periods. Given the poor quality of much bond price data, where thin trading is a particular problem, researchers have analyzed the impact of bond rating announcements on the common stock returns. Holthausen and Leftwich (1986), Griffen and Sanvincente (1992), and Goh and Ederington (1993) have documented that equity prices react negatively to announcements of bond rating downgrades. This reaction has also been documented for some non-US markets (Matolcsy and Lianto **(**1995) for the Australian market, and Barron, Clare and Thomas (1997) for the UK market).

Zaima and McCarthy (1988) propose two competing hypotheses about the effect of rating changes: the information content hypothesis and wealth redistribution hypothesis. The former suggests that securities of downgraded firms should decline in value while those of upgraded firms should increase; the latter suggests that rating downgrades should lead to a reduction in bondholder wealth and a corresponding wealth transfer to shareholders. More recently, Goh and Ederington (1999) find that the equity market reacts much more negatively to bond rating downgrades to and within the speculative (below-investment) bond category than to downgrades within the investment grade category. The market reaction is also stronger if the firm experiences negative pre-downgraded abnormal returns.

Research on the effects of rating changes flourished in the 1990s. Most of this work focused on the effects of ratings on the instruments being rated or on the

instruments of the institutions that have been rated. Cantor and Packer (1996), Larrain and others (1997), and Reisen and von Maltzan (1999), for example, examine the effects of sovereign ratings on emerging market bond yield spreads. Other researchers have focused on ratings of banks and nonfinancial firms. Hand and others (1992) estimate the effects of ratings of corporate firms on the securities they issue. Using bank-level data from emerging markets, Richards and Deddouche (1999) examine the impact of bank ratings on bank stock prices.

Changes in sovereign debt ratings and outlooks affect more severely financial markets in emerging economies. They affect not only the instrument being rated (bonds) but also stocks. They directly impact the markets of the countries rated and generate cross-country contagion. The effects of rating and outlook changes are stronger during crises, in nontransparent economies, and in neighboring countries. Upgrades tend to take place during market rallies, whereas downgrades occur during downturns, providing support to the idea that credit rating agencies contribute to the instability in emerging financial markets.

Rating agencies have recently come under scrutiny as promoters of financial excesses. As Ferri and others (1999) suggest, their pro-cyclical behavior (upgrading countries in good times and downgrading them in bad times) may have magnified the boom-bust pattern in stock markets. During the boom, early rating downgrades would help to dampen euphoric expectations and reduce private short-term capital flows which have been repeatedly seen to fuel credit booms and financial vulnerability in the capital-importing counties. By contrast, if sovereign rating changes have no market impact, they would be unable to smooth boom-bust cycles[1].

Existing research has not examined whether changes in ratings of assets from one country trigger contagious fluctuations in other countries, and it has largely neglected whether changes in ratings of one type of security affect other asset markets. These two possible spillover effects of credit ratings were important to analyze for several reasons (Kaminsky and Schmukler, 2002). First, cross-country contagion effects can be large, as spillover effects of the Russian default on industrial and developing economies showed. Rating agencies may contribute to this co-movement in financial markets around the world. Second, news about one type of security can affect yields of other securities, through various channels.[2]

This article complements earlier research work on rating changes by examining the cross-country (or foreign) and country-specific (or domestic) spillover effects of rating changes. The current paper is unique in considering the impact of sovereign credit rating changes on stock returns using daily data for a set of emerging markets. To investigate the size and duration of the market impact we use press releases of the three leading rating agencies - Moody's, Standard and Poor's (S&P), and Fitch, IBCA – over the period 1998-2004. The objective of our study is to find out whether the credit rating agencies contribute to the instability in emerging financial markets. The rest of the paper is organized as follows: in the next section we shortly discuss the

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1 Rating changes may also reveal new (private) information about a country, fueling rallies or downturns. This effect is likely to be stronger in emerging markets, where problems of asymmetric information and transparency are more severe. Changes in sovereign ratings may also act as a wake-up call, with upgrades or downgrades in one country affecting other, similar economies.

2 For example, stock markets can be adversely affected by the downgrading of sovereign bonds because governments may raise taxes on firms (reducing firms' future stream of profits) to neutralize the adverse budget effect of higher interest rates on government bonds triggered by the downgrade. These cross-asset effects can be large, heightening financial instability.

institutional features of the three rating agencies; in section 3 we consider our data and our research methodology; in section 4 we present our empirical results; and the last section concludes the paper.

Institutional Features of Rating Agencies

Three major international agencies, Moody's, Standard and Poor's (S&P), and Fitch-IBCA, rate debt. These agencies assign ratings to different types of borrowers and financial instruments. Over the past 80 years in which Moody's and Standard and Poor's have been rating bonds, these ratings have become quite important to the issuer of debt securities, the investment public, and the government agencies concerned with the regulation of institutional investors.

We study sovereign ratings (also known as country ratings), the ratings of both domestic and foreign currency-denominated sovereign debt (see Appendix Table A1).

Table A1 *Number of sovereign credit rating changes over the period 1998-2004: the case of Bulgaria*

Number of Credit Rating Changes*						
	Foreign Currency-Denominated			Domestic Currency		
	Period		Changes	Period		Changes
	from	to		from	to	
Standard and Poor's	11.23.98	06.24.04	5	11.23.98	06.24.04	5
Moody's	09.27.96	11.17.04	4	02.18.99	11.17.04	2
Japan Credit Rating Agency	10.04.02	08.11.04	1	07.02.03	08.11.04	0
Fitch IBCA	04.17.98	08.04.04	4	04.17.98	08.04.04	3

*All of the changes represent upgrades of the Credit Rating.

Rating agencies assess the capacity of sovereign borrowers to service their debt. Each of the three agencies has its own rating scale (see Appendix Table A2).

Table A2 *Rating Scale of the Three Leading Rating Agencies: Moody's, Standard and Poor's and Fitch IBCA*

Moody's			Standard and Poor's			Fitch IBCA		
Rating	**Number**	**Outlook**	**Rating**	**Number**	**Outlook**	**Rating**	**Number**	**Outlook**
Aaa	8	Positive	AAA	8	Positive	AAA	8	Positive
Aa1	7,33	Negative	AA+	7,33	Negative	AA+	7,33	Negative
Aa2	7	Stable	AA	7	Stable	AA	7	Stable
Aa3	6,66		AA-	6,66		AA-	6,66	
A1	6,33		A+	6,33		A+	6,33	
A2	6		A	6		A	6	
A3	5,66		A-	5,66		A-	5,66	
Baa1	5,33		BBB+	5,33		BBB+	5,33	
Baa2	5		BBB	5		BBB	5	
Baa3	4,66		BBB-	4,66		BBB-	4,66	
Ba1	4,33		BB+	4,33		BB+	4,33	
Ba2	4		BB	4		BB	4	
Ba3	3,66		BB-	3,66		BB-	3,66	
B1	3,33		B+	3,33		B+	3,33	
B2	3		B	3		B	3	
B3	2,66		B-	2,66		B-	2,66	
Caa1	2,33		CCC+	2,33		CCC+	2,33	
Caa2	2		CCC	2		CCC	2	
Caa3	1,66		CCC-	1,66		CCC-	1,66	
Ca	1,33		CC	1,33		CC	1,33	
C	1		SD	1		C	1	

Moody's scale, for example, ranges from Aaa to C. Rating agencies also provide an outlook, or watchlist, that includes prospective changes in ratings. The outlook is typically positive, stable, or negative. A positive (negative) outlook means that a rating may be revised upward (downward).

Moody's, S&P, and Fitch-IBCA upgrade or downgrade particular countries or group of countries within a very short time period. For example, all three agencies downgraded the East Asian countries immediately following the start of the crisis in July 1997; all three simultaneously upgraded the same countries once the crisis faded. The number of upgrades and downgrades rose after the Mexican crisis. Downgrades increased considerably after the devaluation of the Thai baht, the Korean crisis, and the Russian default, with a peak of 25 downgrades in December 1997. After November 1998 most of the countries included in our sample started to be upgraded, but downgrades were also announced in case of Russia, Slovakia, Romania and two other counties (see Appendix Table A3).

A large proportion of changes in outlook are usually followed by a change in rating. Between 1990 and 2000, 78 percent of changes in S&P outlooks were followed by changes in ratings. Rating changes followed outlook changes 69 percent of the time at Moody's and 50 percent of the time at Fitch-IBCA (Kaminsky and Schmukler, 2002). The time interval between changes in outlook and changes in rating varies across agencies. Most of the changes in rating occurred within two months for Moody's and Fitch-IBCA. For S&P most of upgrades took place five or more months after the change in outlook was announced.

Data Set and Methodology

We examine data from nine emerging markets: Bulgaria, Latvia, the Czech Republic, Hungary, Poland, Romania, Russia, Slovakia, and Slovenia. The observation period is from 1998, when emerging market ratings started to gain momentum, to 2004. We chose countries from Central and Eastern Europe that are in transition period to market economy and for which data were available. The rating history has been obtained directly from the free market leaders, which cover approximately 80% of sovereign credit ratings. We analyze not only implemented rating assignments but also the imminent rating changes.[3] The sample includes 186 changes in credit ratings, 135 upgrades and 51 downgrades, from nine emerging economies (see Appendix Table A3).

Table A3 *Number of Clear Events by Countries and Agencies: Upgrades and Downgrades*

	Moody's		Standard & Poor's		Fitch		Total events	
Countries	**Upgrade**	**Downgrade**	**Upgrade**	**Downgrade**	**Upgrade**	**Downgrade**	**Upgrade**	**Downgrade**
Bulgaria	4		7		6		17	0
Czech Republic	1		3	1	2	2	6	3
Hungary	6		5		4	2	15	2
Latvia	1		4		6		11	0
Poland	2		6	3	4	1	12	4
Romania	3	3	7	4	9	3	19	10
Russia	7	6	9	9	9	8	25	23
Slovakia	4	4	6	2	7	2	17	8
Slovenia	3		4		6	1	13	1
Grant total							**135**	**51**

*** Source** Author calculations

All of these changes were changes in country ratings. Countries with currency collapses during the 1990s - such as Bulgaria, Romania, Russia, etc. - were frequently reevaluated by rating agencies. After 2002 the credit rating of most countries in the sample was upgraded (for example, the credit rating of Bulgaria was upgraded 11 times for the period from 2002 to 2005).

The market impact is measured by movements in stock spreads (national stock markets indexes relative to the S&P 500 index). Stock return is proxied by the national stock market index for each country and is measured in U.S. dollars to be able to compare returns across countries in the same unit of account. Returns in dollars are the ones relevant for international investors. Data on national stock market

[3] When Moody's puts a country on *watchlist*, Standard & Poor's assigns a country with a positive or negative *outlook* and Fitch IBCA announces a positive or negative *ratingwatch* for a country. This paper reports only the implemented rating changes, the outlooks are excluded.

indexes, U.S. stock index (a benchmark), and credit rating changes are obtained from national stock exchanges database, NYSE web site and the three leading rating agencies database.

The methodology used in other researches focus on the contemporaneous effect of ratings on bond spreads and stock returns. In this paper we study only the announcement effect of rating changes on stock market returns. To capture the dynamic effects around the time of changes in ratings, we use the technique of event studies. Event studies can provide evidence on whether rating agencies act procyclically, downgrading countries during bad times and upgrading them during good times. They can also help determine whether the actions of rating agencies have sustained or merely transitory effects on financial markets. The event studies examine the evolution of stock market spreads (national stock markets indexes relative to the S&P 500 index) during a 10-day window around a rating announcement. We use stock market spreads because we want to measure the evolution of local stock price indexes relative to a benchmark.

The event study methodology allows us to study the effect of an upgrade or downgrade on the evolution of spreads around the event. Of course, other events that affect spreads may take place at the same time. Similarly to Kaminsky and Schmukler (2002) we do not control for those factors and assume that on average there is no particular bias in the event studies. That is, we expect that other factors influence spreads both positively and negatively in a random way. If, however, rating changes are serially correlated, the event studies will be biased. To control for this effect, we work with "clean events," that is, upgrades and downgrades that do not overlap during the 10-day window. In this manner, we ensure that we are studying the effect of only one upgrade or downgrade in each event.

Empirical Results

To capture the effect of country rating changes on emerging stock markets we use event study methods. As explained the event study examines the dynamic response of stock markets around the time of important event. The event study methodology also allows us to examine the claim that rating agencies behave procyclically, upgrading countries in good times and downgrading them during crises.

We examine the behavior of stock markets around the time of rating changes (10-day windows before and after changes). We look only at “clean” events, examining thus 63 domestic-country changes (52 upgrades and 11 downgrades) and 150 foreign-country changes (108 upgrades and 42 downgrades).[4] Standard event study methodology (see Hand at all, 1992) requires linking of rating events to abnormal returns – the difference between model-generated returns and actual returns.

The model-generated return R_{it} depends on the return of the market portfolio R_{mt} (here represented by an index for U.S. stock market):

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}, \text{ with } E[\varepsilon_{it}] = 0, Var[\varepsilon_{it}] = \sigma_{\varepsilon i}^2 \quad (1)$$

[4] If there are changes in the credit rating of more that one country for a given event (upgrade or downgrade) this event (respectively observation) is excluded from the sample. If there is more than one event within the 10-day window any event except the first one is excluded from the list of observations.

The coefficients for the model-generated returns have to be calculated for periods free of rating events. Because our relevant time series are too short to calculate the coefficients within an event-free period, we have to constrain α_i to 0 and β_i to 1, as suggested by Campbell *et al* (1997). For this reason, we base the event study on the stock spreads between emerging markets stock index return and the S&P 500 index return.

Using data for 185 changes in credit ratings of nine developing countries we compute the cumulative abnormal returns (CARs) within 10-day period around the announcement. The evidence supports the hypothesis that rating agencies may have exacerbated the boom-bust pattern in emerging markets (see Figures A1 and A2).

Figure A1 *Event Studies of Stock Market Indexes: Domestic Upgrades*

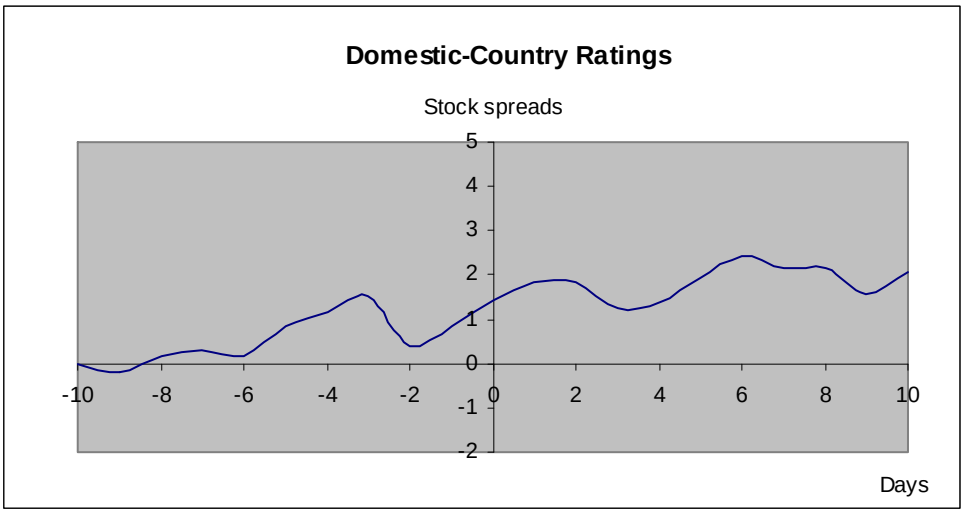
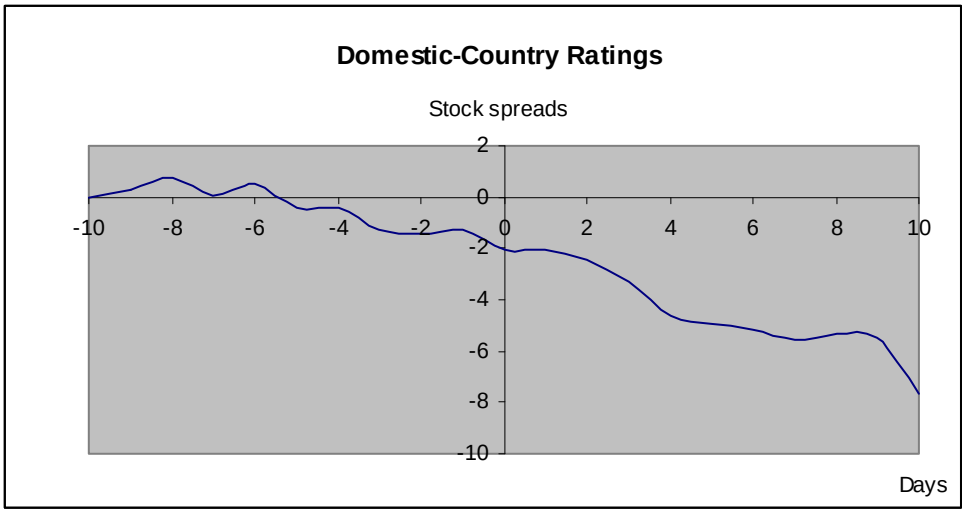


Figure A2 *Event Studies of Stock Market Indexes: Domestic Downgrades*



Upgrades tend to occur when markets are rallying and downgrades when emerging markets are collapsing. The results for domestic-country changes show that

the stock market spreads increased by as much as 1.32 percentage points in the 10 days before the upgrades with a strong cumulative effect (1.02 percent) in the two days surrounding the announcement (0 and +1). In contrast, the stock spread decreased by as much as 0.46 percentage points in the 10 days before the downgrades, with a cumulative effect of -0.79 percent in the two-day window around the announcement (see the Appendix Table 4).

Table A4 *The Stock Price Response to Sovereign Bond Upgrades and Downgrades: Domestic and Foreign*

Cumulative abnormal returns (CARs) and the *t*-statistics (in parenthesis) are shown for various announcement windows. Day 0 is the date of a rating change (upgrades or downgrades) announced by Moody's, Standard and Poor's, and Fitch IBCA. The event study methodology uses "clear events", that is, upgrades and downgrades that do not overlap during the 10-day window. The sample includes 186 changes in credit ratings, 135 upgrades and 51 downgrades, from nine emerging economies. The rating changes are those reported by Moody's, Standard and Poor's and Fitch IBCA, for the period 1998-2004. Data on national stock price indexes and benchmark index come from stock exchanges database. Stock market price indexes for each country are measured in U.S. dollars to be able to compare returns across countries in the same unit of account. The event study includes country-specific (or domestic) and cross-country (or foreign) effects of rating changes. For domestic rating changes the announcement period CARs for upgrades and downgrades are not significant (except for the 2-day window around the announcement of domestic upgrade). For the foreign rating changes a significant negative market response to downgrades over both the pre- and after-announcement windows is available. Again, significant market response to upgrades is not observable.

	Domestic-country rating changes		**Foreign-country rating changes**	
	Upgrades	**Downgrades**	**Upgrades**	**Downgrades**
Announcement windows	**CARs, %** (*t*-stat.)	**CARs, %** (*t*-stat.)	**CARs, %** (*t*-stat.)	**CARs, %** (*t*-stat.)
-10 to -1	0.13	-1.55	-0.04	-2.49*
	(0.15)	(-0.49)	(-0.11)	(-3.41)
0 to +1	1.02*	-0.79	0.06	-0.66
	(2.07)	(-0.75)	(0.33)	(-1.52)
+2 to +10	0.24	-5.63	0.55	-1.27*
	(0.24)	(-1.35)	(1.85)*	(-2.55)

***Statistically significant at the usual level of 5% and 10%.**

The only significant effect observed is the country upgrade around the announcement (days 0 and +1).

Stronger effects are observable for changes in foreign-country ratings (see Figures A3 and A4).

Figure A3 *Event Studies of Stock Market Indexes: Foreign Upgrades*

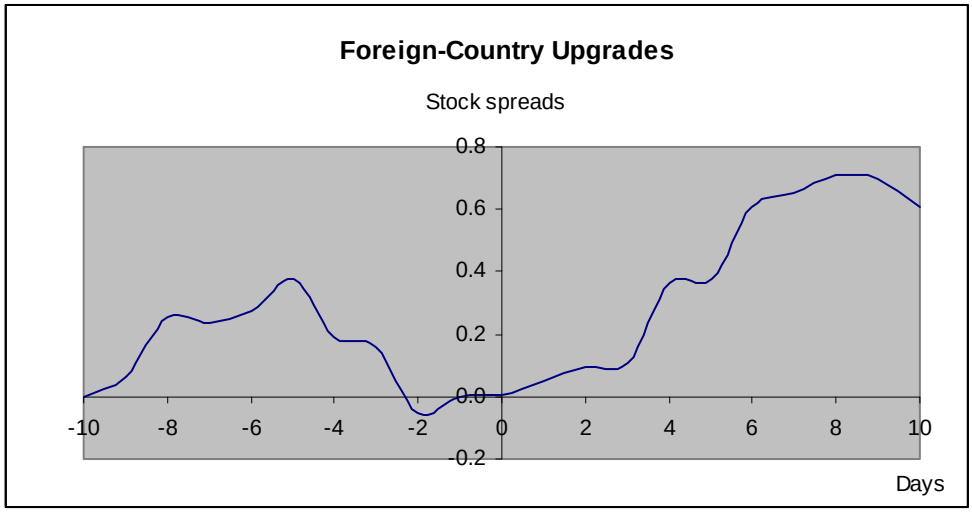
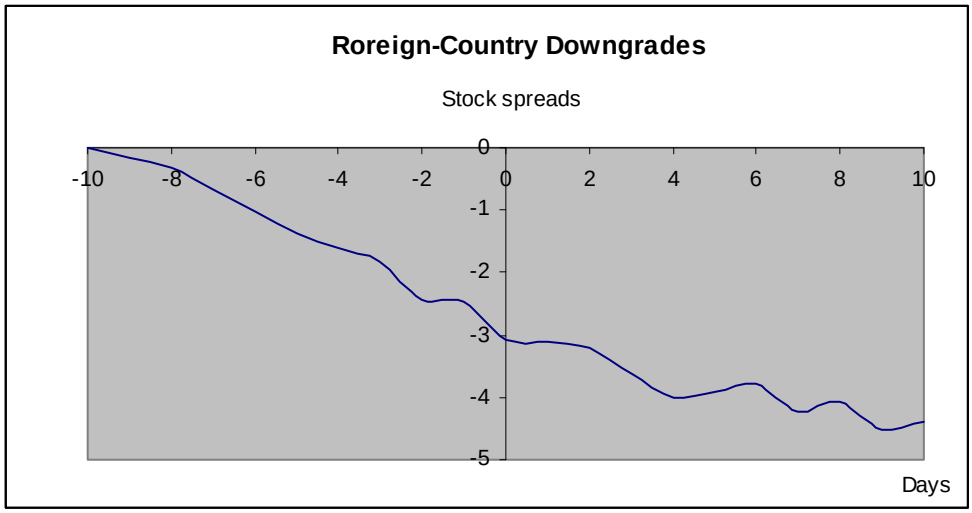


Figure A4 *Event Studies of Stock Market Indexes: Foreign Downgrades*



The results suggest that upgrades of other countries' sovereign debt trigger substantial increases in stock market spreads after the announcement of the rating change, with a cumulative effect of 0.55% within the 10-day window after the event (see Appendix Table A4). Likewise, foreign downgrades are followed by declines in the domestic stock market relative to that of the U.S. stock market. As expected, the change in stock spreads is strongly significant in this case, especially for pre- and after-announcement periods. Compare to domestic-country changes, foreign-country rating changes appear to have more robust effects, as if emerging markets had anticipated these changes to a greater extent than the changes in domestic-country ratings. This result supports our hypothesis that changes in ratings of sovereign bonds in one country trigger contagious fluctuation in stock returns in other countries. The reason is that changes in credit ratings of several countries immediately follow the change in the sovereign debt in the country which credit rating has been changed first. Overall, this event study reveals important spillover effects of changes in ratings, with stock markets in emerging economies jointly rallying or collapsing following rating changes.

An interesting result is that the rating change effects are absorbed too slowly by the stock market in emerging economies. In case of domestic-country changes the

increase (decrease) in the stock market spreads caused by upgrades (downgrades) in ratings last for more than 6 days after the announcement event. The same effect is observable for changes in foreign-country ratings, where the fluctuations in the stock spreads are mush higher. One possible explanation is the fact that emerging markets are less developed and the problems of asymmetric information and transparency are more severe.

These results could be interpreted also as indicating that rating agencies are behaving procyclically. Rating agencies decide to upgrade (downgrade) a country when the prices of its financial instruments go up (down). Alternatively, the behavior of prices in the days preceding rating and outlook changes could reflect an anticipation effect. Market participants anticipate the behavior of rating and outlook changes, so markets discount those events. As a whole our results support the findings in Reinhart (2001), who examines whether rating agencies actions anticipated the crises of the 1990s. With a large sample of countries and crises, she concludes that far from being leading indicators of crises, rating changes are lagging indicators of financial collapses. In contrast, the aftermath of rating changes is uneventful, with sovereign bond yield spreads and stock spreads remaining largely unchanged after announcements and both spreads maintaining the gains or losses observed in the days preceding the rating changes.

Conclusions

Most of the research on the effects of credit rating changes on financial markets has focused on quantifying the effects of these changes on sovereign risk, as measured by the yield spread of domestic instruments relative to benchmark instruments in industrial countries. In this article, we used event study method to test the effect of sovereign rating changes on stock market spreads for a combination of ratings by three leading agencies: Moody's, Standard & Poor's and Fitch IBCA. The data set we assembled enabled us to test the spillover effects across countries, and to provide a more complete description of the relation between credit ratings and stock markets.

We draw three conclusions about the effect of credit rating changes on emerging markets. First, changes in ratings significantly affect stock markets, with average stock returns declining about 1.91 percentage points in response to a domestic downgrade, and increasing about 1.21 percentage points in case of a domestic upgrade. Second, rating changes contribute to contagion or spillover effects, with rating changes of sovereign bonds in one emerging market triggering changes in stock returns in other emerging economies (cross-country contagion effect). As in case of contagious crises the spillover effects of rating changes are stronger at the regional level.

Third, domestic-country rating upgrades do take place following market rallies, whereas downgrades occur after market downturns. This evidence is consistent with the notion that rating agencies may be contributing to the instability of financial markets in emerging economies. Our results may explain why the effects of rating upgrades and downgrades do not appear to be large in economic terms, although they are significant (especially foreign downgrades). Rating agencies provide bad news in bad times and good news in good times, reinforcing investors' expectations. Rigobon (1997) and others note that this type of news is not very informative to investors, so markets do not react very strongly (and quickly) to it.

Several potential extensions to this research would improve the understanding of the effects of credit ratings and outlooks. It would be interesting to study whether different ratings agencies affect markets differently. To do so, we may need to collect more data to run tests that are statistically meaningful. Another important issue to examine is whether coordinated rating changes across agencies convey stronger signals about a country's economic health than isolated rating changes and thus trigger more dramatic reactions in financial markets. An additional extension would be to use regression models with which to explain the movements of financial markets in emerging economies. We are still far from fully explaining daily volatility in developing countries, with a statistical significance of coefficients in most cases tending to be very low. Regarding the procyclicality of rating upgrades and downgrades, it would be interesting to understand how rating agencies behave beyond the 10-day window analyzed here. This would be a step further in our research.

References

Barron, M.J., Clare, A.D. and S.H. Thomas (1997), The Effect of Bond Rating Changes and New Ratings on U.K. Stock Returns, *Journal of Business Finance and Accounting*, 24 (3) & (4), 497-509

Campbell, J.Y., Lo, A.W. and A.C. MacKinlay (1997), *The Econometrics of Financial Markets*, Princeton, NJ: Princeton University Press

Cantor, R. and F. Packer (1996), Determinants and Impact of Sovereign Credit Ratings, Federal Reserve Bank of New York, *Economic Policy Review*, 2(2), 37-53

Dale, R.S. and S.H. Thomas (1991), The Regulatory Use of Credit Ratings in International Financial Markets, *Journal of International Securities Markets*, (March), 9-18

Ferri, G., Liu, G. and J. Stiglitz (1999), The Pro-cyclical Role of Rating Agencies; Evidence from the East Asian Crises, *Economic Notes*, 28(3), 335-255

Grier, P. and S. Katz (1976), The Deferential Affects of Bond Ratings Changes Among Industrial and Public Utility Bonds by Maturity, *The Journal of Busines*s, Vol.49, No 2, 226-239

Griffen, P.A. and A.Z. Sanvincente (1992), Common Stock Returns and Rating Changes: A Methodological Comparison, *The Journal of Finance*, Vol.37, No.1, 103-119

Goh, J.C. and L.H. Ederington (1993), Is a Bond Rating Downgrade Bad News, Good News, or No News for Stockholders?, *The Journal of Finance*, Vol.11,8, No.5, 2001-2008

Goh, J.C. and L.H. Ederington (1999), Cross-Sectional Variation in the Stock Market Reaction to Bond Rating Changes, *The Journal of Finance*, Vol.39, No.1, 101-112

Ingram, R.W., Brooks, L.D. and R.M. Copeland (1983), The Information Content of Municipal Bond Rating Changes: A Note, *The Journal of Finance*, Vol.38, No.3, 997-1003

Hand, J.R., Holthausen, R.W. and R.W. Leftwich (1992), The Effect of Bond Rating Agency Announcements on Bond and Stock Prices, *The Journal of Finance*, Vol.47, No.2, 733-752

Holthausen, R.W. and R. W. Leftwich (1986), The Effect of Bond Rating Changes on Common Stock Prices, *Journal of Financial Economics*, Vol.17, 57-89

Katz, Steven (1974), The Price and Adjustment Process of Bonds to Rating Reclassifications: A Test of Bond Market Efficiency, *The Journal of Finance*, Vol.29, No.2, 551-559

Kaminsky, G. and S.L. Schmukler (2002), Emerging Market Instability: DO Sovereign Ratings, Affect Country Risk and Stock Returns? *The World Bank Economic Review,* Washington, Vol.16, Iss.2, 171-196

Larrain, G., Reisen, H., and J. von Maltzan (1997), Emerging Market Risk and Sovereign Credit Ratings, Technical Papers, No.124, Paris: OECD Development Centre.

Matolcsy, Z.P. and T. Lianto (1995), The Incremental Information Content of Bond Rating Revisions: The Australian Evidence, *The Journal of Banking and Finance*, Vol.19, 891-902

Pinches, G.E. and J.C. Singleton (1978), The Adjustment of Stock Prices to Bond Rating Changes, *The Journal of Finance*, Vol.33, No.1, 29-44

Reinhart, C. (2001), Do Sovereign Credit Ratings Anticipates Financial Crises? Evidence from Emerging Markets, School of Public Affairs, University of Maryland, College Park

Reisen, H. and J. von Maltzan (1999), Boom and Bust and Sovereign Ratings, *International Finance,* 2:2, 273-293

Richards, A. and D. Deddouche (1999), Bank Rating Changes and Bank Stock Returns: Puzzling Evidence from Emerging Markets, IMF Working Paper, IMF, Washington

Rigobon, R. (1997), Informational Speculative Attacks: Good News is No News, Sloan School of Management, MIT, Cambridge

Wakeman, L.M. (1978), Bond Rating Agencies and the Capital Markets, Working Paper, University of Rochester, New York

Weinstein, M. (1977), The Effect of a Rating Change Announcement on Bond Price, *Journal of Financial Economics*, 5, 329-350

Wansley, J. and T. Clauretie (1985), The Impact of Credit Watch Placement on Equity Returns and Bond Prices, *Journal of Financial Research*, Vol.8, 31-42

Zaima, J. and J. McCarthy (1988), The Impact of Bond Rating Changes on Common Stocks and Bonds: Test of the Wealth Redistribution Hypothesis, *Financial Review*, Vol.23, 483-498