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## Output spillovers from changes in sovereign credit ratings



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### ABSTRACT

This research examines how a sovereign rating revision of one country influences the economic growth rates of other countries. Rating revisions have significant output spillover effects: A one-notch upgrade (downgrade) prompts on average a significant downward revision of about 0.03% (0.07%) in the consensus forecast of annual economic growth rates of other countries in the two-month period after the event. The spillovers are transmitted through direct and indirect trade and financial linkages between event and non-event countries. The evidence indicates that a predominance of differential (common) spillovers leads upgrades (downgrades) to produce adverse output effects for other countries.

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## 1. Introduction

Recent sovereign debt crises in several countries have prompted major credit rating agencies to downgrade their sovereign credit ratings. The effects of such rating revisions are not limited to the re-rated countries. Researchers show that a sovereign rating revision of one country may have significant spillover effects on financial markets in other countries (e.g., [Kaminsky and Schmukler, 2002](#);

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Gande and Parsley, 2005; Ferreira and Gama, 2007; Ismailescu and Kazemi, 2010; Afonso et al., 2012; Beetsma et al., 2013). So far, there has been no examination of the effects of sovereign rating revisions on the economic growth rates of other countries. Investigation of this issue is important because economic growth is perhaps the most important aspect of national economic performance (Quinn and Toyoda, 2008). There is also an increasing amount of literature that analyzes the influence of an economic shock in one country on another country's output (e.g., Aly and Strazicich, 2011; Auerbach and Gorodnichenko, 2013). These studies, however, have not investigated the importance of output spillovers related to a sovereign credit rating revision.

In this study, we examine whether a sovereign credit rating revision of one country produces significant spillover effects on other countries' economic growth, and if so, through what mechanisms. Gande and Parsley (2005) and Ismailescu and Kazemi (2010) suggest that trade and financial linkages are the most likely channels for transmission of the spillover effects of sovereign rating revisions. The net impact of sovereign rating revisions on the economic performance of other countries will depend on the interaction of various effects through trade channels. Sovereign debt renegotiation is associated with a significant decline in trade between a debtor and its creditors (Martinez and Sandleris, 2011; Rose, 2005). A downgraded country suffers damage to its terms of trade or trade credit, allowing other countries to benefit from economic growth as the downgraded country becomes less able to compete in the international product market. In this case, negative changes in sovereign credit ratings lead to "differential spillovers" for other countries. When a country experiences negative rating changes, however, its trade counterparties may also suffer income effects, with a downturn in economic activities and reduced imports by the downgraded country. Counterparties may suffer as well if investors become concerned about bilateral trade linkages and third-party export markets of major trade partners (Kaminsky and Reinhart, 2000), and consequently reduce their investment. Frankel and Rose (1996) observe that a country's economic and political stability, which is tied closely to its credit risk, is positively associated with the strength of its currency. A significant depreciation of a downgraded country's currency may make its exports more competitive, which adversely affects the economic performance of its trade partners. In this case, negative changes in sovereign credit ratings may lead to "common spillovers" for other countries. The converse holds for positive changes in sovereign credit ratings.

One country's sovereign rating revision may also affect other countries' economic growth through financial channels, again depending on the interaction of various effects. Creditors assessing the increased risk of the downgraded country may tighten credit lines of other countries exposed to the risk of potential losses (Allen and Gale, 2000). Countries with a strong relation to major correspondent banks in the downgraded country may hence be financially vulnerable and experience what we call common spillovers, adversely affecting their economic performance (Levine and Zervos, 1998). Reinhart and Rogoff (2004) and Gande and Parsley (2014), however, suggest that negative sovereign rating revisions are significantly associated with capital outflows from the downgraded country. In this case, other countries with better credit will benefit from net capital inflows and experience differential spillovers, which increase with the severity of the cumulative downgrade abroad, allowing better-credit countries to improve economic growth (Bekaert and Harvey, 1998, 2000; Levine and Zervos, 1998). The converse holds for positive sovereign rating changes.

We examine changes in the consensus economic growth forecasts of other countries (non-event countries) in the two-month period after Standard & Poor's (S&P) revises the long-term foreign currency sovereign credit rating of a particular country (the event country) from 1989 to 2012. We show evidence of significant output spillover effects to the non-event countries potentially affected by the sovereign rating revision. That is, both positive and negative rating changes are associated with a significant downward revision in the forecast of other countries' economic growth. For a one-notch rating upgrade (downgrade), other countries on average suffer a downward revision of about 0.03% (0.07%) in the forecast of annual output growth rates in the two-month period after the rating revision. We further show that a rating upgrade has significantly more impact on non-event countries that have greater forecast errors in economic growth. A rating downgrade in the event country has more of an impact on non-event countries that are less transparent, lower rated, or subject to greater forecast errors. These results hold after accounting for other factors that could affect non-event countries' output growth.

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