

Political Risk And Foreigners' Trading: Evidence From An Emerging Stock Market

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Abstract

This paper analyzes the impact of political risk on foreigners' trading in an emerging stock market, using quantified political risk ratings reported by ICRG and foreign flows data compiled by Istanbul Stock Exchange. Besides illuminating the impact of political risk on foreign investors' trading, currently a gap in the literature, we track the differential effect of political risk upgrades and downgrades on market returns. We also repeat the analysis for industry portfolios. The reaction to upgrades is slow and small in magnitude, while the reaction to downgrades is immediate. Foreigners' reaction to political risk seems to vary with the market sensitivity of the industry.

Keywords: Political risk, foreign flows, emerging stock markets

JEL Classification: F21; F30; G15

1. INTRODUCTION

Political risk has been commonly assumed to be one of the main drivers of emerging stock markets. The earlier evidence on the impact of political risk on stock market returns has mainly been anecdotal because it is difficult to quantify political risk.¹ Several papers in the literature, however, accomplished a systematic analysis by using the ICRG (International Country Risk Guide) indices published by *Political Risk Services*, in particular the political risk (PR) component. Diamonte et al. (1996) found a significant impact of political risk changes, as measured by ICRG political risk ratings, on contemporaneous returns in emerging markets. Average returns in emerging markets experiencing political risk upgrades exceed those in emerging markets experiencing political risk downgrades by 11% a quarter, while the difference is not significant for developed markets. Erb et al. (1996) document a positive contemporaneous relationship between political risk changes and returns over 6-month windows, in emerging and developed markets (more significant in the former). However, political risk changes are poor in predicting future 6-month returns. On the other hand, lagged levels of political risk are positively related to future expected returns and fundamental valuation ratios such as book-to-market ratio and dividend yield, which have been used as a proxy to risk. Note, however, that political risk did not turn out to be the most

¹ In the absence of this index, some papers tried to find proxies for political risk. For example, use of bond yield spreads as a proxy for political risk in Mexico by Bailey and Chung (1995) illustrates the difficulty of dealing with the absence of a quantified measure of it. See also papers which infer political events from return jumps and then match to the anecdotal history of political news arrivals in Hong Kong (Chan and Wei, 1996; Kim and Mei, 2001).

important one of the risk attributes reported by ICRG; economic and financial risk variables appear to be more important. Bilson et al. (2002) controlled for other risk factors that may affect emerging stock market returns, and found that PR bears some additional explanatory power which cannot be captured by many widely-used risk factors.

While the impact of political risk on emerging stock market returns has been investigated, no study has enquired its effect on international investors' trading (i.e. foreign flows in stock markets). Given that foreign investors are more vulnerable to political risk, especially in emerging markets, their trading would be expected to respond to PR changes. This paper fills this gap by employing foreign flows data from Turkey, world's 7th largest emerging stock market where political risk has shown substantial variation and always been perceived as an important factor driving stock markets. We use foreign flows data compiled by Istanbul Stock Exchange (ISE) as previous research on foreign investor flows has indicated that accurate such data should be compiled at the destination point, and data compiled from a source country or a custody may be biased. Such data is not available for many emerging markets. Moreover, Turkey has never implemented any (partial) restrictions on foreigners' trading. Hence, Turkey presents an ideal case to enquire how foreigners' trading is affected by political risk.

We employ a structural VAR framework that enables to portray the dynamic response of foreigners' trading and stock market returns to changes in PR, and the differential effect of political risk upgrades and downgrades. A further contribution of this paper is to provide an analysis of the impact of political risk on foreigners' trading in different industries as they may have differential sensitivity to political risk.

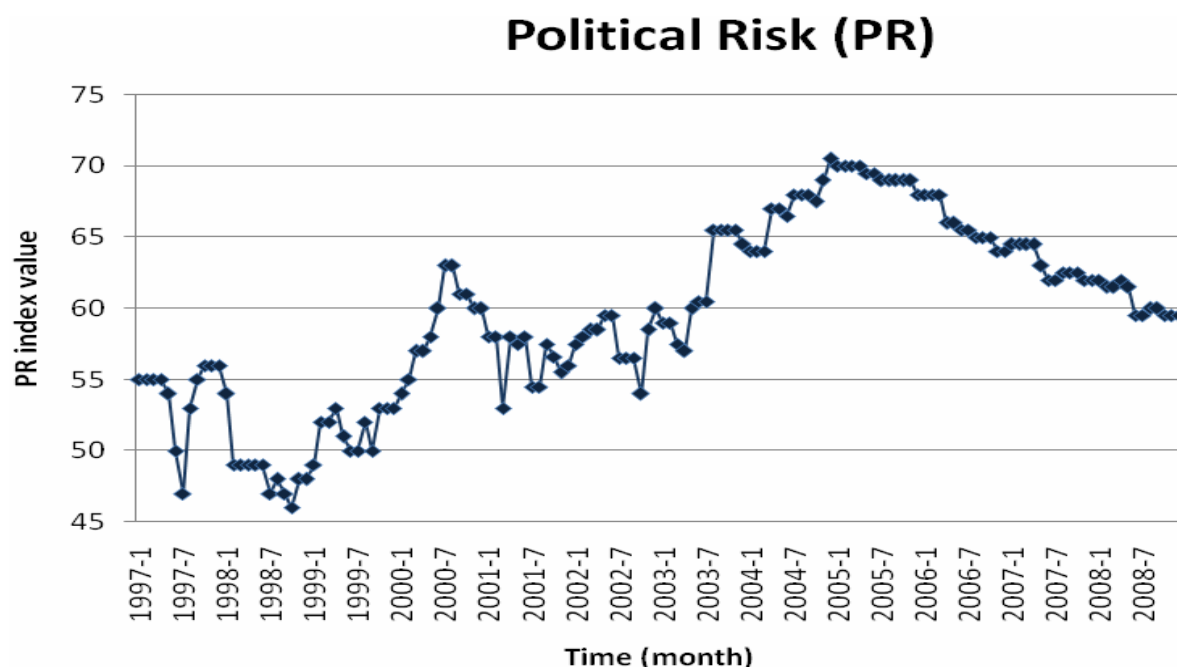
2. DATA and METHODOLOGY

Our data set consists of monthly levels of the ICRG PR index, monthly net foreign flows (defined as foreigners' purchases minus sales, normalized by dividing by market capitalization) and monthly log returns of ISE indices (in local currency) and MSCI World index.²

Political Risk: Scores in Political risk (PR) index vary within the range 0-100, with a lower score implying higher risk. As the 0-100 range conflicts with the normality assumption, we apply log transformation, and, as it is still nonstationary, we take the first differences of this logged index. Taking the first logged difference of the PR index makes sense, because foreign investors may be more sensitive to a 1 point decrease in the PR index, let's say from 41 to 40, compared to 1 point decrease from 81 to 80 for the same country. When a country has 80 total risk points in PR index, it is not likely for a 1 point decrease to spur macroeconomic instability, however when a country has 40 points, it can be perceived to have political instability which has the potential to cause macroeconomic instability. By taking the first logarithmic difference of the PR index, a 1-point change at lower levels will be given more weight relative to a 1-point change at higher levels. The PR index for Turkey is portrayed in Figure 1 below.

² For all local indices, we use inflation adjusted returns, calculated as monthly return minus annual CPI inflation divided by 12, since inflation rates exhibit huge variation over our sample period (fell from around 101.6% in January 1998 to as low as 8.3% in April 2008).

Figure 1: The Time Series of the Political Risk Index for Turkey



This figure shows Political Risk scores varying within the range 0-100, with a lower score implying higher risk. The vertical axis shows Political Risk index values while horizontal axis shows time scale beginning in January 1997 and ending in December 2008.

In the first part of our study, we use the PR index, ISE all-share index, and marketwide aggregated net foreign flows, to see how political risk affects ISE market returns and foreign investors' trading marketwide. In this analysis, we control for global returns, which strongly affect both ISE returns and foreigners' trading in ISE (İkizlerli and Ülku, 2010; see also Griffin et al., 2004 and Richards, 2005). We use MSCI World index as a proxy for the global market. Thus, as political risk is a country-specific factor, we focus on the interaction between country-specific (idiosyncratic) component of ISE market returns and foreign flows. By this analysis, we contribute to the literature in two ways: While previous studies mentioned above have analyzed the impact of political risk on market returns on a cross-sectional basis focusing on return differentials across extreme deciles of countries sorted by PR, this paper is the first to characterize the dynamic response of local market return to a shock in PR using VAR framework and to differentiate the effect of upgrades and downgrades. Second, for the first time in the literature, we assess the impact of PR on foreigners' trading by combining the PR index with foreign flows data. Our sample period, dictated by the availability of foreign flows data, starts in January 1997 and goes through December 2008.³

In the second part of the study, we focus on industry portfolios, employing sector indices published by ISE, adjusted for stocks splits and dividends. Industry portfolio returns are logged first differences of these

³ Since 1980, ICRG has been producing PR ratings for both developed and emerging countries on a monthly basis. As of January 2008, ICRG monitors 140 countries all around the world. For more details on the methodology and composition of the PR index, see Erb et al. (1996) and Bilson et al. (2002).

indices. As these indices are equally-weighted averages, we compute net foreign flows for each industry as the equally-weighted average of normalized net purchases in individual firms. The sample period for industry portfolio analysis is from January 1997 to June 2007.

The industries and the number of companies listed in each industry portfolio (in parentheses) as of June 2007 are as follows:

- 1) FOOD, BEVERAGE (23)
- 2) TEXTILE, LEATHER (25)
- 3) WOOD, PAPER, PRINTING (14)
- 4) CHEMICAL, PETROLEUM, PLASTIC (23)
- 5) NON-METAL MINERAL PRODUCTS (24)
- 6) BASIC METAL (13)
- 7) TOURISM (6)
- 8) BANKS (17)

To characterize the impact of PR on ISE market returns and net foreign flows, we employ a structural Vector Autoregression (SVAR) specification. Specifically, we include net foreign flows and ISE returns as two endogenous variables in the system, which is augmented by PR and MSCI World index returns that are affected only by their own lags. This enables a more accurate characterization of the dynamic interaction between foreign flows, domestic returns and political risk after controlling for world market returns. The advantage of this specification instead of a conventional VAR is that none of the lags of foreign flows and local returns affect the PR and world market returns, but contemporaneous values of them are affected by the instantaneous and lag values of PR and world returns. Thus, political risk and world market returns are treated as exogenous variables. The identified VAR model can be specified as:

$$A(L)y(t) = \varepsilon(t) \tag{1}$$

where $A(L)$ is an $n \times n$ matrix polynomial in the lag operator L , $y(t)$ is the $n \times 1$ observation vector, and $\varepsilon(t)$ is the $n \times 1$ vector of structural disturbances (n is the number variables in the system). Identified model is shown in Equation 2:

$$y(t) = \begin{bmatrix} W(t) \\ PR(t) \\ NF(t) \\ R(t) \end{bmatrix} \quad A(L) = \begin{bmatrix} A_{11}(L) & 0 & 0 & 0 \\ 0 & A_{22}(L) & 0 & 0 \\ A_{31}(L) & A_{32}(L) & A_{33}(L) & A_{34}(L) \\ A_{41}(L) & A_{42}(L) & A_{43}(L) & A_{44}(L) \end{bmatrix} \quad \varepsilon(t) = \begin{bmatrix} \varepsilon_1(t) \\ \varepsilon_2(t) \\ \varepsilon_3(t) \\ \varepsilon_4(t) \end{bmatrix} \tag{2}$$

where W is the world market return, PR is the first difference of the logged PR index, NF is the net purchases of foreigners, and R is the returns of the ISE-all share index. The assumptions are that $\varepsilon(t)$ is uncorrelated with past $w(t - k)$ for $k > 0$, and the coefficient matrix of L^0 , A_0 , is non-singular. All the variables entering the system are stationary. The block exogeneity is represented by zero entries, and implies that W and PR are not affected by the contemporaneous and lagged values of R and NF , nor of each other. As the standard inference procedure of the Maximum Likelihood Estimation of VAR models is not applicable to structural VAR with block exogeneity, we obtain inference using the modified error bands of Sims and Zha (1999). The lag order of SVAR is 1 as suggested by both Akaike and Hannan-Quinn information criteria. The system is estimated via seemingly unrelated regressions (SUR), since the right-hand side variables explaining W and PR are different. In line with the common treatment in the literature, net flows are assumed to have contemporaneous effect on local returns but not vice versa, thus NF enters prior to R in the Cholesky factorization.

In this setting, our focus is the impulse response of net foreign flows to a shock in PR , after controlling for the effects of world market returns and

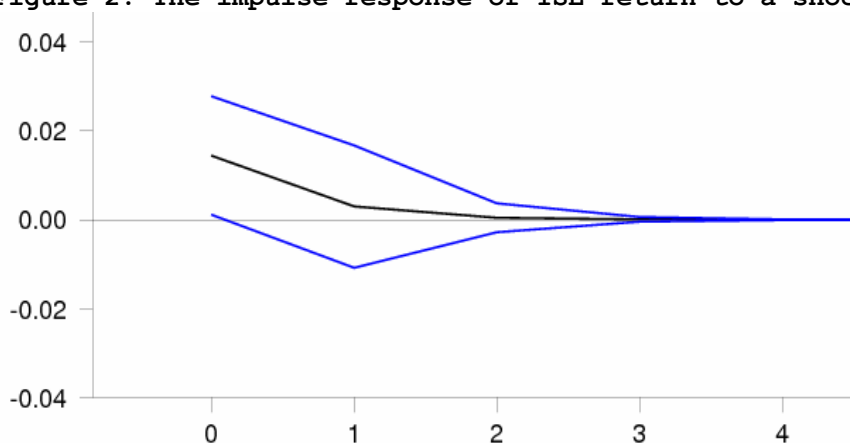
possible feedback effects from local market returns.⁴ Prior to that, however, we analyze the impact of PR changes on local market returns after controlling for global market returns, by studying the impulse response of ISE returns to shocks in PR.

3. RESULTS

We present our results by studying impulse response functions (IRFs). In all IRF graphs to follow, the black line in the middle represents a point estimation of impulse responses. Standard errors for impulse responses are computed using Monte Carlo simulation procedure of Sims and Zha (1999). A 90% confidence interval is constructed with 5000 replications, which is shown by the upper and lower blue lines. Statistical significance is implied when neither of the confidence bands crosses the x-axis.

Figure 2 portrays the response of ISE market returns to a shock in PR. Most of the effect is priced in the instantaneous month and a very small portion is left to the following month after which the response is virtually null. The cumulative effect is significantly positive. This result confirms under VAR methodology the findings of earlier papers that changes in PR are significantly associated with contemporaneous returns of emerging stock market indices. Further, it shows that most of the contemporaneous effect in 3- or 6-month intervals takes place within 1 month.

Figure 2: The impulse response of ISE return to a shock in PR



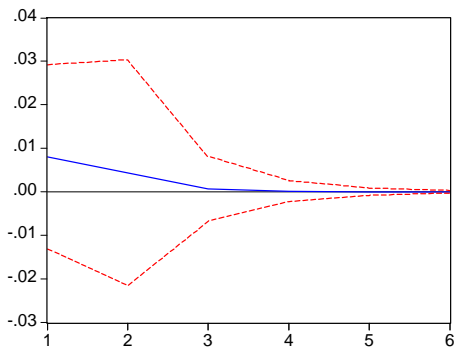
The line in the center is the impulse response function obtained from VAR model described above, and the blue lines around it represent 10% confidence interval bands.

Next, in Figure 3 we distinguish the response to upgrades and downgrades using dummy variables that partition changes in PR index as positive and negative shocks. The simultaneous responses to both upgrades and downgrades are of the expected sign. However, the response to an upgrade is slow, with a nontrivial portion of the response left to the next month, implying some underreaction. In contrast, the response to a downgrade is immediate, and a small portion of it is reversed in the next month, implying some overreaction.

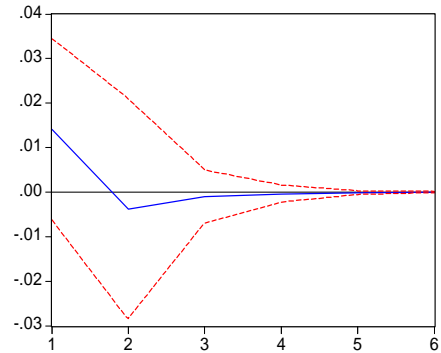
⁴ İkizlerli and Ülkü (2010) document negative feedback trading by foreigners with respect to local market return in ISE.

Figure 3: The impulse response of ISE returns to an upgrade and downgrade in PR

Panel A: The response to an upgrade



Panel B: The response to a downgrade



Next, we focus on the impact of PR shocks on foreigners' trading. Figure 4 depicts the impulse response of foreigners' net purchases to a shock in PR index. The bulk of foreigners' reaction occurs in the contemporaneous month, while a little more is left to the following month. The cumulative effect is borderline significant.

Figure 4: The impulse response of net foreign flows to a shock in PR

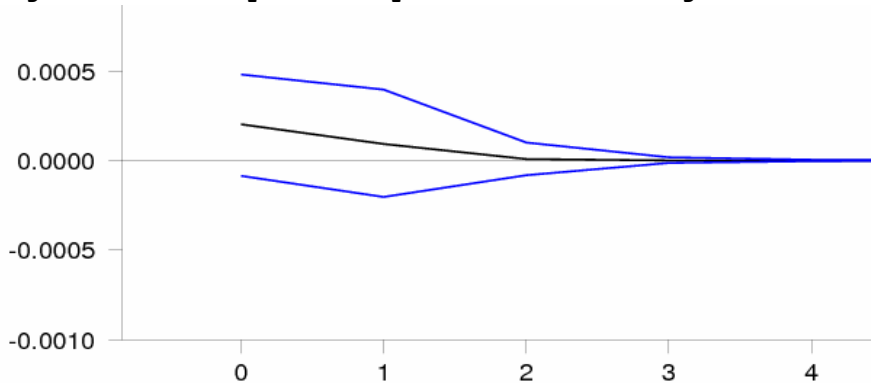
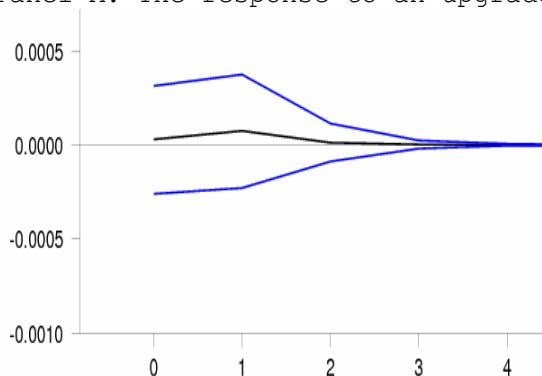


Figure 5 below breaks down the response of foreigners' net purchases to an upgrade and downgrade in PR index. The main message is that their reaction to good political news is slow (more of the response takes place in the following month) and of smaller magnitude,⁵ while their reaction to bad political news is stronger and immediate. This is consistent with risk averse behavior, in particular, slow build-up but quick loss of confidence. It should be mentioned here that changes in PR index do not exhibit any significant autocorrelation.

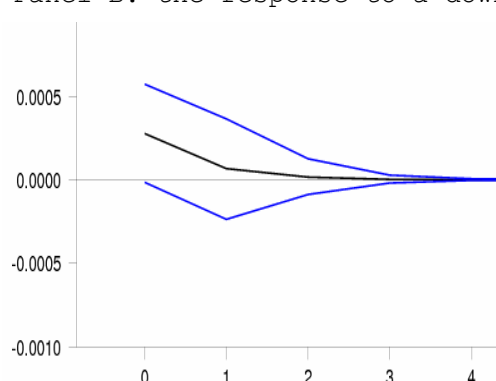
⁵ The standard deviation of PR upgrades is 0.0197 while that of PR downgrades is 0.0173, hence the difference in magnitudes of responses in Figure 5 cannot be attributed to the possibility that negative impulses to PR are larger in magnitude than positive impulses.

Figure 5: The response of net foreign flow to a positive and negative shock in PR index

Panel A: The response to an upgrade



Panel B: the response to a downgrade



A variance decomposition analysis based on the same specification suggests that the role of PR index in explaining local market returns and net foreign flows quite small. PR can explain approximately 1.5% and 0.7% of the forecast error variance in ISE returns and foreign flows, respectively.

4. INDUSTRY PORTFOLIO RESULTS

First, we note that all industry portfolio returns exhibit a significantly positive contemporaneous relationship to global markets, with the first lag also being borderline significant in most of the cases (see Panel C in Figures 6-13). The highest world beta is seen in the banking sector. These sensitivities are important as they may affect foreigners' trading behavior in different sectors. The impact of PR on industry portfolio returns is typically positive, but insignificant in many industries. Banking sector returns exhibit the strongest response to PR shocks, followed by wood-paper-printing sector. The impact of PR on chemical-petroleum-plastic and non-metal minerals sector returns is negligible. Other industry returns exhibit insignificantly positive relationship to PR (see Panel D in Figures 6-13).

Our main interest is the impact of PR shocks on foreigner's trading in different industries. Below, in Panels A and B of Figures 6-13, are the impulse responses of net foreign purchases (NF) in several industries to a shock global return (WR) and in PR, respectively.

A first interesting observation is that in the food and beverage sector (Figure 7), foreigners act in a contrarian manner to PR. While this industry's returns are weakly positively related to PR, foreigners seem to take advantage of this positive reaction, possibly considering that the performance of firms in this sector should not be very sensitive to political risk. They exhibit similar behavior, to a lesser degree though, in other sectors such as chemical-petroleum (Figure 10) and nonmetal minerals (Figure 11). The strongest response to political risk in the expected direction is seen in the banking sector. Foreigners' trading in the banking sector also exhibits the strongest response to world market returns. In other sectors, the response of net foreign flows to world market return and PR is positive but only marginally significant. Thus, one can contrast banking sector with the food and beverage sector, and argue that foreigners' trading pattern is rationally related to firm's sensitivity to market factors. Generally speaking, the response of net foreign flows to global returns and to PR exhibits parallel variation across industries. Foreigners seem to employ strategies based on sensitivity of industries to market factors.

A notable exception is the tourism sector. It has a significantly positive world beta, however foreigners tend to act in a contrarian manner to global

market returns when trading in the tourism sector, possibly taking advantage of price reaction to global markets, considering that fundamentals of the tourism sector may not be very sensitive to global market conditions. However, when it comes to PR, they exhibit a strong positive response, even though the returns in this industry do not exhibit a significant response to PR. Recall that the nature of our data set partitions the market participants as domestic and foreign investors. Hence, the above finding implies a significant difference in the behavior of foreign and domestic investors in tourism industry towards political developments. One possible explanation for this issue is the political culture differences that both two types of investors have. In that respect, we can also think that Political developments in any emerging country have the potential to be perceived differently by international investors because of having different political culture relative to domestic investors in developing countries. Likewise, the impact of political instability on tourists' decisions (demand in tourism industry) may be evaluated differently by two different types of investors. Political instability is documented to have a negative influence on tourism industry in many studies such as Teye (1988), and Sonmez (1998). In this sense, the most logical explanation of why international and domestic investors behave differently regarding net purchases in tourism industry towards political developments is the differences in perception of risk. Both two types of investors most probably have differences in ranking political risks and also have differences in reacting to these risks.

Figure 6: Banks

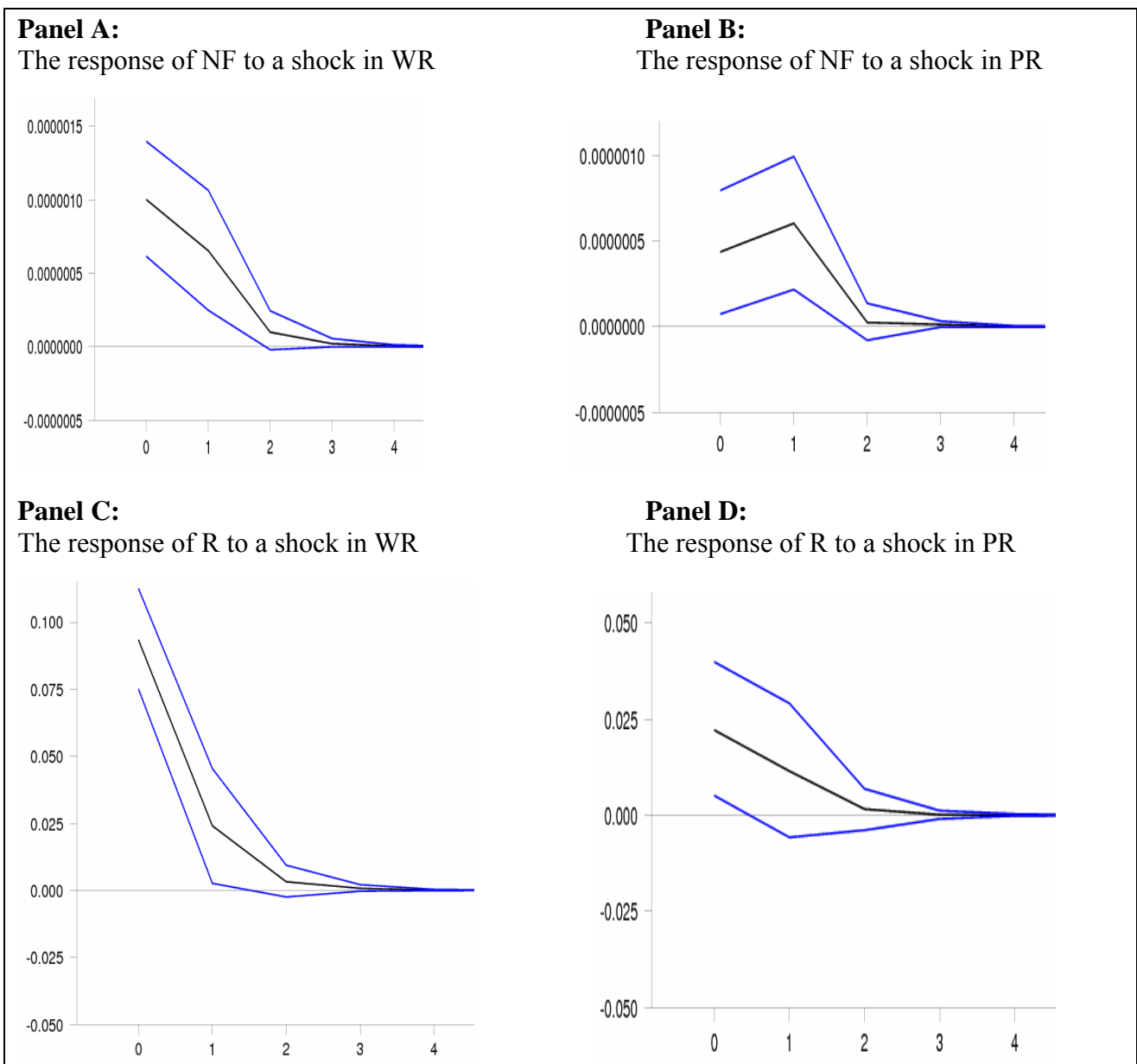


Figure 7: Food & Beverage

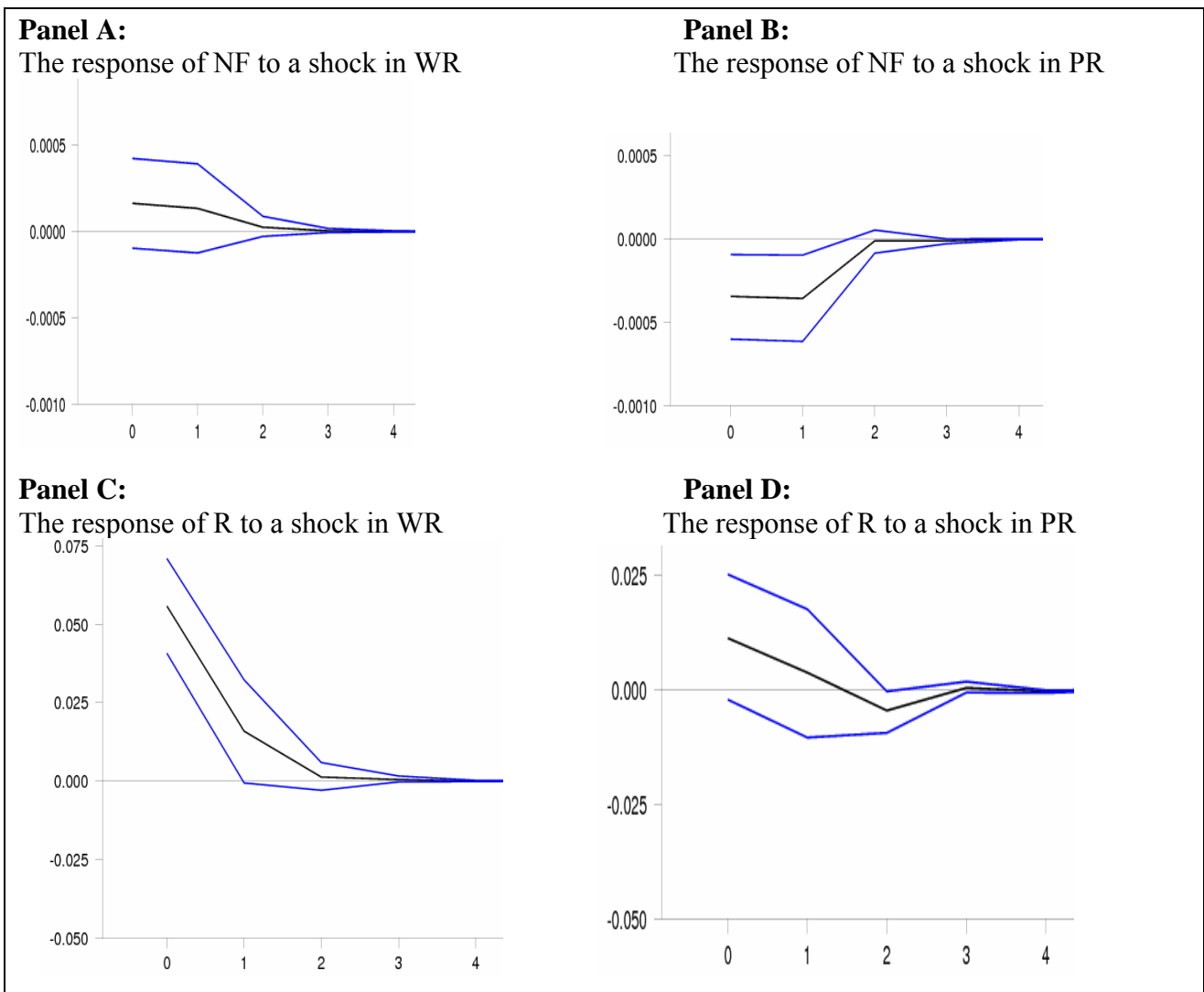


Figure 8: Wood-Paper-Printing

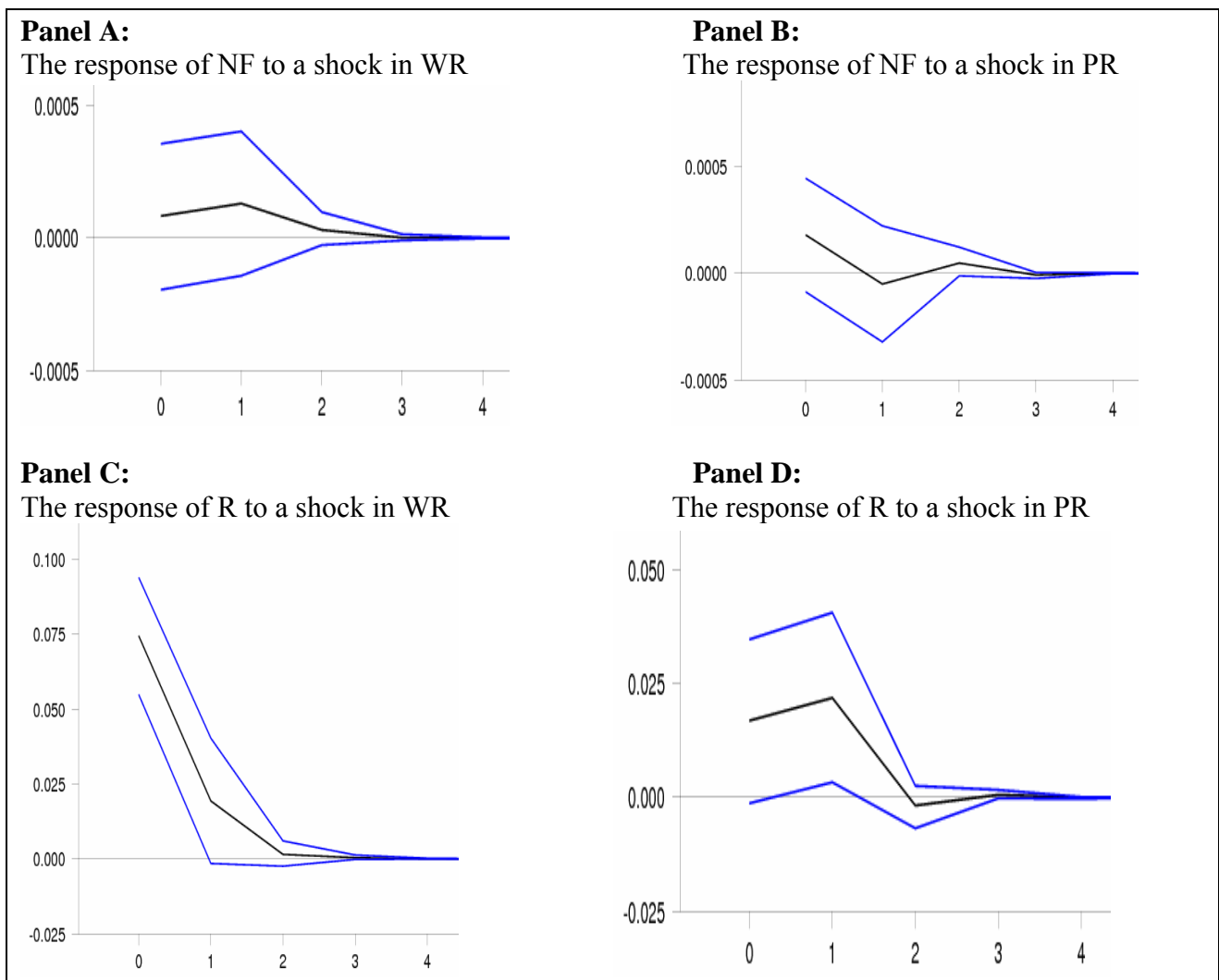


Figure 9: Textile and Leather

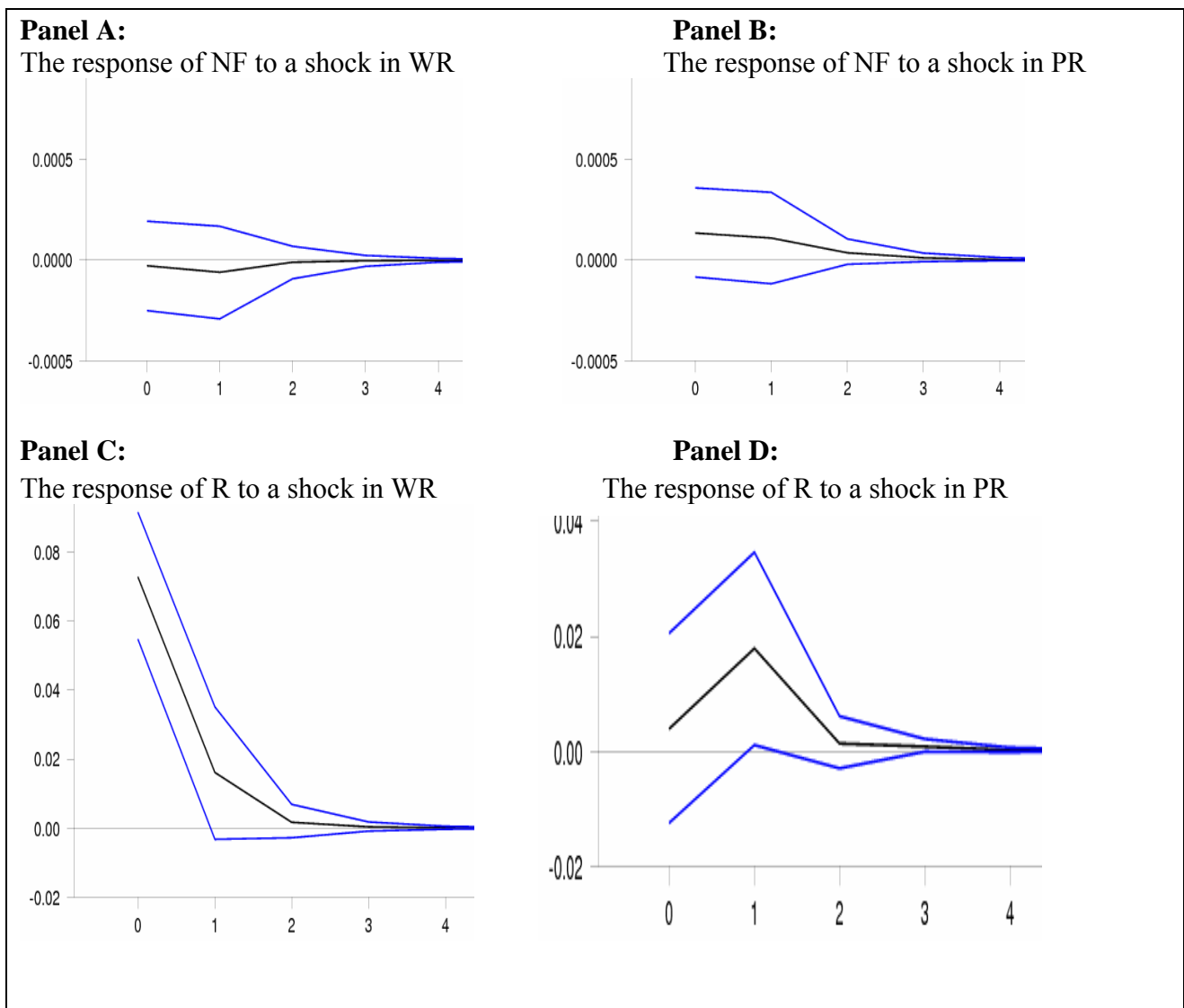


Figure 10: Basic Metal

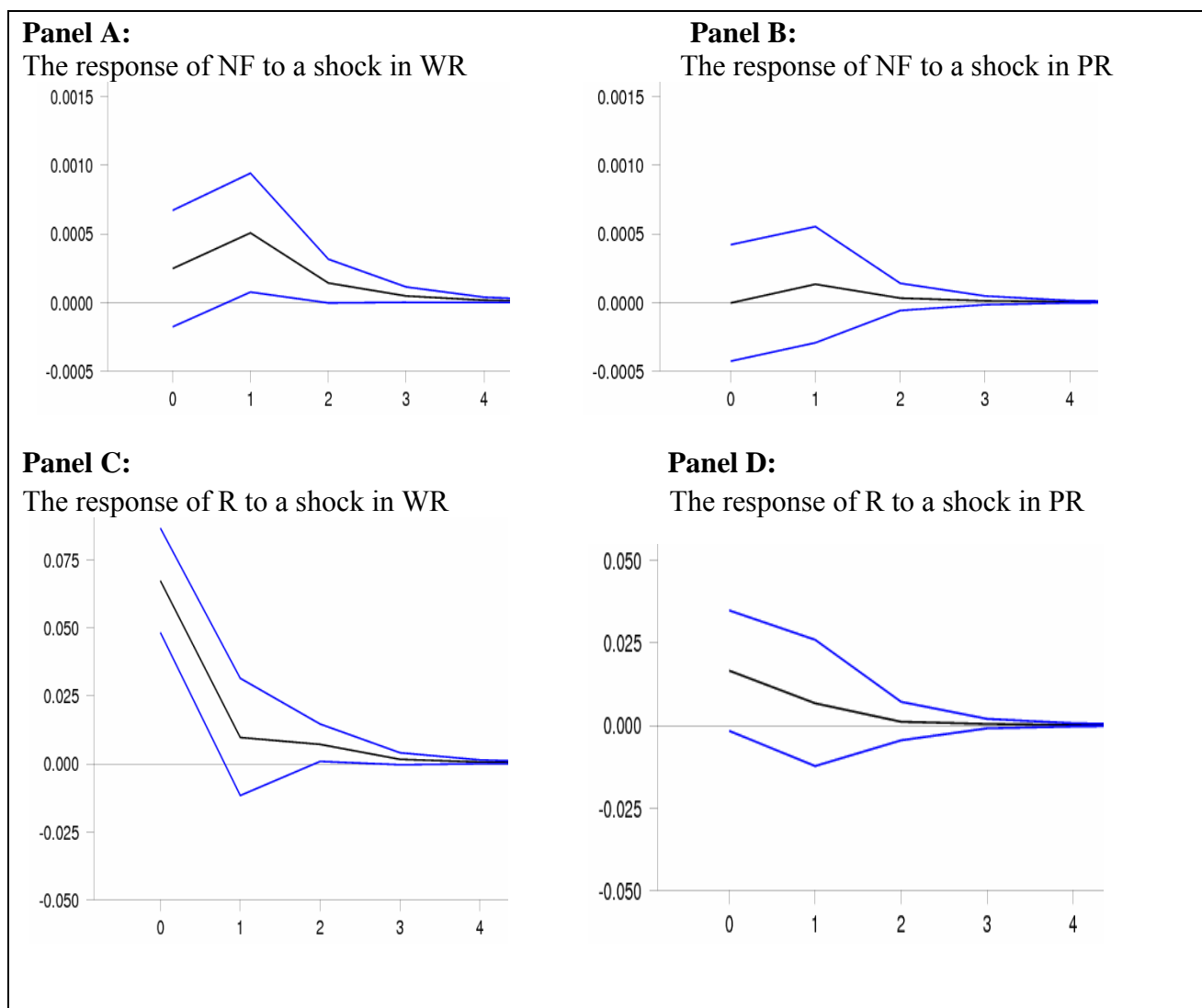


Figure 11: Chemical-Petroleum

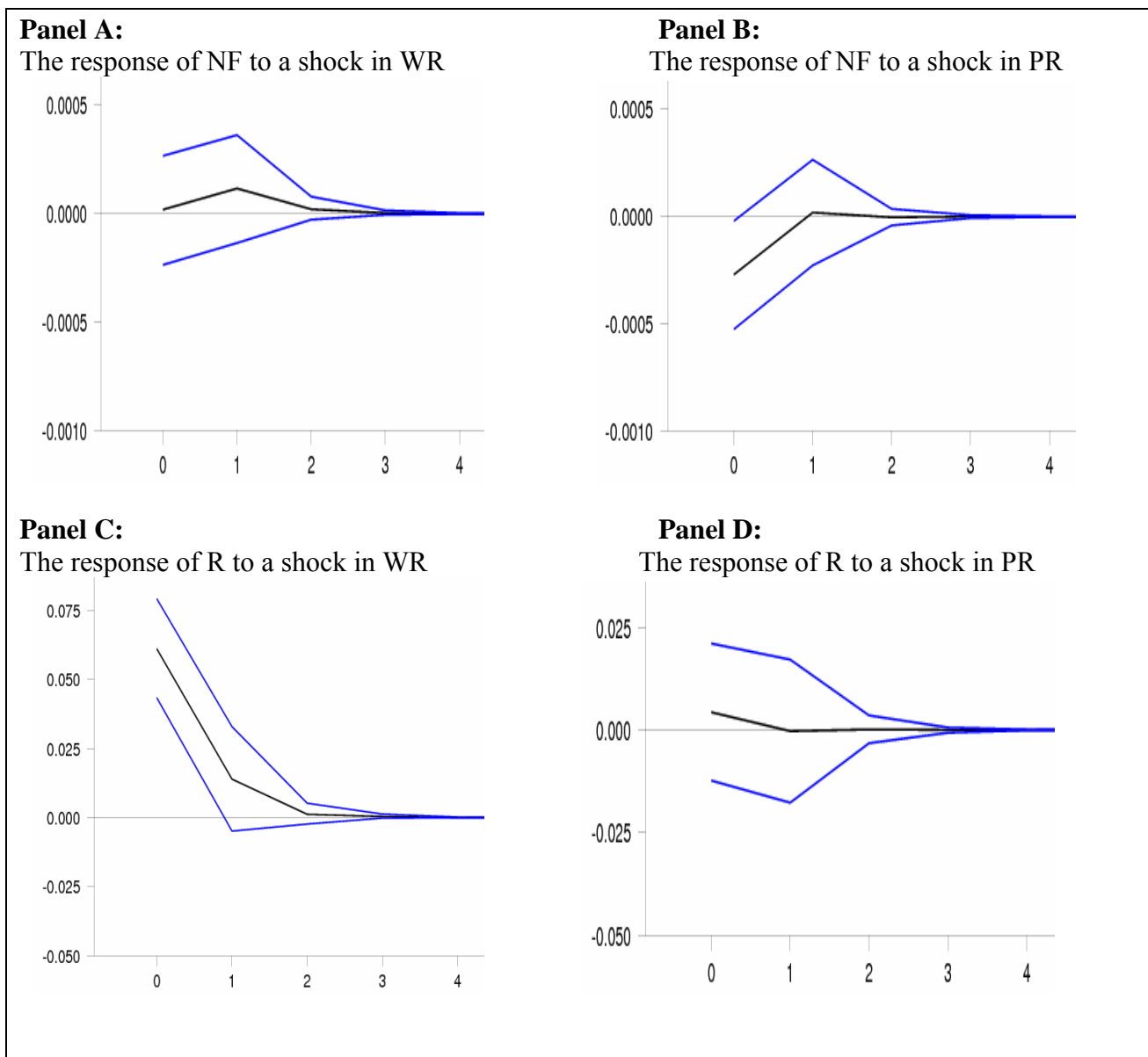


Figure 12: Non-metal Minerals

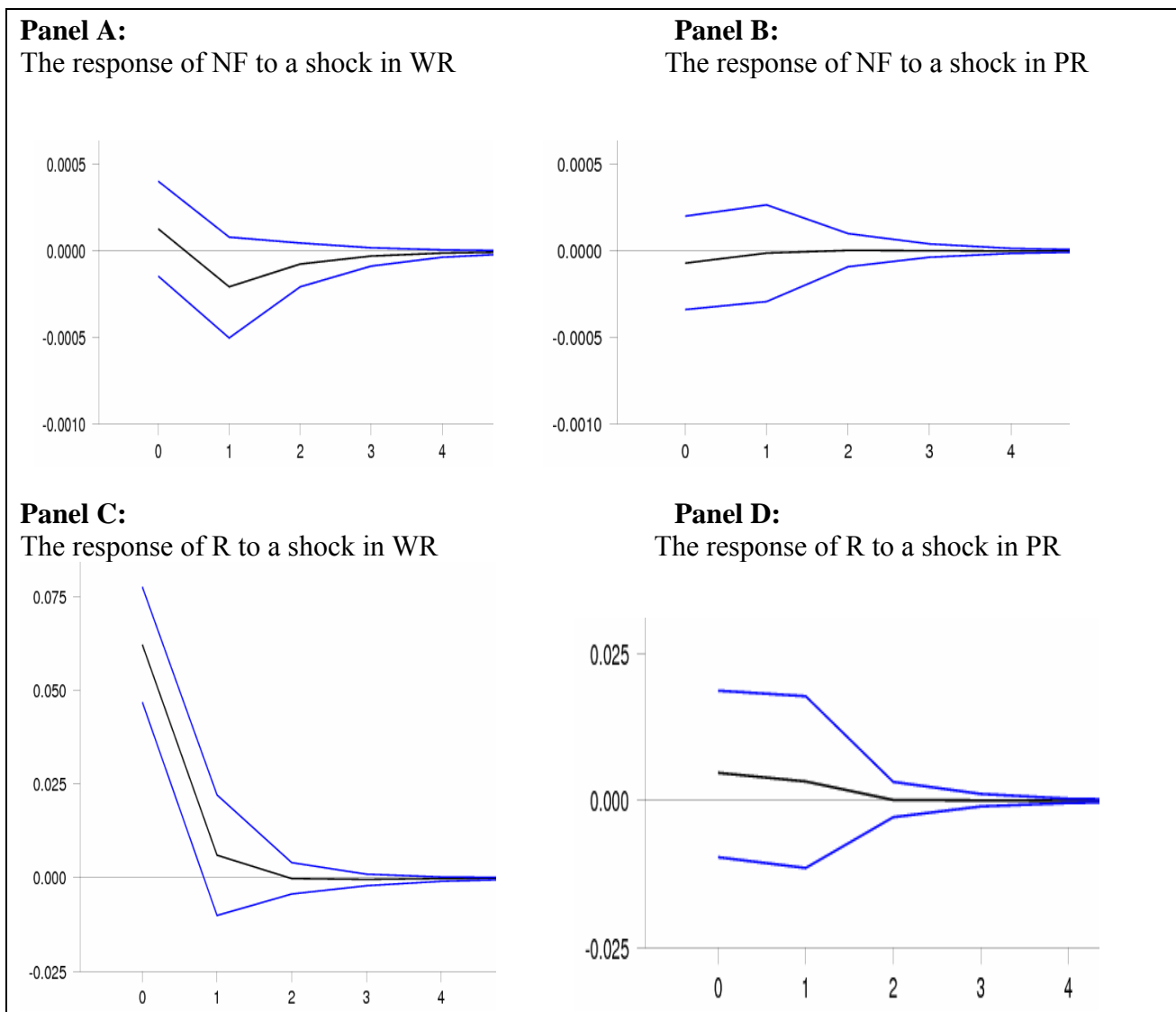
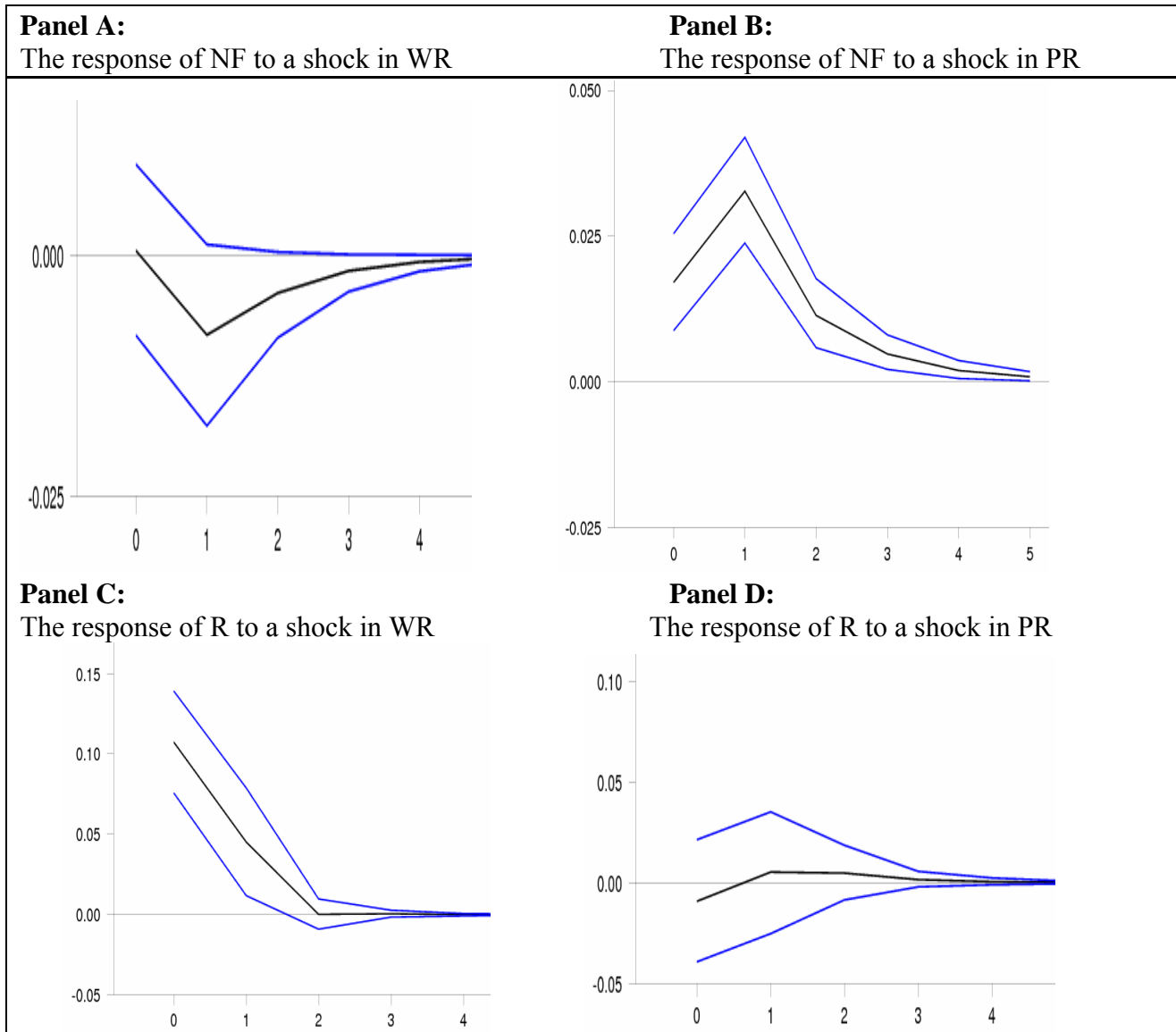


Figure 13: Tourism Sector



5. CONCLUSIONS

This article provides the first evidence on the dynamic response of foreigners' trading to political risk shocks in an emerging stock market. Political risk affects foreigners' marketwide trading in the expected direction, but only moderately. Foreigners' response to PR downgrades is immediate and larger in magnitude, while their response to PR upgrades is slow. We also find that the bulk of the effect of PR changes is priced-in within the contemporaneous month, and the response to upgrades is slower.

Foreign investors' reaction to PR changes in different industry portfolios varies mainly with the sensitivity of the industry to market factors (usually in parallel to their reaction to world market returns). They respond positively to PR changes in sectors, such as banking, which are sensitive to market factors. They exhibit contrarian trading with respect to PR changes in food and beverage sector. That food and beverage sector returns are positively related to PR suggests foreigners do not follow herds or pursue naïve feedback trading strategies.

An interesting dimension of these results stems from the fact that our data partition market participants as domestic vs. foreign residents. This implies that domestic investors trade in opposite direction of PR shock, and more so in industries that are more sensitive to market risk. In other words, domestic traders seem to provide liquidity to foreign investors who trade on information. The difference is particularly salient in the tourism sector where foreigners strongly respond to political risk whereas domestic investors seem to be more comfortable with it.

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