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The world market risk premium and U.S. macroeconomic announcements

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ABSTRACT

Conditional tests of the International CAPM in previous studies (e.g., Harvey, 1991) help identify predictability but not causality. In this paper, we take an event-study approach to examine if the world market risk premium is particularly higher on prescheduled US macroeconomic announcement days. Empirically, we apply the Savor and Wilson (2014) methodology to daily US stocks as well as foreign stocks cross-listed in the US. Our findings suggest that there is a causal relationship from the state of the global economy to the world market risk premium.

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1. Introduction

Solnik (1974a) and Grauer et al. (1976) develop an international version of the capital asset-pricing model (International CAPM) in which the world market return is used as the market proxy. The International CAPM has been a benchmark in international finance (Lewis, 2011). Early studies (e.g., Solnik, 1974b; Stehle, 1977) focus on unconditional tests of the International CAPM. Subsequent research uses conditional tests to understand how the world market risk premium varies with the state of the global economy.[1] For instance, Harvey (1991) finds that the world market risk premium varies with global state variables proxied by US dividend yield, US term structure, and US default spread.

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[1] See also Stulz (1981), Adler and Dumas (1983), Ferson and Harvey (1993), Dumas and Solnik (1995), De Santis and Gerard (1998), Fama and French (1998), Koedijk et al. (2002), Harvey et al. (2002), Ng (2004), Hou et al. (2011), Fama and French (2012), Du and Hu (2012), and Balvers and Klein (2014).

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It is important to point out that the conditional tests in previous studies (e.g., Harvey, 1991) help identify predictability/association but not causality, because the predictability/association could be due to reverse causality and/or confounding factors. For instance, it may not be the case that the global state variables considered by Harvey (1991) (such as US default spread) drive the world market risk premium. Instead, these global state variables may merely reflect the expectations about future world market risk premium. Intuitively, if investors expect that the price of risk in an integrated global market will increase (i.e., more systematic risk in the global market), they may bid down prices of risky assets (such as junk bonds) and therefore drive up the default spread.

How can we identify causal effects? A standard approach in the finance literature is the event study, which has been used extensively since Fama et al. (1969). We therefore take the event study approach in this paper and examine if the world market risk premium is particularly higher on *prescheduled* US macroeconomic announcement days. By focusing on days with prescheduled macroeconomic announcements, we can draw causal inferences about the effects of the state of global economy on the world market risk premium, because our results will less likely be driven by reverse causality and/or confounding factors. For instance, if the world market risk premium is on average higher on prescheduled unemployment announcement days, it is unlikely because the government agency (such as the US Bureau of Labor Statistics) determines the news releases schedule based on the expectations of the (higher) world market risk premium well ahead of time. Instead, such evidence is more consistent with the notion that investors demand higher returns on macroeconomic announcement days because investors are exposed to more systematic risk at such times. After all, important information about the state of the economy is revealed on macroeconomic announcement days.

Motivated by recent macroeconomic-announcement literature (e.g., Savor and Wilson, 2013, 2014) and in line with Harvey (1991), we focus on prescheduled US unemployment, inflation and interest rate announcements. US macroeconomic announcements may reveal important information about the state of the global economy, because the US is an important trading partner for many economies (Rapach et al., 2013). Empirically, a growing literature suggests that US macroeconomic announcements have significant impact on global financial markets. For instance, Wongswan (2006) finds that US macroeconomic announcements affect the Korean and Thailand equity markets. Andersen et al. (2007), Faust et al. (2007), and Evans and Lyons (2008) document the reaction of exchange rates to US macroeconomic announcements. Ammer et al. (2010) show that "foreign firms on average are roughly as sensitive to U.S. monetary policy as U.S. firms" (p. 179). Hausman and Wongswan (2011) find that US monetary policy announcements have significant effects on foreign equity indexes, short- and long-term interest rates, and exchange rates in 49 countries.

To test if the world market risk premium is higher on prescheduled US macroeconomic announcement days, we apply the Savor and Wilson (2014) methodology to US firms as well as foreign firms cross-listed in the US. The motivation of using cross-listed foreign firms is to circumvent the nonsynchronous trading problem in previous studies (Ammer et al., 2010). Our findings can be easily summarized. Although there is no significant relationship between International CAPM beta and mean excess returns for US stocks as well as for cross-listed foreign stocks on non-announcement days, the positive risk–return tradeoff predicted by the International CAPM holds robustly on US macroeconomic announcement days. In addition, we find that there is also a significant risk–return relationship at the market level on US macroeconomic announcement days in the global equity market. Our results therefore suggest that the world market risk premium depends on the state of global economy.

Our study adds to the International CAPM literature (e.g., Harvey, 1991) by providing new evidence that there is a causal relationship from the state of the global economy to the world market risk premium. Our study also adds to the macroeconomic-announcements literature. Specifically, in the language of factor models, while previous announcements studies (e.g., Ammer et al., 2010; Hausman and Wongswan, 2011) focus on the *exposure* of US and foreign securities to global market risk, we focus on the *premium* of global market risk. Our findings have important theoretical as well as practical implications. In terms of theoretical implications, our findings suggest that future international asset-pricing models should explore the mechanisms through which the state of the global economy affects the world market risk premium. In terms of practical implications, strengthening Rapach et al. (2013), our findings imply that in capital budgeting, portfolio evaluation, investment, and risk analysis