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The Effect of Fed's Future Policy Expectations on Country Shares in Emerging Market Portfolio Flows

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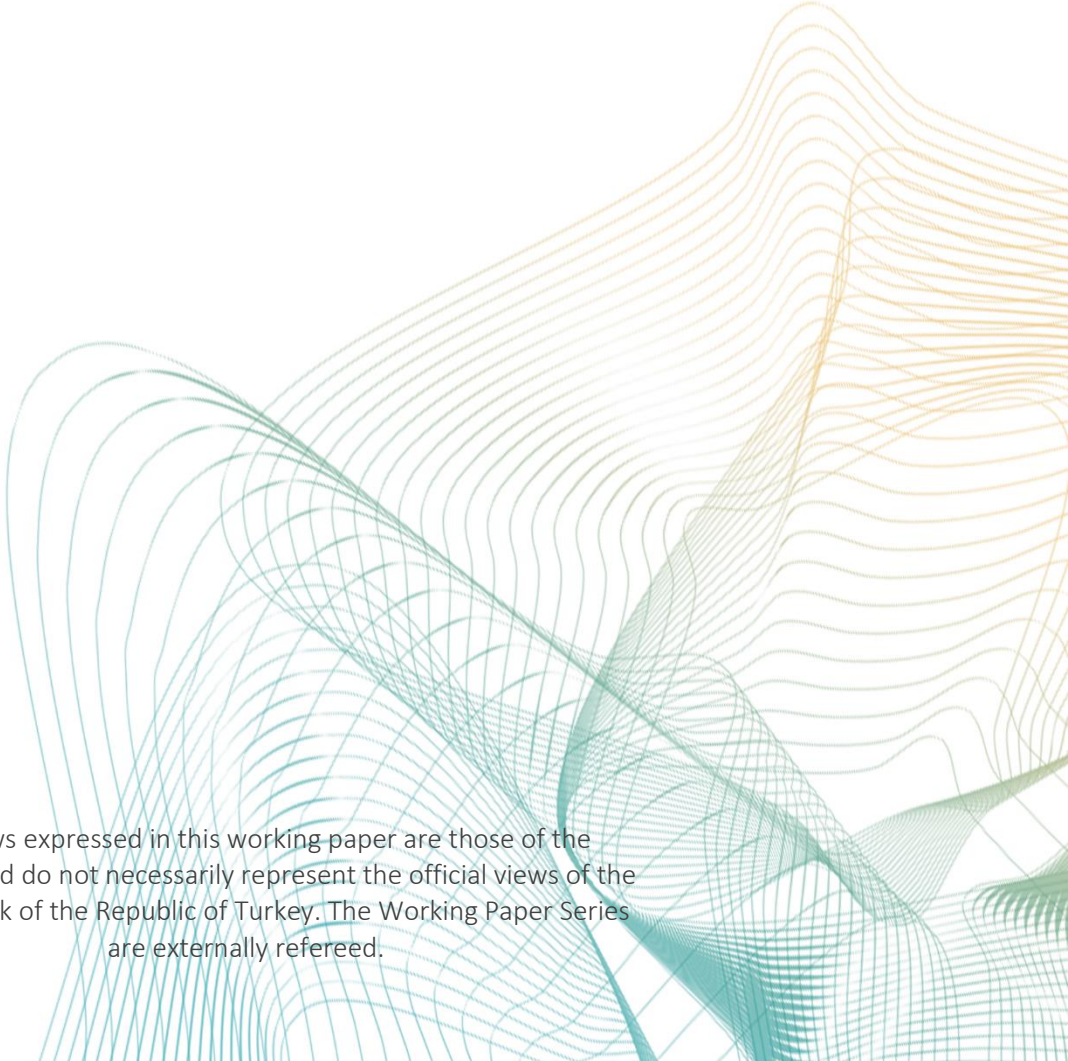Yasemin ERDUMAN
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Abstract

We analyze how changes in market expectations about the Federal Reserve's future monetary policy stance affect an emerging country's share in total portfolio flows to emerging markets. We estimate a seemingly unrelated regression model for a panel of 19 emerging countries, using monthly data from January 2010 to October 2017. Our findings suggest that the effect of Fed's policy expectations on the country share is asymmetric. The expectations of Fed's monetary policy is found to reduce an emerging country's share in total emerging market portfolio flows when expectations imply a policy tightening, while easing expectations do not have a significant effect on the share. A country with stronger financial conditions and safer business environment for international investors tend to downsize the negative effect of Fed's policy tightening on its share in total portfolio flows, with respect to its counterparts.

Özet

Bu çalışmada Amerikan Merkez Bankası'nın gelecekteki para politikasına dair beklentilerin, ülkelerin gelişmekte olan ülkelere yönelen portföy akımlarından aldıkları pay üzerindeki etkisi araştırılmaktadır. On dokuz gelişmekte olan ülkeyi kapsayan bir panel veri seti kullanılarak Ocak 2010 – Ekim 2017 dönemi için bir 'görünürde ilişkisiz regresyon' (seemingly unrelated regression) modeli tahmin edilmektedir. Bulgular, Fed'in gelecekteki para politikasına dair beklentilerin ülke payı üzerindeki etkisinin asimetrik olduğunu göstermektedir. Beklentilerin Fed'in para politikasında sıkılaşma ima ettiği dönemlerde, beklentiler gelişmekte olan ülkelerin toplam portföy akımları içindeki payını azaltıcı yönde etkilerken, gevşeme dönemlerinde ülke payını anlamlı olarak etkilememektedir. Daha sağlıklı finansal koşullara ve uluslararası yatırımcılar için daha elverişli iş yapma ortamına sahip gelişmekte olan ülkeler, Fed'in para politikasındaki sıkılaşmanın portföy akımlarından aldıkları pay üzerindeki azaltıcı etkisini diğer ülkelere kıyasla sınırlandırabilmektedir.

Non-technical Summary

The empirical literature on capital flows suggests that monetary policies of advanced economies play a major role in explaining capital flows to emerging markets. Expansionary monetary policies of advanced economies push capital flows towards emerging economies, while contractionary monetary policies retrench them. However, the unconventional monetary policy framework implemented by the advanced country central banks after the 2009 global financial crisis, necessitates the increasing role of the expectation channel to be brought into perspective while explaining emerging market capital flows.

In this study, we analyze how changes in market expectations about the Federal Reserve's future monetary policy stance affect an emerging country's share in total portfolio flows to emerging markets. We estimate a seemingly unrelated regression model for a panel of 19 emerging countries, using monthly data from January 2010 to October 2017.

The first contribution of our paper is that we focus on country shares in total emerging market portfolio flows, rather than the level of country flows. This measure gives a better sense for the attractiveness of a country in international investors' eyes. The second contribution is that we incorporate a monthly indicator for institutional quality and governance, while similar type of data is usually less broadly defined and on an annual basis.

Our findings suggest that the effect of Fed's policy expectations on the country share is asymmetric. The expectations of Fed's monetary policy is found to reduce an emerging country's share in total emerging market portfolio flows when expectations imply a policy tightening, while easing expectations do not have a significant effect on the share. A country with stronger financial conditions and safer business environment for international investors tend to downsize the negative effect of Fed's policy tightening on its share in total portfolio flows, with respect to its counterparts.

A key policy implication of our analysis is that emerging economies can better harness the benefits of global liquidity by promoting an attractive business environment for international investors, as well as implementing necessary structural, macroeconomic and macroprudential policies to enhance their financial resilience.

1. Introduction

The empirical literature on capital flows suggests that monetary policies of advanced economies play a major role in explaining capital flows to emerging markets. Expansionary monetary policies of advanced economies push capital flows towards emerging economies, while contractionary monetary policies retrench them. However, the unconventional monetary policy framework implemented by the advanced country central banks after the 2009 global financial crisis necessitates the role of market expectations to be included in this picture. Due to the increasing role of expectation management in design of monetary policy, a number of recent studies bring the expectations channel of the monetary policy into perspective while explaining emerging market capital flows.

In this study, adopting the view that monetary policy works through expectations channel, we follow Koepke (2016) and take a further step to examine whether the expectations of the Federal Reserve's (Fed) future policy actions affect the share of emerging market countries in total portfolio flows. We use Fed funds futures contracts in order to approximate market expectations of the Fed's future monetary policy. In this setting, rather than using conventional pull and push factors cited in the capital flows literature, we make use of the financial and political risk ratings published by the PRS Group's International Country Risk Guide (ICRG) which is calculated for each country according to their level of financial resilience and potential risks to international business operations. Given that the US monetary policy has entered into a tightening phase since December 2015, the question we would like to find an answer for is:

"When the Fed is expected to tighten its monetary policy, does an emerging country with stronger financial conditions and/or safer business environment for international investors counterbalance the negative effect of Fed's policy tightening on its share in total portfolio flows?"

To this end, we use panel data on 19 emerging countries and estimate a seemingly unrelated regression model using monthly data from January 2010 to October 2017.

Our findings suggest that the effect of the Fed's policy expectations on country shares is asymmetric. The expectations of Fed's monetary policy is found to reduce the share of countries in total portfolio flows when expectations imply a policy tightening, while

easing expectations do not have a significant effect on country shares. Furthermore, countries that can improve their financial resilience and enhance their business and political environment would be able to experience a milder reduction in their share in total emerging market portfolio flows, with respect to their counterparts.

The first contribution of our paper is that we focus on country shares in total emerging market portfolio flows, rather than the level of country flows. This measure gives a better sense for the attractiveness of a country in international investors' eyes. One can infer that a Fed's policy tightening would conventionally decrease capital flows to emerging markets. In our setting, we are able to capture whether a country with stronger fundamentals would be able to increase its share in total flows, even when the pie gets smaller. The second contribution is that we incorporate a monthly indicator for institutional quality and governance, while similar type of data is usually less broadly defined and on an annual basis.

The paper is organized as follows: in section 2 we present a brief recent historical perspective of capital flows to EMEs and related literature. In section 3, we discuss data issues and elaborate on the important components of the study, namely the expectations of Fed's future monetary policy, and the financial and political risk ratings. Section 4 introduces the model and the methodology we use in the study. Section 5 presents the main findings of the paper. Finally, section 6 concludes.

2. A recent historical perspective on capital flows to emerging markets and related literature

The global financial crisis of 2009 marked the beginning of unconventional monetary policy environment. Following the crisis, the central banks of the advanced economies pursued aggressive expansionary monetary policies, reducing the policy interest rates to the lowest level possible, as well as injecting massive amounts of liquidity into the financial system by introducing quantitative easing programs. The uncertainty about the speed of recovery in the advanced countries and the loss of confidence in these country assets, in turn increased the interest on emerging country assets. Globally abundant liquidity conditions and extremely low interest rates in advanced economies; coupled with improved growth outlook and higher interest rates in emerging markets attracted substantial capital inflows towards the emerging world.

The room for any conventional policy maneuver kept on shrinking for the advanced country central banks as they had to keep their policy rates at the zero-lower-bound for an extensive period. Accordingly, they started to resort heavily on forward guidance to manage future policy expectations. The practice of managing future expectations of monetary policy was not new; but neither was it this aggressively utilized, nor was its influence this strong in the past.

The taper talk sharply put forth the role of the expectation channel, when the Fed signaled that it will gradually wind down its quantitative easing program in May 2013. The Fed's signal regarding the possibility of tapering was interpreted as a move towards tighter monetary policy. Notably, the financial markets reactions were spurred by what the Fed *said*, rather than what it *did*. This period was characterized by sudden capital reversals and drastic exchange rate depreciation in a subset of emerging countries. It was this strong market reaction that gave this period its name the "tantrum" episode.[1] Despite tighter monetary policy prospects, a rate hike did not come until the end of 2015. With the start of Fed's first rate hike along the movement towards monetary policy normalization in December 2015, the world entered a new phase in which extracting more precise and quantitative information about future monetary policy became ever more important.

With all this at hand, the big question for emerging markets, is how will they be affected? The vast literature on capital flows, starting with the seminal work of Calvo, Leiderman and Reinhart (1993), puts forward expansionary monetary policies of advanced economies (especially the Fed's policies) as a major driver of capital flows to emerging markets. Follow-up studies by Fernandez-Arias (1996), Taylor and Sarno (1997) and Montiel and Reinhart (1999) highlight the effects of US interest rates to be a particularly important determinant of the portfolio flows to emerging markets and more important than domestic factors in explaining the dynamics of these flows.

The focus of the literature shifts towards the unconventional monetary policies of advanced economies; particularly to the effect of Fed's quantitative easing programs on capital flows after the global financial crisis. While Ahmed and Zlate (2013) find the US unconventional monetary policy affects the composition of capital inflows to emerging markets and leaves the volume unchanged; Fratzcher (2011) finds a significant effect of

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[1] Among the worst-hit "Fragile Five" includes Brazil, India, Indonesia, Turkey, and South Africa.

such policies on the emerging market flows. World Bank (2014) reaches similar findings with the latter; but the impact according to this study diminishes over time. Analyzing time varying determinants of portfolio bond flows to emerging markets, Erduman and Kaya (2014) also state that quantitative easing programs mattered the most, when they were first announced and that their importance decreased over time, starting with the Eurozone crisis, and diminishing with the tapering talk. Yet a number of recent studies take a different perspective on the subject. They assert that the spillover effects of US unconventional monetary policy on EM capital flows depends on country specific factors.[2] In other words, the extent to which emerging countries are affected from the spillover effects of Fed's monetary policy relies on the pull factors and varies across countries for that matter.

Due to the increasing role of expectation management in design of monetary policy, a number of recent studies bring the expectations channel of the monetary policy into perspective while explaining emerging market capital flows (Koepke, 2013; 2016). This idea is mainly built on the literature that argues monetary policy works through expectations channel.[3] This view more specifically analyzes the effect of a change in the policy rate on financial market rates to the extent that the policy change was anticipated. It suggests that policy interest rates are mostly anticipated, while market interest rates comprise both anticipated and unanticipated components. This framework makes use of the Fed funds future contracts in order to extract the market expectations of Fed policy actions. The influential work of Kuttner (2001) singles out the surprise element of Fed policy actions from Fed futures contracts and shows that the unanticipated part of the policy rate changes affects market rates, while the anticipated part has virtually no significant effect. Hamilton (2008) similarly claims the primary news, extracted from Fed futures contracts, for market participants is not what the Fed just did, but is instead the new information about the Fed's future intentions. Following this line and assuming asset prices to only react to unanticipated policy actions, Gürkaynak (2005) decomposes the unanticipated policy actions derived from the Fed funds futures contracts into timing, level and slope components. He finds that timing surprises have only short-term effects, while level and slope components of surprises affect longer term yields. Gürkaynak et. al. (2006) also finds that Fed funds futures pick up changes in the

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[2] See Hausman and Wongswan (2011), Bowman et. al. (2014), Fratzscher et. al. (2013).

[3] See Kuttner, 2001; Gürkaynak, (2005); Gürkaynak et. al., (2006); Bernanke and Kuttner, (2005); Hamilton (2008).

expected path of future interest rates and they dominate all other securities in forecasting monetary policy.

Koepke (2013, 2016) suggests that, instead of using Fed policy rate or market interest rates, the use of Fed futures contracts as an explanatory variable for portfolio flows is a more targeted approach in capturing the impact of Fed policy actions on emerging market capital flows. His findings present robust evidence that the change in market expectations for future Fed policies is a major push factor for portfolio flows, especially bond flows. He also points out to the asymmetric nature of the effect; i.e. the adverse impact of expectations for a tighter monetary policy on portfolio flows is significantly stronger than the boosting effect of expectations for a looser policy. Dahlhaus and Vasishtha (2014), conducting a cross-country analysis using a VAR model, similarly find Fed expectations to be a major determinant of portfolio flows in the recent years; especially during taper tantrum.

While the role of Fed policies as a major push factor is eminent in the empirical literature, there is no consensus over how strong the impact of country specific factors is on capital flows. This is mainly due to covering different county specific indicators and analyzing different time periods in explaining capital flows. But in theory, international investors are "pulled" by attractive domestic conditions which offer profitable investment opportunities in a country, with sound macroeconomic and financial fundamentals, under a safe institutional environment. Countries with stronger fundamentals would better cope with the spillover effects of Fed's monetary policy and mitigate financial and economic stability risks associated with large and volatile capital flows. Hence, some recent empirical work assert that emerging countries with relatively stronger macroeconomic fundamentals, deeper financial markets, and tighter macroprudential policy stance suffered less during the taper tantrum (Mishra et. al. (2014), Ahmed, Coulibaly, Zlate (2015)).

3. Data

We use monthly data on 19 emerging countries between January 2010 and October 2017. Our country list includes Brazil, China, Chile, Colombia, Hungary, India, Indonesia, South Korea, Malaysia, Mexico, Peru, Philippines, Poland, Romania, Russian Federation,

South Africa, Thailand, Turkey and Ukraine.[4] Instead of actual country flows, we use country shares in total emerging market portfolio flows based on EPFR data. EPFR provides country shares data for bond and equity funds separately. We calculate country shares as a weighted average of each country's share in bond funds and equity funds, where weights are determined by the ratio of each fund type in total funds of the recipient country. The data set includes only those countries with an average share above one percent in the examined period.[5]

The two other data components of the analysis, Fed's future monetary policy expectations and country risk ratings, are presented in more detail below.

## 3.1. The expectations of the Fed's future monetary policy

We use Fed funds futures contracts in order to proxy expectations for the Fed's future monetary policy. Fed funds futures are financial contracts that represent market opinion of where the daily official Fed funds rate is expected to be at the time when the contract expires. The price of the contract is quoted by subtracting the implied interest rate from 100. For example, if the implied Fed funds futures rate for a particular date is 2.3 percent, the contract price is 97.7. So, as the interest rate rises, the price of the contract falls. We use the interest rates on Fed funds future contracts with 36 months maturity, which is the most distant future horizon available. This is because a policy announcement can often comprise different policy signals for different time horizons. For instance, from the same announcement, the markets may infer a policy easing in the shorter term, but a tightening in the medium term. Therefore, it is healthier to use the longest possible time span in order to extract more precise and quantitative information about the future path of monetary policy, since an announcement can loosen the effect of previous announcements for a given horizon. If the change in the future Fed Funds rate is zero following an announcement, it means the news was already anticipated by the market. Yet, if the change is different than zero, then the news was unanticipated, or

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[4] These economies receive a total of more than 80 percent of portfolio flows into emerging countries.
[5] We intentionally exclude the 2007-2009 period, which corresponds to the global financial crisis, during which capital flows were not driven by forces that are within the scope of this paper. Also, the quality of data for EPFR fund flows is higher for our sample period, since both the quantity of reporting funds and the amount of assets under management is smaller before 2010.

"surprise" to the market. Prior to February 2011, we use the eurodollar futures contracts similar to Koepke (2016), as the Fed funds futures data is not available.[6]

Figure 3.1: Portfolio Flows to Emerging Markets and Interest Rate Measures
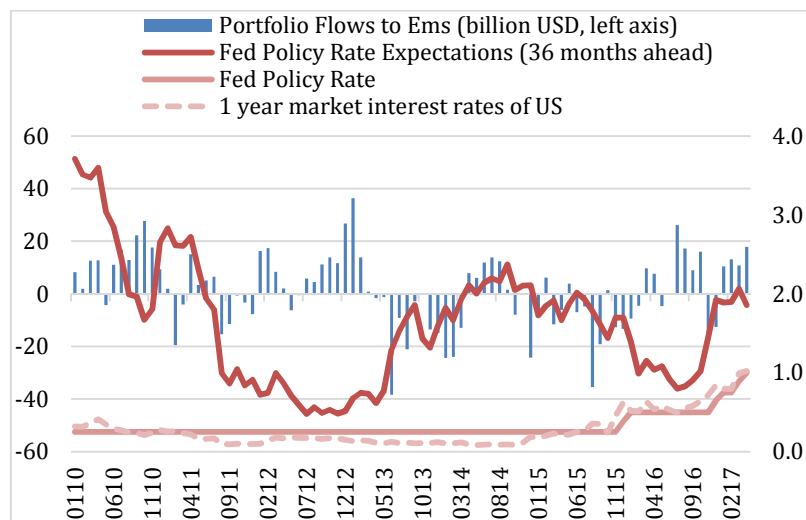
Source: Bloomberg.

It is noteworthy that our sample corresponds to a period, during which the Federal funds rate was at the zero lower bound for a prolonged time and there was only three policy rate changes (Figure 3.1). This makes our forward looking "monetary policy works though expectations channel" view more relevant, and gives support to the use of future expectations for the policy rate rather than its actual level.

3.2. Country risk ratings

Although the evidence on the role of pull factors in portfolio flows is mostly heterogeneous across emerging countries, the literature points out that economic fundamentals are important for the degree of Fed policy spillovers. Also, we know that uncertainty surrounding global economic policies has reached historically high levels in our sample period and further to that political ground has shifted in many countries. Therefore, the role of country risk and institutional ratings per se has become more of an issue for emerging markets as pull factors.

We use data from PRS Group's International Country Risk Guide (ICRG) with the aim of analyzing the potential risks to international business operations (PRS Group, undated).

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[6] Eurodollar futures and Fed futures contracts have a 0.98 correlation. Koepke (2016) finds robust estimation results when eurodollar future rates are used instead of Fed fund futures rates for the entire sample period.

The main advantage of using these indicators is that they have monthly frequency, while similar type of data is usually provided at an annual basis. Using monthly risk indicators as pull factors is a significant contribution of the study.

Our estimations include two major categories of the ICRG indicators; namely political and financial risk ratings. Political risk rating has 12 components which cover both political and social attributes of the country (Table 3.2.1). In our view, this political risk rating reflects the business environment in a country much better than indicators such as governance and institutional quality (which are widely recognized pull factors of emerging market capital flows), since it is more broadly defined. Financial risk rating is derived from 5 different indicators to provide a means of assessing a country's external financial resilience (Table 3.2.1). In other words, it is an indicator for measuring a country's ability to finance its official, commercial and trade debt obligations. To ensure comparability between countries, the components are based on accepted ratios between measured data within the national economic/financial structure. The risk points assigned to each component (ratio) are taken from a fixed scale. Each component in a particular group is assigned a maximum value (or if you will *risk points*). In every case, the lower the total risk point the higher the risk.

Table 3.2.1. Components of Risk Ratings
Political Risk Rating
Government Stability
Socioeconomic Conditions
Investment Profile
Internal Conflict
External Conflict
Corruption
Military in Politics
Religious Tensions
Law and Order
Ethnic Tensions
Democratic Accountability
Bureaucracy Quality
Financial Risk Rating
Foreign Debt as a Percentage of GDP
Foreign Debt Service as a Percentage of Exports of Goods and Services
Current Account as a Percentage of Exports of Goods and Services
Net International Liquidity as Months of Import Cover
Exchange Rate Stability

ICRG classifies countries according to the scale provided in Table 3.2.2. All of the 19 countries in our panel fall into "Very high risk" category for financial risk rating during our sample period; while, none of the countries fall into "Very high risk" category for political risk rating.

Table 3.2.2. Classification According to Risk Ratings	
Very high risk	0.00-49.9 points
High risk	50.00-59.9 points
Moderate risk	60.00-69.9 points
Low risk	70.00-79.9 points
Very low risk	80.00-100.0 points

The graphical presentations of country shares with financial and political risk ratings (provided in Appendix A and B respectively) show that risk ratings are closely related with country shares during the sample period.

4. An Empirical Model of Country Shares in Total EM Portfolio Flows

For a balanced panel of 19 emerging countries, we estimate a seemingly unrelated regression (SUR) model to examine how the share of emerging market countries in total portfolio flows changes with respect to expectations of Fed's future policy actions. The underlying reason for adopting a SUR model is the possibility of cross sectional dependence between the countries. The share of 19 countries included in our dataset, comprises roughly around 80 percent of the total portfolio flows to emerging markets. That means, whenever a country is to increase its share, at least one of the other countries' share is likely to get smaller. The SUR model, which assumes that the error terms are independent over time, but correlated across cross sectional units, addresses the possible interdependency between the country shares in this setting.

Initially, the effect of the expectation of Fed's future monetary policy on the share of countries in total emerging market portfolio flows is estimated by means of Model 1:

$$Share_{it} = \beta_0 + \beta_1 \, \Delta Fed\_expectations_t + \beta_2 \, Financial\_risk\_rating_{it} +$$
$$\beta_3 \, Political\_risk\_rating_{it} + \beta_4 \, year * id_i + c_i + \epsilon_{it} \qquad (1)$$

In this specification, t denotes time in months and i denotes each country. $Share_{it}$ is the percentage share of country i at time t in total portfolio flows to emerging economies.

$\Delta Fed\_expectations_t$ is the change in Fed funds futures contracts with respect to the previous month, in percentage points. $Financial\_risk\_rating_{it}$ and $Political\_risk\_rating_{it}$ denote the corresponding ratings of each country i at time t. An increase in the ratings indicates a decrease in risk. Therefore, an increase in the risk ratings of a country is expected to have a positive effect on its share.

We control for all other country specific factors that are likely to affect a country's share in total flows by including the term id_i. This can be thought of a combination of pull factors such as country's growth potential, macroeconomic strength and fiscal stance etc. We let these country specific factors vary across different years with the interaction term $year * id_i$ for each country i. c_i is the country-specific intercept for country i.

Secondly, to test whether the effect of Fed expectations on country shares is symmetric or not, we introduce two dummy variables that distinguish between Fed's tightening and easing periods in Model 2:

$$Share_{it} = \beta_0 + \beta_1 (D_1 * \Delta Fed\_expectations_t) + \beta_2 (D_2 * \Delta Fed\_expectations_t) + \beta_3 Financial\_risk\_rating_{it} + \beta_4 Political\_risk\_rating_{it} + \beta_5 year * id_i + c_i + \epsilon_{it} \qquad (2)$$

where D_1 and D_2 are defined as below:

$$D_1 = \begin{cases} 1 \; when \; \Delta Fed_{expectations} > 0 \\ 0 \; when \; \Delta Fed_{expectations} < 0 \end{cases} , \quad D_2 = \begin{cases} 1 \; when \; \Delta Fed_{expectations} < 0 \\ 0 \; when \; \Delta Fed_{expectations} > 0 \end{cases}$$

In this asymmetric model, D_1 captures the periods in which the expectations of Fed's future monetary policy imply a tightening and D_2 captures the periods in which the expectations of Fed's future monetary policy imply an easing.

In our third specification, given that the US monetary policy has entered into a tightening phase since December 2015, we incorporate interaction terms of financial and political risk ratings with the tightening expectations of Fed's future monetary policy.[7]

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[7] The interaction terms of these variables with the dummy variable D_2 are dropped here, since the effect of the easing expectations of Fed's future monetary policy on the share of countries in total emerging market portfolio flows is found to be statistically insignificant in Model 2, as presented in Section 5.

$$Share_{it} = \beta_0 + \beta_1 (D_1 * \Delta Fed_{expectations_t}) + \beta_2 (D_1 * \Delta Fed_{expectations_t}) *$$
$$Financial\_risk\_rating_{it} + \beta_3 (D_1 * \Delta Fed_{expectations_t}) *$$
$$Political\_risk\_rating_{it} + \beta_4 \, year * id_i + c_i + \epsilon_{it} \quad\quad (3)$$

Model 3 enables us to examine how a country's financial and political risk environment impacts its share in total emerging market portfolio flows when Fed is expected to tighten its future monetary policy.

Note that, these models do not explore whether the *level* of total emerging market portfolio flows changes when expectations for Fed's future monetary policy tightening increase. That is, even if the total portfolio flows to emerging markets may decrease in case of an expected future Fed tightening, some of the countries may still be able to increase their shares in this lower amount of portfolio flows, owing to their stronger economic, financial and political fundamentals. Here, that is what the models capture.

5. Estimation Results

The panel regression results for the baseline model -Model 1- are reported in the first column of Table 5.1. As stated previously, since we use a balanced panel and want to take into account the possible cross sectional dependency, we estimate the model with fixed effects and cross section SUR weights, using feasible generalized least squares method that allow for serial correlation in the error term. We also employ a Hausman (1978) test to check for model misspecification, which is reported at the bottom part of Table 5.1. The Hausman test rejects the null hypothesis that there is no misspecification under random effects, and therefore gives support to the fixed effects specification.

As can be seen from the first column, the expectations of Fed's future monetary policy has a significant explanatory power on the country shares in total EM portfolio flows. Its effect on country share is found to be negative; an increase in the expectation of Fed's future policy rate by 10 basis points would decrease a country's share in total EM portfolio flows by 0.44 percentage points. On the other hand, financial and political risk ratings are found to have positive and statistically significant effects on country share. An increase in financial and political risk ratings of a country by 10 points (improvement in the perceptions) would likely increase its share by 0.77 and 0.75 percentage points on average. The effect of other country specific factors captured by the interaction term *year*id* is found to be small yet significant in Model 1.

Table 5.1. Estimation Results for Country Shares in Total EM Portfolio Flows

	Model 1	Model 2
	Country share	*Country share*
Constant	-70.201	26.834
	(-21.049)**	(6.299)**
ΔFed_expectations	-0.044	
	(-2.092)**	
D_1*ΔFed_expectations*		-0.061
		(-1.807)*
D_2*ΔFed_expectations*		0.012
		(0.382)
Financial_risk_rating	0.077	0.064
	(36.880)**	(35.523)
Political_risk_rating	0.075	0.053
	(41.687)**	(33.998)**
year		-0.167
		(-36.955)**
*year*id*	0.003	0.015
	(20.089)**	(42.678)**
Observations	1748	1748
R2	0.930	0.932
Hausman test for model specification		
	Chi-Square Stat	Probability
Cross-section random	15.572**	0.004

t-statistics are in parentheses.
* and ** denote statistical significance at 10 and 5 percent respectively.

The second column of Table 5.1 provides the estimation results for Model 2, which assumes asymmetric effect of the expectations of Fed's future monetary policy. The coefficient on the Fed's future policy tightening expectations is found to be negative and statistically significant. However, the coefficient on the Fed's future policy easing expectations is found to be positive but statistically insignificant. Therefore, it can be inferred that the effect of Fed's future policy expectations on country shares in total EM portfolio flows is asymmetric. In that regard, an increase in the expectation of Fed's future policy rate by 10 basis points would decrease a country's share in total EM portfolio flows by 0.61 percentage points, while a decrease in the expectation of Fed's future policy rate would not significantly improve it.

Table 5.2 reports the panel regression results for Model 3, by which we analyze the joint effect of the Fed's future policy tightening expectations and country risk ratings on country shares in total EM portfolio flows. In this specification, the interaction terms of

the expectation of Fed's future policy and country risk ratings with the dummy variable D_2 are not included, since the effect of the easing expectations of Fed's future monetary policy on country shares is found to be statistically insignificant in Model 2. The results suggest that although a country's share in total portfolio flows would decrease in the face of Fed's future monetary policy tightening; its risk ratings may help cushion the adverse effect of such a tightening. Unlike the previous models, the effect of a one basis points increase in the expectations of Fed's future policy rate in Model 3, is calculated as $\beta_1 + \beta_2 Financial\_risk\_rating_{it} + \beta_3 Political\_risk\_rating_{it}$. To illustrate, consider two emerging country cases: Let Country A have a financial risk rating of 30, and a political risk rating of 50.[8] Let Country B have financial and political risk ratings of 50. Model 3 implies that one basis point increase in the expectations of Fed's future policy rate would decrease Country A's share in total EM portfolio flows by 0.41 percentage points, while Country B's share would increase by 0.19 percentage points. In other words, a country that is more financially resilient would be able to offset the negative effect of Fed's policy tightening to a certain extent, ceteris paribus.

Table 5.2. Estimation Results for the Joint Effect of Fed's Future Policy Tightening Expectations and Country Risk Ratings on Country Shares in Total EM Portfolio Flows

	Model 3
	Country share
Constant	-21.026
	(-14.363)**
D1*ΔFed_expectations	-1.660
	(-5.202)**
D1*ΔFed_expectations*Financial_risk_rating	0.030
	(5.783)**
D1*ΔFed_expectations*Political_risk_rating	0.007
	(2.973)**
year*id	0.001
	(17.264)**
Observations	1748
R2	0.925

t-statistics are in parentheses.
* and ** denote statistical significance at 10 and 5 percent respectively.

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[8] Note that all of the countries in our panel fall into "Very high risk" category for financial risk rating and the ratings range between 25 and 48 during the sample period.

6. Conclusion

In this paper, we study how changes in market expectations about the Fed's likely monetary policy stance in the future affect how much an emerging market economy receives portfolio flows, in proportion to total portfolio flows to emerging markets. We estimate a seemingly unrelated regression model for a panel of 19 emerging countries, using monthly data from January 2010 to October 2017. We use Fed funds futures contracts to proxy market expectations for the Fed's future monetary policy. Rather than conventional pull and push factors cited in the capital flows literature, we use PRS Group's financial and political risk ratings from International Country Risk Guide. Incorporating a monthly political risk rating is an important contribution of the paper, since similar indicators usually have limited coverage and lower frequency. Another contribution of the paper is the framework that focuses on country shares in total portfolio flows, rather than actual country flows. This approach provides a more proper measure for the attractiveness of a country in international investors' eyes. One can infer that Fed's policy tightening, would conventionally decrease capital flows to emerging markets. But, our setting allows us to capture whether a country, with stronger fundamentals compared to its counterparts, is still able to increase its share in total flows, even when the pie gets smaller.

Our findings suggest that the effect of Fed's policy expectations on country shares is asymmetric. The expectations of Fed's monetary policy is found to reduce the share of countries in total portfolio flows when expectations imply a policy tightening, while easing expectations do not have a significant effect on country shares. This approves the argument that bad news sound louder than good news. Both financial and political risk ratings are found to play a significant role in affecting country shares, though the effect of financial resilience is found to be more pronounced.

Two lessons can be taken from our analysis. First, the share of a country with stronger financial conditions and/or lower political risk environment would fare better with respect to its counterparts, in the face of a future tightening expectation of Fed's monetary policy. Second, countries that improve their financial resilience and reduce the risks in business and political environment would be able to downsize the adverse effect of Fed's future policy tightening on their share in total portfolio flows.

With the start of Fed's recent steps towards policy normalization, the US monetary policy has entered a tightening phase. The uncertainty about the pace of tightening wanes, but policy surprises that infer tighter than expected future conditions for markets are likely to dampen portfolio flows to emerging markets. Given that the political risk perception towards countries has a significant explanatory power on the share they get from the total emerging market portfolio stock, we conclude that countries that better position themselves in terms of political and institutional climate, are likely to increase their share from the pie.

To this end, a key policy implication that can be drawn from our analysis is that emerging economies can better harness the benefits of global liquidity by promoting an attractive business environment for international investors, as well as implementing necessary structural, macroeconomic and macroprudential policies to enhance their financial resilience.

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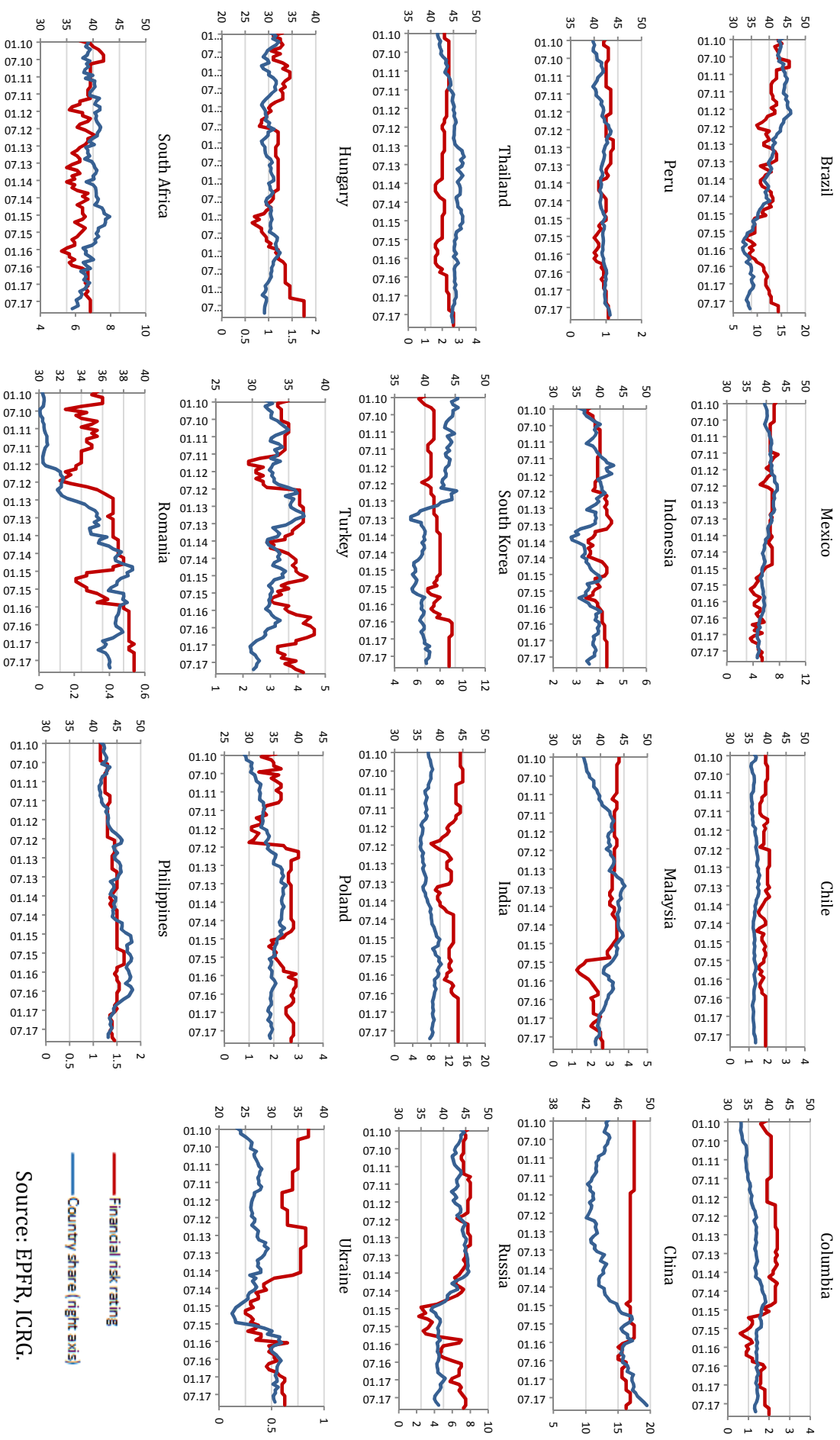
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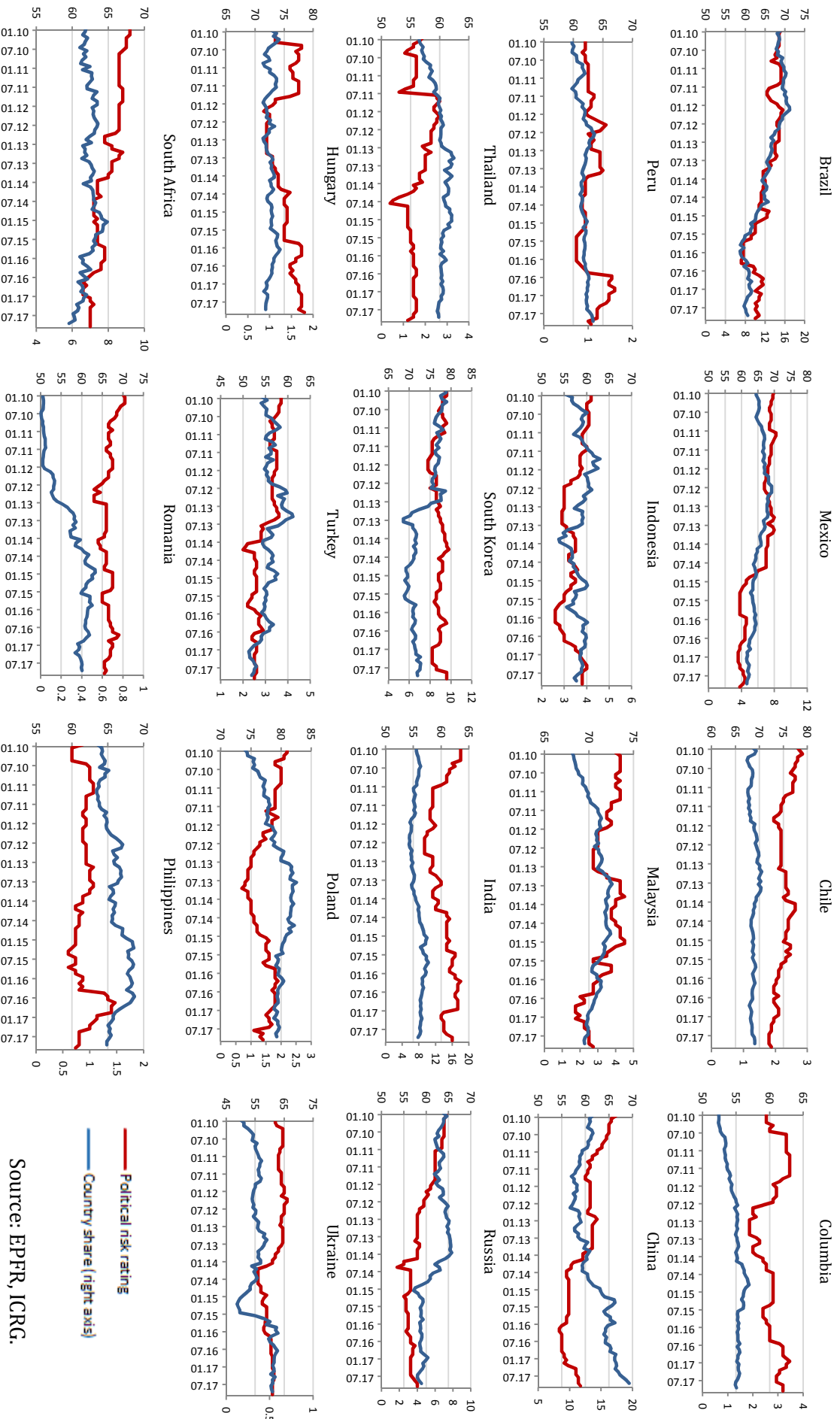PRS Group, undated, "International Country Risk Guide Methodology" Available at: https://www.prsgroup.com/wp-content/uploads/2012/11/icrgmethodology.pdf

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Source: EPFR, ICRG.

APPENDIX B: Political Risk Ratings and Country Shares in EM Portfolio Flows

Brazil

Peru

Thailand

Hungary

South Africa

Mexico

Indonesia

South Korea

Turkey

Romania

Chile

Malaysia

India

Poland

Philippines

Columbia

China

Russia

Ukraine

Political risk rating
Country share (right axis)

21

Source: EPFR, ICRG.

Evolution of the University Wage Premium in Turkey: 2004-2015
(Okan Eren Working Paper No. 18/08, March 2018)

Multivariate Filter for Estimating Potential Output and Output Gap in Turkey
(Selen Andıç Working Paper No. 18/07, February 2018)

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(Ferhat Çamlıca, Didem Güneş, Etkin Özen Working Paper No. 17/19, December 2017)

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