Modeling the exchange rate pass-through in Turkey with uncertainty and geopolitical risk: A Markov regime-switching approach

Appendix A

Literature Review

The literature review has been prepared by considering the studies examining the relationship between pass-through and exchange rate, monetary policy, and inflation. One can observe that there are no studies directly investigating the relationship between pass-through and economic uncertainty and risk. Table A exhibits the seminal works on pass-through effects regarding different countries with different methodologies.

Table A Literature review

Author	Country	Period	Method	Result
Bailliu and Fujii (2004)	11 Industrialized countries	1977-2001	Dynamic GMM	PT is valid but it decreases in low inflation.
Choudhri and Hakura (2006)	71 Countries	1979-2000	OLS	There is a strong and positive relationship between PT and low inflation.
Junior (2007)	Brazil, Mexico, South Korea, Czechia	1983:01-2005:12	ARDL	PT is valid but it decreases with inflation targeting.
Kara and Öğünç (2008)	Turkey	1994:01-2004:12	VAR	Implementing an inflation-targeting regime might reduce the exchange rate pass-through.
Chang and Tsong (2010)	Taiwan	1996:10-2004:12	LSDV and GMM	A change in monetary policy increases the pass-through effect during several initial periods and declines to zero over time.
Molana and Osei-Assibey (2010)	Ghana, Mozambique, and Tanzania	1990:01-2009:12	ARCH, GARCH, VAR, Granger causality	Depreciation makes the exchange rate more volatile for all but volatility does not cause depreciation in Tanzania.
Lin and Wu (2012)	Taiwan	1981:01-2008:12	TAR	PT is valid but it increases in deflation.
Petreski (2013)	24 Economies of Central and South-Eastern Europe and the CIS	1993-2011	OLS	ERPT in transition economies is quite high and exchange rate depreciation increases inflation.
Krol (2014)	10 Industrial and	1990:06-	OLS	EPU increases exchange rate

	emerging countries	2012:02		volatility.
Balcilar et al. (2015)	The USA	1999:01-2012:03	Nonparametric Causality-in-Quantiles Test	EPU differentials have predictive ability for both exchange rate returns.
Mujica and Saens (2015)	Chile	1986:01-2009:12	OLS	PT is valid but it is sensitive to inflation.
Kido (2016)	The USA	2000:01-2014:12	GARCH	There is a correlation between the EPU and the exchange rate.
Kurasawa (2016)	The USA and Japan	1994:01-2016:04	DCC-GARCH	There is a DCC (dynamic conditional correlation) between policy uncertainty and the exchange rate.
Lopez-Villavicencio and Mignon (2016)	15 Emerging countries	1994-2015	GMM	Transparency of monetary policy decisions reduces ERPT.
Beckmann and Czudaj (2017)	The USA	1986:08-2014:12	VAR, Granger Causality	There is the impact of economic policy uncertainty on exchange rate expectations and forecast errors for all uncertainties.
Christou et al. (2017)	Australia, Canada, China, Japan, Korea, and the USA	1998:01-2014:12	Panel VAR	Stock market returns have been negatively affected by the increased policy uncertainty.
Dilla et al. (2017)	19 Countries (8 high income and 11 middle income)	Different periods for each country	ARDL	After ITF (inflation targeting framework), ERPT decreased.
Tümtürk (2017)	Turkey	1994:01-2016:09	OLS	PT is valid but it decreases with inflation targeting.
Marodin and Portugal (2018)	Brazil	2000-2015	Markov regime-switching	ERPT is valid if the volatility of shocks to inflation is also relatively higher.
Roubaud and Arouri (2018)	USA	1979:05-2015:01	MS-VAR	There is a relation between the variables which change from one regime to the next, but they are stronger during volatile periods.
Soon et al. (2018)	6 Asian countries	1980:01-2014: 03	Panel Threshold regression	Inflation targeting is an important policy instrument on the PT.
Yazdani (2018)	4 Asian countries (Japan, South Korea, Iran, and Turkey)	1970-2015	SVAR	ERPT shocks are more effective in the countries which benefit from a managed floating exchange rate regime and inflation targeting policy in the short run.
Bartsch (2019)	The USA and the UK	2001-2015	GARCH	Non-policy market uncertainty increases volatility more than EPU does.
Campos (2019)	Latin American countries	2003:02-2015:04.	SVAR	PT is valid, especially in Argentina.
Noria and Bush	Mexico	1999-2018	GMM and OLS	Greater uncertainty leads to higher

(2019)				exchange rate volatility.
Liming et al. (2019)	China	2001:12-2018:11	Quantile regression	EPU impacts positively and significantly on all quantiles volatilities of exchange rates.

Notes: EPU: Economic policy uncertainty index; ERPT: Exchange rate pass-through; PT: pass-through effect.

We might summarize the output of Table A as follows:

- The papers in the literature mainly preferred to follow various time series such as multivariate OLS; autoregressive distributed lag (ARDL), VAR, threshold AR (TAR), Markov-switching VAR (MSVAR), structural VAR (SVAR), and panel analyses such as dynamic panel and/or generalized method of moments (GMM). In general, it is reached that the pass-through effect is valid.
- There exist no study in the literature that directly deals with the relationship between economic policy uncertainty, geopolitical risk, and pass-through effect. Some studies have focused on the relationship between economic policy uncertainty and exchange rate as are given in Krol (2014), Balcilar et al. (2015), Kido (2016), Kurasawa (2016), Beckmann and Czudaj (2017), Christou et al. (2017), Bartsch (2019), Noria and Bush (2019) and Liming et al. (2019).
- Some works on the pass-through effect in the literature have focused on the impacts of inflation and monetary policy. The works such as Choudhri and Hakura (2004), Junior (2007), Kara and Öğünç (2008), Petreski (2013), Mujica and Saens (2015), Dilla et al. (2017), Tümtürk (2017), Marodin and Portugal (2018), Soon et al. (2018) and Yazdani (2018) examining the relationship between inflation and the pass-through effect have resulted in the existence of a positive relationship between the two variables. Also, Chang and Tsong (2010) and Lopez-Villavicencio and Mignon (2016) claimed that there appears to have an association between monetary policy and pass-through effect. According to the works, the direction of the impact may vary depending on the content of the policy implemented.

One may assert throughout literature reviews, however, that there is no study attempting to determine the Markov regime-switching model effects considering simultaneously the demand side of the economy, the production side of the economy, economic uncertainty, and geopolitical risk on pass-through effect. This model allows us to determine the association between independent variables and CPI in different regimes. So, this paper searches the association (if

exist) throughout the computations of the Markov regime-switching models. Therefore, it is expected to contribute to the relevant literature by estimating the impact of relevant parameters on pass-through within nonlinear models at different states (regimes).

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