Partisan Depositor Responses to a Currency Shock[*]

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Abstract

Depositor responses to a large currency shock vary depending on political views. Triggered by a combination of economic policies and a geopolitical conflict with the U.S., the Turkish lira depreciated 14% against the U.S. dollar on August 10, 2018. Using unique depositor-level micro data from a Turkish bank, we find that households significantly increase their share of deposits held in foreign currency after the currency shock, and the shift to FX is most pronounced in areas with low support for president Erdoğan, while people in areas with high support are significantly less likely to move from lira to FX. These shifts to FX persist long after the shock, despite the lira regaining much of its lost value. The change in depositor currency preferences is associated with an increase in foreign-currency lending and increasing currency mismatches on Turkish banks' balance sheets, which translate into differences in bank profitability.

JEL classification: D14, D81, E71

Keywords: currency shock, household behavior, bank deposits, exchange rate risk

1 Introduction

"If there is anyone who has dollars or gold under their pillows, they should go exchange it for liras at our banks. This is a national, domestic battle."

– President Erdoğan, August 10, 2018

Several recent studies suggest that banking and currency crises can have important political consequences. Mian, Sufi, and Trebbi (2014) find that countries become more politically polarized and fractionalized following financial crises, while Rodrik (2018) shows that support for populist parties has increased substantially since the financial crisis. Funke, Schularick, and Trebesch (2016) find that policy uncertainty rises strongly after financial crises as government majorities shrink and polarization rises, while voters seem to be particularly attracted to the political rhetoric of the extreme right. Gyongyosi and Verner (2020) find that foreign currency debt exposure during the financial crisis leads to a large and persistent increase in the far-right vote share in Hungary.

Similarly, political views and shifts in them can have important economic and financial consequences. Born, Müller, Schularick, and Sedláček (2019) estimate that the unexpected outcome of the Brexit vote of 2016, a natural experiment of the effects of rising nationalism, caused the UK an output loss of 1.7% to 2.5% by year-end 2018. Alesina and Fuchs-Schündeln (2007) find that living under communism has persistent effects on preferences for redistribution and the generosity of the welfare state. Dinc and Erel (2013) show that economic nationalism by European governments has significant direct and indirect effects on mergers and acquisitions. Pursiainen (2021) finds that political conflicts can affect equity analysts' stock recommendations. Ajzenman, Cavalcanti, and Da Mata (2020) show that political leaders' words can affect health-related attitudes and actions during the COVID-19 pandemic.

In this paper, we study the role of political views in depositor responses to a large currency shock, focusing on the Turkish currency crisis of 2018. The Turkish lira depreciated 14% against the U.S. dollar on August 10, 2018. Despite a longer downward trend in the value of the lira, this represented a substantial, sudden, and largely unexpected uncertainty shock to the value of the domestic currency in Turkey. In the run-up to the crisis, the Turkish economy had been experiencing large macroeconomic imbalances, combined with economic policies largely considered unorthodox. An additional trigger for the crash was a geopolitical conflict with the U.S. that led to sanctions as well as tariffs being announced on certain Turkish products on August 10, the day of the crash.

In Turkey, it is relatively common for households to hold some of their deposits in foreign

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currencies, often referred to as deposit dollarization. The drivers of dollarization are likely to include expectations of depreciation (e.g., Agénor and Khan, 1996) and perceived exchange rate uncertainty (e.g., Yinusa, 2008). Recent studies suggest that political views can affect perceptions of risk (e.g. Barrios and Hochberg, 2020) and the trust in politicians' claims and recommendations (e.g. Grossman, Kim, Rexer, and Thirumurthy, 2020). The currency crash that we study was to a large extent personified by president Erdoğan, and he promptly politicized the crisis, blaming it on foreign political plots and claiming there was no economic basis for the decline.[1] Furthermore, President Erdoğan made several public statements encouraging Turkish people to convert any foreign currencies to lira to support the domestic currency. These statements echoed similar campaigns by him in 2016 to discourage the use of foreign currencies. Hence, we hypothesize that the uncertainty shock caused by the lira crash of August 2018 should i) increase deposit dollarization, and ii) do so more strongly for individuals with a less favourable view of president Erdoğan.

To study depositor behavior around the crash, we obtain a unique set of depositor-level micro data from a Turkish bank, including data on deposits in lira and in foreign currencies. These data allow us to estimate account-level cash flows and transfers between accounts held by the same person. We also have data on various customer characteristics, including demographics, profession, education, and the location of their branch. Our sample covers a two-year period around the August 2018 crash. Turkey held a presidential election on June 2018, only two months before the crash, providing an up-to-date measure of political support for Erdoğan by region. We use the Erdoğan vote share in the province of the customer's branch as our main proxy for political views. We also construct an individual-level predicted Erdogan vote probability variable based on individual characteristics and data from the World Values Survey.

We start by studying the general patterns of depositor behavior around the lira shock. Generally, households significantly increase their share of deposits held in foreign currency after this currency shock, and the shift persists long after the shock. This is true both in the extensive margin, with a larger share of customers holding foreign exchange after the shock, as well as in the intensive margin, with the average amount of FX holdings increasing. The share of customers holding FX deposits increases from 11% in August 2018 to 19% by August 2019. The average share of foreign currency in deposits held increases from 12% to 17% over the same period.

Consistent with our prediction, the shift to FX deposits is significantly more pronounced in areas with low support for Erdoğan and less pronounced in areas with high support.

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[1]President Erdoğan was quoted saying: "What is the reason for all this storm in a tea cup? There is no economic reason... This is called carrying out an operation against Turkey" (Pamuk, 2018).

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These differences are primarily attributable to a relatively small part of the depositors in both ends of the distribution of Erdoğan vote share. In August 2017, the beginning of our sample, the top 10% and bottom 10% of customers based on Erdoğan are equally likely to hold foreign currency deposits (approximately 9% both groups do). As Turkey's economic crisis deepens ahead of the lira crash, the groups diverge slightly, with virtually no change in the high-Erdoğan-support areas but a slight increase in the likelihood to have FX deposits in the low-Erdoğan-support areas. Immediately following the crash, both groups significantly increase the share of deposits held in foreign currency, but the shift is significantly larger for low-Erdoğan-support areas. Based on our regression analysis, the likelihood to have FX deposits increases 1.3-1.5 percentage points more for the bottom 10% Erdoğan-support areas and 1.7-1.8 percentage less for the top 10% Erdoğan-support areas, relative to the rest of the sample. This difference of more than three percentage points is economically large when compared with the pre-shock baseline of 9% for both.

We then study the robustness of these results within different demographic groups and different levels of likely financial sophistication. We find qualitatively similar results across different subsamples dividing the main sample by gender, age, and married status, as well as by education level and and wealth. These results suggest that our findings are not likely to be driven by regional differences in demographics or financial literacy.

As a second proxy for the customer's political views, we perform an analysis using data from the Turkey wave of the World Values Survey (WVS), conducted in March-May 2018. This survey included a question about which political party the respondent supported. We use the answer to this question to construct a dummy variable indicating intention to vote for Erdogan and perform a logit regression analysis of the likelihood of Erdogan vote on various individual characteristics that we can also measure in our bank sample. We then apply the estimated regression coefficients from the WVS sample to our bank data to construct a predicted Erdogan vote probability. Consistent with the regional vote results, depositors with higher predicted Erdogan vote probability are significantly less likely to shift to FX.

To assess the extent to which depositors' changes in deposit currency preferences have implications for the banking system and economy broadly, we perform an analysis using quarterly financial statement data for all Turkish banks. There is a significant shift to FX deposits across Turkish banks following the currency shock. Increases in the share of retail deposits are associated with increases in the share of FX loans during the same quarter. This finding is consistent with prior findings that credit dollarization is driven by households' changes in deposit currencies (e.g., Luca and Petrova, 2008; Neanidis and Savva, 2009; Brown, Kirschenmann, and Ongena, 2014). Deposit currency changes are also associated with concurrent changes in FX mismatches on bank balance sheets. This suggests

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that deposit changes are associated with either additional risks or additional hedging needs for banks, consistent with the arguments of Ize and Levy Yeyati (2003). We also find that increases in FX deposits and increases in FX mismatches are associated with simultaneous short-term decreases in bank profitability, as measured by quarterly return on equity.

We contribute to several strands of literature. First, our findings add to the literature on the economic consequences of political views, nationalism, and political polarization. Our finding that households' political views can have an impact on their choice of deposit currency represents a novel channel through which politics can affect financial wellbeing. Second, we add to the literature on financial dollarization by documenting at the individual level how currency-related uncertainty shocks can lead to a shift to FX deposits. Our data allow much more detailed analysis of the cross-sectional determinants of the choice of deposit currency around the shock than what has been done in prior literatore. In this respect, one of the closest study to ours is that of Brown and Stix (2015), who do not focus on politics, but otherwise find many qualitatively similar results to ours, using survey-based data from Eastern Europe.

Third, we provide evidence that a shock to exchange rate uncertainty can lead to dollarization, thus confirming one direction of the long-standing debate on whether dollarization causes volatility or vice versa (e.g., Yinusa, 2008). Fourth, our paper is related to the literature studying micro-level determinants of bank runs. Our topic, uncertainty about a currency, rather than about bank solvency, is somewhat different, but there are many similar aspects in the behavior we document, including the role of social interactions in the shift toward foreign currencies. Given the lira crash does not result in a banking crisis or widespread panic, our results also have some parallels with those of Baron, Verner, and Xiong (2020), who show that bank equity declines have have important economic consequences even in the absence of panics. Finally, we also provide new evidence of the role of deposit dollarization in driving currency mismatches on banks' balance sheets and affecting bank profitability.

2 Relevant literature

2.1 Politics and economic behavior

Politics and economic behavior are closely linked. Governments may use their economic influence to shape political outcomes. Bircan and Saka (2021) find that Turkish state-owned banks use tactical corporate lending as a tool influence elections in politically competitive provinces.Brollo and Nannicini (2012) find that federal transfers are used to sway municipal

elections in Brazil.

Banking and currency crises can have important political consequences. Mian et al. (2014) find that countries become more politically polarized and fractionalized following financial crises, while Rodrik (2018) shows that support for populist parties has increased substantially since the financial crisis. Funke et al. (2016) find that policy uncertainty rises strongly after financial crises as government majorities shrink and polarization rises, while voters seem to be particularly attracted to the political rhetoric of the extreme right. Gyongyosi and Verner (2020) find that foreign currency debt exposure during the financial crisis leads to a large and persistent increase in the far-right vote share in Hungary.

Similarly, political views and shifts in them can have important economic and financial consequences. Born et al. (2019) estimate that the unexpected outcome of the Brexit vote of 2016, a natural experiment of the effects of rising nationalism, caused the UK an output loss of 1.7% to 2.5% by year-end 2018. Alesina and Fuchs-Schündeln (2007) find that living under communism has persistent effects on preferences for redistribution and the generosity of the welfare state. Dinc and Erel (2013) show that economic nationalism by European governments has significant direct and indirect effects on mergers and acquisitions. Pursiainen (2021) finds that political conflicts can affect equity analysts' stock recommendations. Ajzenman et al. (2020) show that political leaders' words can affect health-related attitudes and actions during the COVID-19 pandemic.

2.2   Banking and currency crises

Banking crises and currency crises are often closely linked. For example, Kaminsky and Reinhart (1999) find that problems in the banking sector typically precede a currency crisis, while the currency crisis deepens the banking crisis, activating a vicious spiral. Hutchison and Noy (2005) investigate the output effects of banking and currency crises in emerging markets and find that both reduce output substantially but do not find additional interactive effects between the two. Hutchison and Noy (2006) study currency crises that entail a simultaneous reversal in capital flows ("sudden stops") and find that while a currency crisis typically reduces output by about 2-3%, a sudden stop reduces output by an additional 6-8% in the year of the crisis.

A large literature studies the role of information and panic in banking and currency crises (for a review, see Goldstein, 2013). In seminal work, Krugman (1979) argues that a currency crisis is the inevitable result of inconsistencies between fiscal policy and exchange rate regime. Obstfeld (1996) shows that a currency crisis may be self-fulfilling, similar to the Diamond-Dybvig model of bank runs (Diamond and Dybvig, 1983). Ahnert and Kakhbod

(2017) show that endogenous information choices of investors can amplify financial crises.

In related empirical work on bank runs, Calomiris and Mason (1997) find that bank failures during the Great Depression reflected the relative weakness of failing banks in the face of a common asset value shock rather than contagion. Schumacher (2000) studies the bank panic in Argentina following the Mexican devaluation of 1994 and finds evidence supporting the informed-based theories of bank runs and shows that depositors are concerned with the impact of a currency run on bank solvency. Martinez Peria and Schmukler (2001) focus on the banking crises of Argentina, Chile, and Mexico during the 1980s and 1990s and find that depositors discipline banks by withdrawing deposits and by requiring higher interest rates. Deposit insurance does not appear to diminish the extent of market discipline. Aggregate shocks affect deposits and interest rates during crises, regardless of bank fundamentals, and investors' responsiveness to bank risk taking increases in the aftermath of crises. Davenport and McDill (2006) use depositor-level data from a failed bank and find that, although uninsured deposits exited at a greater rate than insured deposits, the vast majority of deposits withdrawn were fully insured. This disciplining effect by insured accounts is driven by individual, joint, and trust accounts.

2.3 Deposit dollarization and currency mismatches

The tendency of households to hold deposits in foreign currencies, often referred to as deposit dollarization, has generated a large literature studying its determinants and implications. Agénor and Khan (1996) argues that the foreign rate of interest and the expected rate of depreciation of the parallel market exchange rate are important factors in the choice between holding domestic money or foreign currency deposits abroad. Giovannini and Turtelboom (1994) review the early literature on currency substitution. Brown and Stix (2015) provide survey-based evidence that deposit dollarization is cross-sectionally correlated with households' stated currency preferences, suggesting a demand-driven element.

Possibly due to data challenges, most of the empirical financial dollarization literature focuses on its effects rather than causes. For example, Miles (1978) shows that households' holdings of foreign currencies can limit the effectiveness of a country's monetary policy. Levy Yeyati (2006) finds that financially dollarized economies display a more unstable demand for money, a greater propensity to suffer banking crises after a depreciation of the local currency, and slower and more volatile output growth, without significant gains in terms of domestic financial depth.

Importantly, households' choice of deposit currency can affects bank loan supply and its currency mix. Both Luca and Petrova (2008) and Neanidis and Savva (2009) find evidence

that credit dollarization is driven by domestic deposit dollarization and banks' desire for currency-matched portfolios. This is consistent with the arguments of Ize and Levy Yeyati (2003) that a bank's currency choice is determined by hedging decisions on both sides of its balance sheet. Similarly, Brown et al. (2014) find that foreign currency lending to firms is at least partially driven by bank eagerness to match the currency structure of assets with that of liabilities. Loan currency, amount, and maturity are adjusted to make loans eligible for securitization. Arteta (2002) finds that floating regimes seem to exacerbate, rather than ameliorate, currency mismatches in domestic financial intermediation, as those regimes seem to encourage deposit dollarization more strongly than they encourage matching via credit dollarization. In related earlier work, Feldstein and Horioka (1980) find evidence that domestic savings are important at determining investment levels.

2.4 Firm borrowing and currency exposures

A large literature studies the effects of currency depreciations on firms and their policy implications. Bris and Koskinen (2002) argue that currency crises can arise because it is optimal to bail out financially distressed exporting firms through a currency depreciation. Ex ante, currency depreciation leads to excessive investment in risky projects even if safer, more valuable projects are available. However, currency depreciation is optimal ex ante if the risky projects have higher expected returns and if firms must rely on debt financing because of underdeveloped equity markets. Allayannis, Brown, and Klapper (2003) study firms' choice of debt currencies and find that foreign-currency debt is used as a complement to local currency (including synthetic) debt.

Bris, Koskinen, and Pons (2004) study currency crises in 17 countries and find that, prior to a crisis, companies that expect to benefit from currency depreciations increase their leverage more than companies that are expected to be harmed by the depreciation. Aguiar (2005) finds that, in the wake of the Mexican peso crisis of 1994, firms with large amounts of foreign-currency debt reduce investment after devaluation driven by weakened balance sheets and increased sales uncertainty. In contrast, Bleakley and Cowan (2008) find that firms holding more dollar debt do not invest less than their peso-indebted counterparts following a depreciation. They also show that these firms match the currency denomination of their liabilities with the exchange rate sensitivity of their profits. Endrész and Harasztosi (2014) find that that before the Great Recession, FX lending to firms increased investment rates and during the crisis the investment rate of firms with FX loans declined more because of the balance sheet effects triggered by the depreciation.

Balance sheet effects of firms' currency exposures can have important macroeconomic

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consequences. Calvo and Reinhart (2002) find that countries that officially have a floating exchange rate often use monetary policy to avoid depreciation. The results of Braggion, Christiano, and Roldos (2009) and Christiano, Gust, and Roldos (2004) suggest that monetary tightening to avoid depreciation may be optimal to avoid adverse balance sheet effects.

2.5   Depositors and macro uncertainty

Economic uncertainty can have significant consequences at the macro-level. Fernández-Villaverde, Guerrón-Quintana, Rubio-Ramírez, and Uribe (2011) find that changes in the volatility of the real interest rate at which small open emerging economies borrow have an important effect on variables like output, consumption, investment, and hours. Bloom, Floetotto, Jaimovich, Saporta, and Terry (2018) show that economic uncertainty shocks may cause large drops in economic output. Economic shocks can also be propagated internationally through the banking system. For example, Bruno and Shin (2015) show that a contractionary shock to U.S. monetary policy leads to a decrease in cross-border banking capital flows and a decline in the leverage of international banks. Such a decrease in bank capital flows is associated with an appreciation of the U.S. dollar. Prati and Sbracia (2010) study the effect of uncertainty about fundamentals on the speculation in the foreign exchange markets. They find a non-monotonic effect on exchange rate pressures: uncertainty heightens speculative pressures when expected fundamentals are good and eases them when they are bad.

There is also evidence that uncertainty affects depositor behavior. Artavanis, Paravisini, Robles-Garcia, Seru, and Tsoutsoura (2019) use micro-data from a Greek bank to show that early deposit withdrawal probability quadruples in response to a policy uncertainty shock that doubled the short-run CDS price of Greek sovereign bonds. About two-thirds of this increase is driven by direct exposure to policy uncertainty with the remainder due to changes in expectations of behavior of other depositors.

2.6   Relationships and social networks in banking crises

Kelly and Ó Gráda (2000) use networks of Irish immigrants living in New York in the 1850's to study the impact of social connections in propagating panics in financial markets. They find that the most important factor in whether they panicked, however, was county of origin. This suggests that individual behavior depends on access to information and opinions of other group mem- bers. Whether an individual panicked or not also depended strongly on how long they had lived in America, and how long they had been with the bank. Similarly, Iyer and Puri (2012) find that bank-depositor relationships mitigate runs, suggesting that

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relationship with depositors help banks reduce fragility. They also find that social networks matter. If other people in a depositor's network run, the depositor is also more likely to run. Finally, they show that deposit insurance helps, but is only partially effective.

Iyer, Puri, and Ryan (2016) find that depositors with loans and bank staff are less likely to run than others during a low-solvency-risk shock, but are more likely to run during a high-solvency-risk shock. Uninsured depositors are also sensitive to bank solvency. In contrast, depositors with older accounts run less, and those with frequent past transactions run more, irrespective of the underlying risk. Brown, Guin, and Morkoetter (2020) find that the propensity of clients to withdraw deposits increases with the severity of bank distress, but an exclusive pre-crisis bank-client relationship eliminates withdrawal risk. They argue that the mechanism through which strong bank-client relationships mitigate withdrawal risk relates to the transaction costs of switching accounts rather than informational rents or differentiated services.

3   Background to the crisis

Our study focuses on the period surrounding the Turkish currency crash of August 2018. The lira depreciated 14% against the U.S. dollar on August 10, 2018. Despite a longer downward trend in the value of the lira, this represented a substantial, sudden, and largely unexpected uncertainty shock to the value of the domestic currency in Turkey. Figure 1 shows the TRYUSD exchange rate, as well as the daily percentage change, over time.

In the run-up to the crash, the Turkish economy had been experiencing large macroeconomic imbalances. With low domestic savings rates, Turkey had been running some of the world's largest current account deficits for a long period of time and was heavily reliant on foreign capital. Inflation had been steadily increasing, and while most economists would have taken that as a sign that interest rates were too low, president Erdoğan insisted that high interest rates are the cause of inflation, not the remedy for it.[2]

While not the underlying cause for the economic headwinds faced by Turkey, geopolitical tensions with the U.S. likely contributed to triggering the lira crash. On August 2, 2018, one week before the crash, the U.S. imposed sanctions on Turkey's justice and interior ministers over the continued detention of American pastor Andrew Brunson, held for nearly two years over alleged links to political groups. On August 10, president Trump announced the doubling of tariffs on Turkish steel and aluminium.

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[2]For financial media reporting on Turkish inflation and economic imbalances, see, e.g.: https://www.economist.com/finance-and-economics/2018/05/19/how-turkey-fell-from-investment-darling-to-junk-rated-emerging-market; https://www.ft.com/content/115e91ac-8f51-11e8-bb8f-a6a2f7bca546

4 Data and methodology

4.1 Depositor data

We obtain a set of anonymized depositor-level data from a Turkish bank for a two-year window around the August 2018 lira crash. We observe daily account balances in lira and foreign currencies (measured in USD). From daily changes in account balances, we estimate monthly inflows and outflows, assuming each daily change represents a single flow. The sample average is approximately two cash inflows and two outflows per month, so treating daily changes as individual cash flows does not appear to be an aggressive assumption. In addition to account balances, we obtain data on a number of customer characteristics. These include age, gender, married status, education, profession, and branch location. We exclude inactive customers from the analysis, defined as those customers that do not have account activity during our two-year period, or those that have an average total deposits of less than 10 lira over the period.

Table 1 shows summary statistics for the monthly depositor panel dataset we construct. The average total deposits balance is approximately 27,000 Turkish lira, but the distribution is highly skewed, with median month-end deposit of only TRY 29. On average, 13% of customers have foreign currency deposits, while the average share of foreign-currency deposits in total deposits is approximately 15%. The level of account activity is generally relatively low as well. The average depositor has approximately two inflows and outflows per month, with amounts totalling TRY 3,800 and TRY 3,100, respectively. The average inflow and outflow sizes are ca. TRY 3,300 and TRY 3,200, respectively.

64% of customers are male, and the average age is 47 years. 75% are married. Nearly 99% live in Turkey, while 98% are Turkish citizens. Nearly 58% of customers have a college education. Nearly 7% work in finance, and nearly 2% are the Bank's own employees. Approxiately 40% live in Istanbul. The average reported monthly income is TRY 6,500.

4.2 Estimating Erdoğan support

To measure local support for president Erdoğan, we use the results of the presidential election Turkey held on June 2018, only two months before the crash. This provides us with an up-to-date measure of regional political support for Erdoğan by region. We use the Erdoğan vote share in the province of the customer's branch as a proxy for political views.

As a second proxy for the customer's political views, we perform an analysis using data from the Turkey wave of the World Values Survey (WVS), conducted in March-May 2018. This survey included a question "*Which party would you vote for if there were a national*

election tomorrow?". We use the answer to this question to construct a dummy variable indicating intention to vote for Erdogan and perform a logit regression analysis of the likelihood of Erdogan vote on various individual characteristics that we can also measure in our bank sample. We then apply the estimated regression coefficients from the WVS sample to our bank data to construct a predicted Erdogan vote probability.

4.3 Data on Turkish banks

To study the effects of the currency shock on Turkish banks generally, we obtain quarterly financial statements for all Turkish banks from the Banks Association of Turkey, of which all deposit banks, development and investment banks operating in Turkey are obliged to be members. Consolidated financial statements are available for [22] banks. We construct a quarterly panel dataset for the two-year period around the August 2018 lira crash.

5 Main results

5.1 Choice of deposit currency

Figure A.1.A shows the average Turkish lira deposit, as well as the total lira-denominated deposits at the Bank, while Figure A.1.B shows the same for foreign currency deposits. For lira deposits, there seems to be an initial increase above the pre-shock deposit growth, followed by a brief decline and then again a return to growth. The initial increase might be interpreted as a precautionary reaction following the uncertainty shock. However, the more striking observation is the substantial increase in FX deposit balances following the shock, which persists for the full year after the initial shock. For comparison, we show the same charts for the aggregate Turkish banking system to confirm that the Bank is representative of Turkish banks more broadly. It is clear from these charts that the overall patterns are very similar.

Figure A.2.A shows the share of customers having foreign currency deposits over our sample period. Figure A.2.B shows the average share of deposits held in FX. From both of these figures, it is clear that the August 2018 shock is followed by a substantial shift in depositors' choice of deposit currency. The share of customers holding FX deposits increases from [11]% in August 2018 to [19]% by August 2019. The average share of foreign currency in deposits held increases from 12% to 17% over the same period. What is also striking is that, while the lira regains much of its lost value against the dollar and returns to close to what might be argued was a pre-shock trend, the shift toward FX deposits continues. Figure 2 shows the Turkish deposit interest rates over the period for lira and USD-denominated

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deposits. From this, it is evident that the shift to FX is not driven by nominal interest rate differences, as the nominal rates shift substantially in favour of the lira.

To control for individual differences, we also perform a regression analysis of the depositor behavior around the currency shock. We study the changes in deposit balances and growth rates, as well as the currency mix, by performing regressions of the following form:

$$Outcome_{i,t} = \alpha_i + \alpha_1 \times Post_t + \epsilon_{i,t} \tag{1}$$

where *Outcome* is a proxy for the choice of deposit currency, either *Has FX*, a dummy taking the value one if depositor i in month t has a non-zero amount of FX deposits, *Share FX*, the share of total deposit amount that the depositor has in FX, or *Entry FX*, a dummy indicating a positive FX balance at the end of current month while the previous month balance was zero. *Post* is a dummy taking the one from August 2018 onwards. The specification includes depositor fixed effects (α_i) that capture any cross-sectional differences between depositors.

The results, shown in Panel A of Table 3, confirm that depositors are both more likely to hold FX deposits after the shock and also tend to hold a larger share of their deposits in FX. In column 3, we also confirm that this is not simply driven by a mechanical FX effect (when lira depreciates against foreign currencies, it mechanically becomes a smaller share of the total) by performing the same analysis of the share of FX in total deposits, but using a constant FX rate from the beginning of the sample period. This confirms that the changes we see are driven by active depositor behavior, not purely by exchange rates themselves.

We also perform regression analyses of the same form, with the outcome variable being either $ln(1 + Deposits)$ or $\Delta ln(1 + Deposits)$, separately for FX and lira deposits or the total deposit balance, capturing deposit levels and growth rates, respectively. The results are shown in Panel A of Table 3. Both FX and lira deposits are larger in the year following the shock than before it, showing that deposits generally continue to grow However, the growth rate of lira deposits is significantly lower after the shock, while the opposite is true for FX deposits, suggesting a shift in the mix of currency that is consistent with the simple averages discussed above.

5.2 Shift to FX and political views

5.2.1 Regional vote as a proxy for political views

Our first proxy of political views is the regional Erdogan vote in the 2018 presidential election in the customer's home province. Figure A.4 shows the percentage of customers having FX

deposits in the top and bottom 10% based on Erdoğan vote. In August 2017, the beginning of our sample, the top 10% and bottom 10% of customers based on Erdoğan are equally likely to hold foreign currency deposits (approximately 9% both groups do). As Turkey's economic crisis deepens ahead of the lira crash, the groups diverge slightly, with virtually no change in the high-Erdoğan-support areas but a slight increase in the likelihood to have FX deposits in the low-Erdoğan-support areas. Immediately following the crash, both groups significantly increase the share of deposits held in foreign currency, but the shift is substantially larger larger for low-Erdoğan-support areas.

To more formally test for these differences, we perform a regression analysis different various specifications of variables measuring Erdoğan support. The results are shown in Table 4. In Panel A, we include the interaction terms of Post dummy with dummies indicating top 10% and bottom 10% depositors based on Erdoğan vote. We see that the likelihood to have FX deposits increases 1.3-1.5 percentage points more for the bottom 10% Erdoğan-support areas and 1.7-1.8 percentage less for the top 10% Erdoğan-support areas, relative to the rest of the sample. This difference of more than three percentage points is economically large when compared with the pre-shock baseline of 9% for both.

In Panel B of Table 4, we present the same analysis, but including Erdoğan vote as a continuous variable. These results also suggest that a higher Erdoğan support is associated with smaller increase in FX deposits. However, while statistically significant, the magnitude of these estimated effects is small. Together with the results reported in Panel A, our findings suggest that this partisan effect in the shift to FX is driven by the extremes of the regional vote distribution. This makes sense, as the behavior of more moderate individuals (or regions) is likely to be less affected by their political views.

We then study the robustness of these results within different demographic groups. In Panel A of Table 6, we divide the sample by gender, age, and married status. We then perform the same analysis as above for each of the subsamples. The results are qualitatively similar across all of these subsamples, although the statistical significance and economic magnitudes vary slightly. In Panel B of Table 6, we repeat the same analysis, but dividing the sample by education level and and wealth, two possible proxies for financial sophistication. Also within each of these subsamples, the results remain similar to those using the full sample.

5.2.2 Erdogan vote probability based on World Values Survey

As a second proxy for the customer's political views, we perform an analysis using data from the Turkey wave of the World Values Survey (WVS), conducted in March-May 2018. This survey included a question "*Which party would you vote for if there were a national election*

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tomorrow?". We use the answer to this question to construct a dummy variable indicating intention to vote for Erdogan and perform a logit regression analysis of the likelihood of Erdogan vote on various individual characteristics that we can also measure in our bank sample. This regression is specified as follows:

$$Erdogan\ vote_i = \alpha + \beta \times X_i + \epsilon_i, \tag{2}$$

where i indexes the individual and X_i is a vector of individual characteristics, including age, gender, marital status, job type, region fixed effects, and town size fixed effects.

Panel A of Table 8 shows the logit regression results. Men and married individuals are more likely to vote for Erdogan, as are housewives, while public sector employees are less likely to vote for him. We use the coefficients from the last speciifcation to estimate predicted Erdogan vote probability in our bank sample.

Panel B of Table 8 shows the bank sample results using this estimated Erdogan vote probability. Consistent with our other results, individuals with higher predicted support for Erdogan are significantly less likely to shift to FX deposits.

5.3   Deposit currencies and FX mismatches on bank balance sheets

To assess the extent to which depositors' changes in deposit currency preferences have implications for the banking system and economy broadly, we perform an analysis using quarterly financial statement data for all Turkish banks. We define *Share FX* as the share of retail deposits held in foreign currenct for each bank, *Share FX loans* as a similar share of total loans denominated in foreign currency. We then calculate *FX mismatch* as FX loans less FX deposits, divided by total assets. We also calculate the annualised quarterly return on equity (RoE) for each bank.

Panel A of 9 shows summary statistics for these variables and their quarterly changes. The average Share FX for the sample period is 48% and Share FX loans is 41%. The average FX mismatch is 4.4% of total assets. The average annualised return on equity is nearly 34%. Panel B shows the results of a regression analysis of within-bank differences for the periods before and after the currency shock. The average return on equity is not significantly different between the two periods. However, the increases in share of FX deposits grow significantly following the shock, as do the average changes in FX mismatch.

Panel C shows the results of regression analyses with changes in FX loans and FX mismatch as the dependent variables and the change in Share FX as the independent variable. Columns 1 to 3 show that increases in the share of retail deposits are associated with increases in the share of FX loans during the same quarter. This finding is consistent with

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prior findings that credit dollarization is driven by households' changes in deposit currencies (e.g., Luca and Petrova, 2008; Neanidis and Savva, 2009; Brown et al., 2014). Columns 4 to 6 show that the deposit currency changes are also associated with concurrent changes in FX mismatches on bank balance sheets. This suggests that deposit changes are associated with either additional risks or additional hedging needs for banks, consistent with the arguments of Ize and Levy Yeyati (2003).

In Panel D, we test the implications of deposit dollarization and FX mismatches on bank profitability, using return on equity as the outcome variable. We find that increases in the share of FX deposits are associated with significant decreases in bank profitability. Similarly, increases in FX mismatches are associated with simultaneous decreases in profitability.

6   Conclusion

We find evidence that depositor responses to the Turkish lira crash of August 2018 vary depending on the local support for president Erdoğan. Consistent with our interpretation that the crash constitutes a large and unexpected uncertainty shock to the value of the currency, households significantly increase their share of deposits held in foreign currency after it. This is consistent with existing theories of deposit dollarization, where perceived uncertainty should affect the choice of deposit currencies.

An important feature of the lira shock is that it was widely associated with the economic policies as well as international confrontations stoked by president Erdoğan, who also both blamed the crash on foreign plots and claimed that there was no economic basis for it. He also very vocally encouraged people to avoid exchanging liras to foreign currencies. Our findings suggest that how the president's message affected household behavior differed depending on their political support for him. In other words, the uncertainty shock related to the currency affected significantly more the people in the areas with particularly low support for the president. In contrast, people in areas with particularly low levels of support for Erdoğan saw significantly larger shifts to foreign currencies.

What is also notable that, while the lira shock of August 2018 was largely temporary, and the lira regained much of its lost value and returned close to its earlier trend, the shift to FX deposits appears persistent and continues after the rebound in the value of the lira. This means that the shift may have long-term economic consequences for both individual households' financial wellbeing, but also the Turkish financial system. We show evidence that the shift in deposit currencies drives significant changes in Turkish banks' balance sheets and generates currency mismatches that can affect bank profitability and perhaps the stability of the financial system.

References

Agénor, Pierre-Richard, and Mohsin S. Khan, 1996, Foreign currency deposits and the demand for money in developing countries, *Journal of Development Economics* 50, 101–118.

Aguiar, Mark, 2005, Investment, devaluation, and foreign currency exposure: The case of mexico, *Journal of Development Economics* 78, 95–113.

Ahnert, Toni, and Ali Kakhbod, 2017, Information choice and amplification of financial crises, *Review of Financial Studies* 30, 2130–2178.

Ajzenman, Nicolas, Tiago Cavalcanti, and Daniel Da Mata, 2020, More than words: Leaders' speech and risky behavior during a pandemic, *Working paper* .

Alesina, Alberto, and Nicola Fuchs-Schündeln, 2007, Goodbye lenin (or not?): The effect of communism on people's preferences, *American Economic Review* 97, 1507–1528.

Allayannis, George, Gregory W. Brown, and Leora F. Klapper, 2003, Capital structure and financial risk: Evidence from foreign debt use in east asia, *Journal of Finance* 58, 2667–2710.

Artavanis, Nikolaos, Daniel Paravisini, Claudia Robles-Garcia, Amit Seru, and Margarita Tsoutsoura, 2019, Deposit withdrawals, *Working paper* .

Arteta, Carlos Ó., 2002, Exchange rate regimes and financial dollarization: Does flexibility reduce bank currency mismatches?, *Board of Governors of the Federal Reserve System, International Finance Discussion Paper* 738.

Baron, Matthew, Emil Verner, and Wei Xiong, 2020, Banking crises without panics, *Quarterly Journal of Economics* Forthcoming.

Barrios, John, and Yael V Hochberg, 2020, Risk perceptions and politics: Evidence from the covid-19 pandemic, *Journal of Financial Economics* Forthcoming.

Bircan, Çağatay, and Orkun Saka, 2021, Lending cycles and real outcomes: Costs of political misalignment, *Economic Journal* Forthcoming.

Bleakley, Hoyt, and Kevin Cowan, 2008, Corporate dollar debt and depreciations: Much ado about nothing?, *Review of Economics and Statistics* 90, 612–626.

Bloom, Nicholas, Max Floetotto, Nir Jaimovich, Itay Saporta, and Stephen Terry, 2018, Really uncertain business cycles, *Econometrica* 86, 1031–1065.

Born, Benjamin, Gernot J Müller, Moritz Schularick, and Petr Sedlácek, 2019, The costs of economic nationalism: Evidence from the Brexit experiment, *Economic Journal* 129, 2722–2744.

Braggion, Fabio, Lawrence J. Christiano, and Jorge Roldos, 2009, Optimal monetary policy in a 'sudden stop', *Journal of Monetary Economics* 56, 582–595.

Bris, Arturo, and Yrjö Koskinen, 2002, Corporate leverage and currency crises, *Journal of Financial Economics* 63, 275–310.

Bris, Arturo, Yrjö Koskinen, and Vicente Pons, 2004, Corporate financial policies and performance around currency crises, *Journal of Business* 77, 749–796.

Brollo, Fernanda, and Tommaso Nannicini, 2012, Tying your enemy's hands in close races: The politics of federal transfers in Brazil, *American Political Science Review* 106, 742–761.

Brown, Martin, Benjamin Guin, and Stefan Morkoetter, 2020, Deposit withdrawals from distressed banks: Client relationships matter, *Journal of Financial Stability* 46, 1–19.

Brown, Martin, Karolin Kirschenmann, and Steven Ongena, 2014, Bank funding, securitization, and loan terms: Evidence from foreign currency lending, *Journal of Money, Credit and Banking* 46, 1501–1534.

Brown, Martin, and Helmut Stix, 2015, The euroization of bank deposits in eastern europe, *Economic Policy* 30, 95–139.

Bruno, Valentina, and Hyun Song Shin, 2015, Capital flows and the risk-taking channel of monetary policy, *Journal of Monetary Economics* 71, 119–132.

Bursztyn, Leonardo, Georgy Egorov, and Stefano Fiorin, 2020, From extreme to mainstream: The erosion of social norms, *American Economic Review* 110, 3522–48.

Calomiris, Charles W., and Joseph R. Mason, 1997, Contagion and bank failures during the great depression: The june 1932 chicago banking panic, *American Economic Review* 87, 863–883.

Calvo, Guillermo A., and Carmen M. Reinhart, 2002, Fear of floating, *Quarterly Journal of Economics* 117, 379–408.

Christelis, Dimitris, Tullio Jappelli, and Mario Padula, 2010, Cognitive abilities and portfolio choice, *European Economic Review* 54, 18–38.

Christiano, Lawrence J., Christopher Gust, and Jorge Roldos, 2004, Monetary policy in a financial crisis, *Journal of Economic Theory* 119, 64–103.

Davenport, Andrew Mitsunori, and Kathleen Marie McDill, 2006, The depositor behind the discipline: A micro-level case study of hamilton bank, *Journal of Financial Services Research* 30, 93–109.

Diamond, Douglas W., and Philip H. Dybvig, 1983, Bank runs, deposit insurance, and liquidity, *Journal of Political Economy* 91, 401–419.

Dinc, I. Serdar, and Isil Erel, 2013, Economic nationalism in mergers and acquisitions, *Journal of Finance* 68, 2471–2514.

Endrész, Marianna, and Péter Harasztosi, 2014, Corporate foreign currency borrowing and investment: The case of hungary, *Emerging Markets Review* 21, 265–287.

Feldstein, Martin, and Charles Horioka, 1980, Domestic saving and international capital flows, *Economic Journal* 90, 314–329.

Fernández-Villaverde, Jesús, Pablo Guerrón-Quintana, Juan F. Rubio-Ramírez, and Martin Uribe, 2011, Risk matters: The real effects of volatility shocks, *American Economic Review* 101, 2530–61.

Funke, Manuel, Moritz Schularick, and Christoph Trebesch, 2016, Going to extremes: Politics after financial crises, 1870–2014, *European Economic Review* 88, 227–260.

Giovannini, Alberto, and Bart Turtelboom, 1994, *The Handbook of International Macroeconomics*, chapter Currency Substitution, 390–436 (Oxford and Cambridge, MA: Basil Blackwell).

Goldstein, Itay, 2013, *The Evidence and Impact of Financial Globalization*, chapter Empirical Literature on Financial Crises: Fundamentals vs. Panic, 523–534 (Elsevier).

Grossman, Guy, Soojong Kim, Jonah M. Rexer, and Harsha Thirumurthy, 2020, Political partisanship influences behavioral responses to governors' recommendations for COVID-19 prevention in the United States, *Proceedings of the National Academy of Sciences* .

Gyongyosi, Gyozo, and Emil Verner, 2020, Financial crisis, creditor-debtor conflict, and populism, *Working paper* .

Hutchison, Michael M., and Ilan Noy, 2005, How bad are twins? output costs of currency and banking crises, *Journal of Money, Credit and Banking* 37, 725–752.

Hutchison, Michael M., and Ilan Noy, 2006, Sudden stops and the mexican wave: Currency crises, capital flow reversals and output loss in emerging markets, *Journal of Development Economics* 79, 225–248.

Iyer, Rajkamal, and Manju Puri, 2012, Understanding bank runs: The importance of depositor-bank relationships and networks, *American Economic Review* 102, 1414–1445.

Iyer, Rajkamal, Manju Puri, and Nicholas Ryan, 2016, A tale of two runs: Depositor responses to bank solvency risk, *Journal of Finance* 71, 2687–2726.

Ize, Alain, and Eduardo Levy Yeyati, 2003, Financial dollarization, *Journal of International Economics* .

Kaminsky, Graciela L., and Carmen M. Reinhart, 1999, The twin crises: The causes of banking and balance-of-payments problems, *American Economic Review* 89, 473–500.

Kelly, Morgan, and Cormac Ó Gráda, 2000, Market contagion: Evidence from the panics of 1854 and 1857, *American Economic Review* 90, 1110–1124.

Krugman, Paul, 1979, A model of balance-of-payments crises, *Journal of Money, Credit and Banking* 11, 311–325.

Levy Yeyati, Eduardo, 2006, Financial dollarization: Evaluating the consequences, *Economic Policy* 21, 61–118.

Luca, Alina, and Iva Petrova, 2008, What drives credit dollarization in transition economies?, *Journal of Banking & Finance* 32, 858–869.

Martinez Peria, Maria Soledad, and Sergio L. Schmukler, 2001, Do depositors punish banks for bad behavior? market discipline, deposit insurance, and banking crises, *Journal of Finance* 56, 1029–1051.

Mian, Atif, Amir Sufi, and Francesco Trebbi, 2014, Resolving debt overhang: Political constraints in the aftermath of financial crises, *American Economic Journal: Macroeconomics* 6, 1–28.

Miles, Marc A., 1978, Currency substitution, flexible exchange rates, and monetary independence, *American Economic Review* 68, 428–436.

Neanidis, Kyriakos C., and Christos S. Savva, 2009, Financial dollarization: Short-run determinants in transition economies, *Journal of Banking & Finance* 33, 1860–1873.

Obstfeld, Maurice, 1996, Models of currency crises with self-fulfilling features, *European Economic Review* 40, 1037–1047.

Pamuk, Humeyra, 2018, Turkey says has action plan to ease market concerns; lira firms from record low, *Reuters* August 12, 2018.

Prati, Alessandro, and Massimo Sbracia, 2010, Uncertainty and currency crises: Evidence from survey data, *Journal of Monetary Economics* 57, 668–681.

Pursiainen, Vesa, 2021, Cultural biases in equity analysis, *Journal of Finance* Forthcoming.

Rodrik, Dani, 2018, Populism and the economics of globalization, *Journal of International Business Policy* 1, 12–33.

Schumacher, Liliana, 2000, Bank runs and currency run in a system without a safety net: Argentina and the "tequila" shock, *Journal of Monetary Economics* 46, 257–277.

van Rooij, Maarten, Annamaria Lusardi, and Rob Alessie, 2011, Financial literacy and stock market participation, *Journal of Financial Economics* 101, 449–472.

Yinusa, Dauda Olalekan, 2008, Between dollarization and exchange rate volatility: Nigeria's portfolio diversification option, *Journal of Policy Modeling* 30, 811–826.

Figure 1: Turkish lira exchange rate

The upper chart shows the TRYUSD exchange rate over time. The lower chart shows the daily percentage change in the TRYUSD exchange rate.

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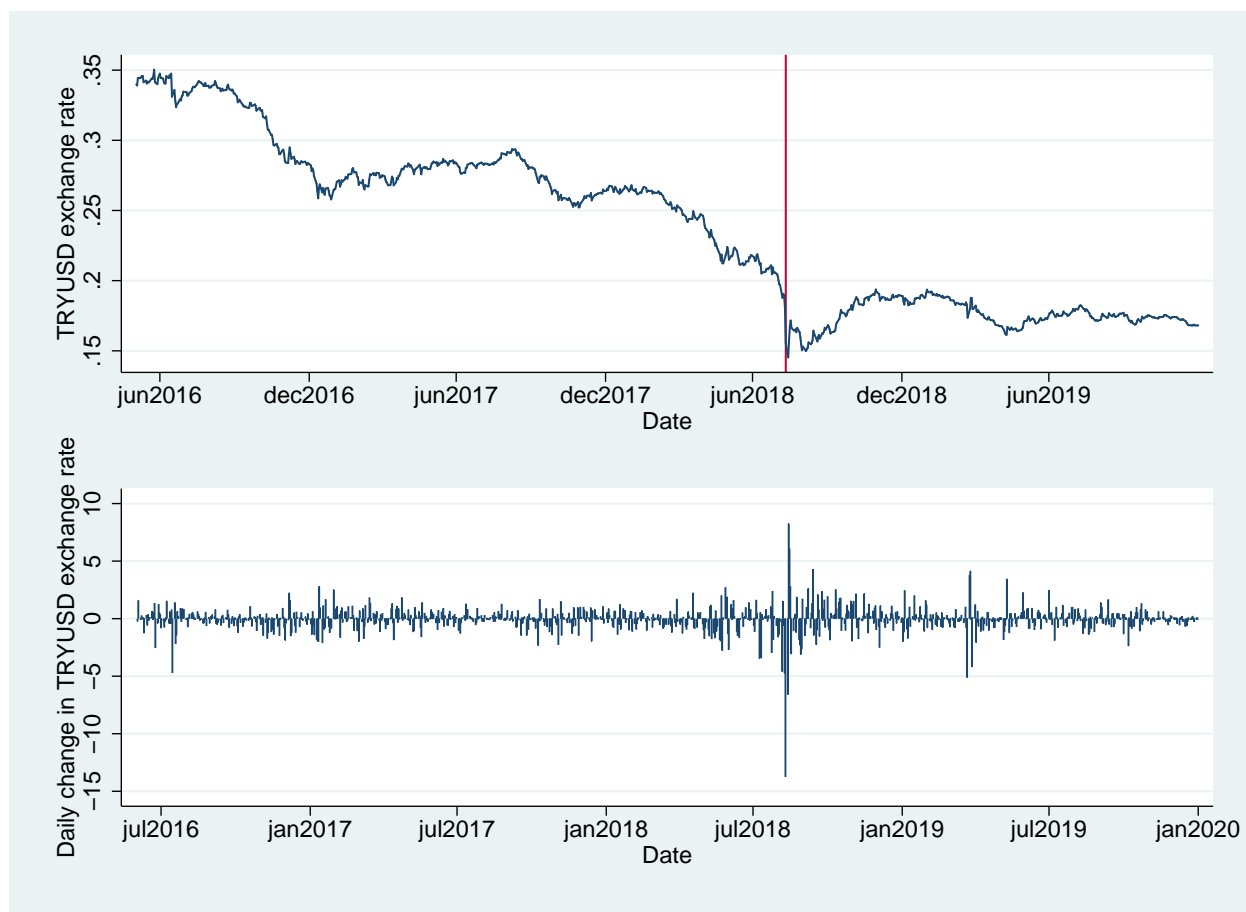
Figure 2: Deposit interest rates by currency

Average one-month interest rates for Turkish lira and USD-denominated deposits in Turkey, provided by the Central Bank of the Republic of Turkey (TCMB).
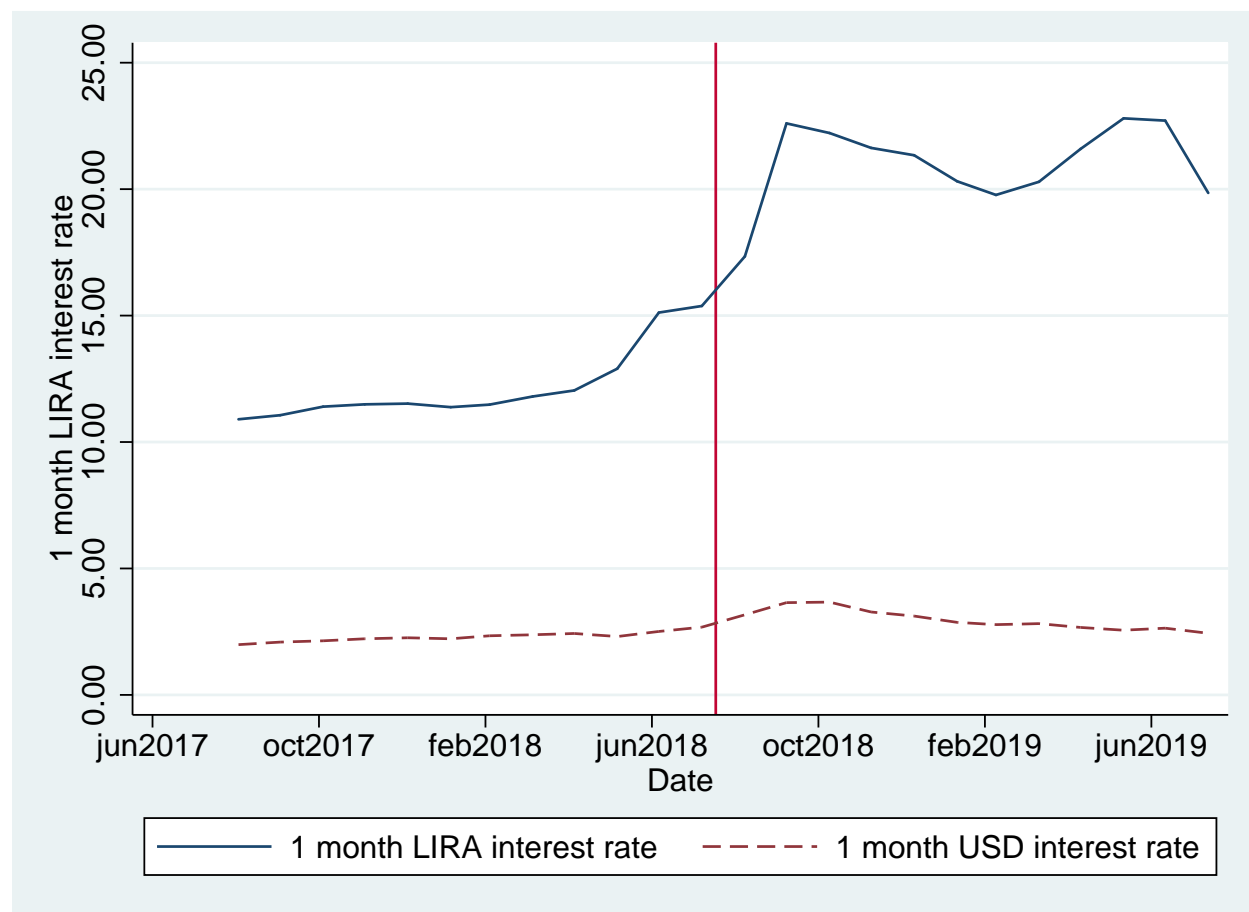
Figure 3: FX deposits by Erdogan support

Figure A shows the proportion of customers having foreign currency deposits for the the highest 10% and lowest 10% by Erdogan support. Figure B shows the average share of deposits held in FX.

A. Proportion of depositors having FX deposits.

B. Average share of deposits held in FX.

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Table 1
Summary statistics

Summary statistics of monthly customer-level observations for the sample of all active deposit customers. The sample period is a 2-year window from August 2017 to August 2019.

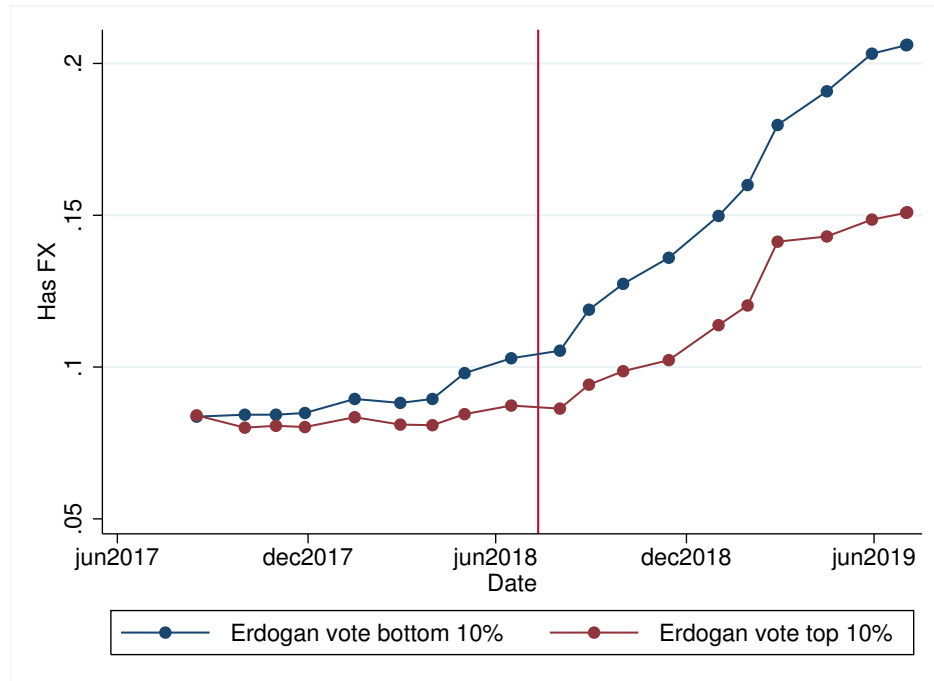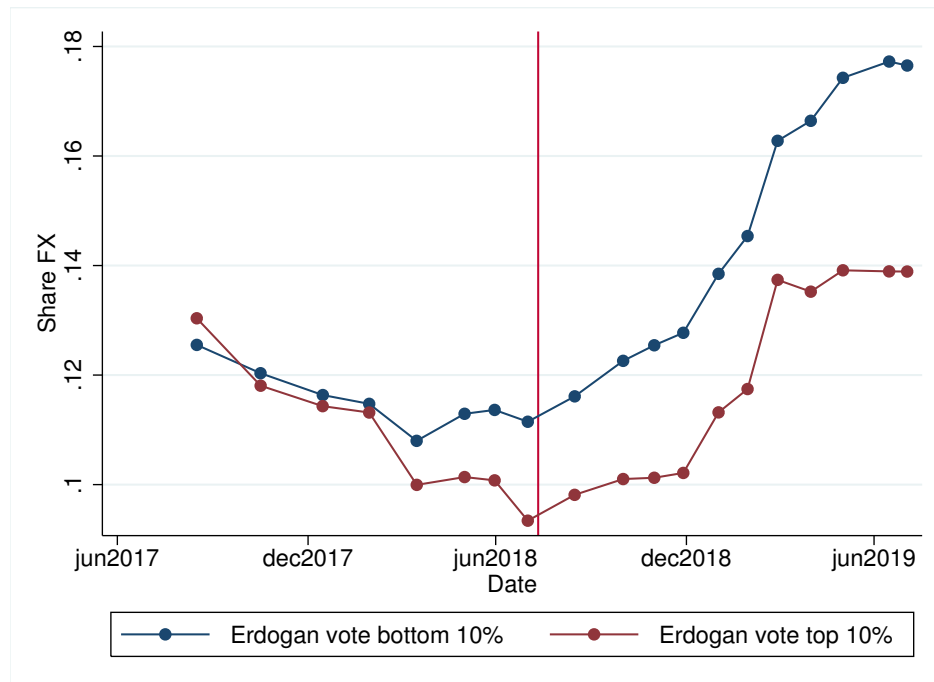|	Mean	Std	p10	p50	p90	N
Deposit						
Deposits - TRY ('000)	18.770	53.076	0.000	0.021	60.489	1,258,475
Deposits - FX (USD '000)	1.792	7.387	0.000	0.000	0.589	1,258,475
Deposits - total (TRY '000)	27.754	69.321	0.000	0.029	100.046	1,258,475
Has FX	0.135	0.341	0.000	0.000	1.000	1,258,475
Share FX	0.145	0.331	0.000	0.000	0.976	921,978
Entry FX	0.008	0.089	0.000	0.000	0.000	1,258,475
$\Delta \ln(1+\text{Deposits - FX})$	0.010	0.239	-0.015	0.000	0.041	1,208,136
$\Delta \ln(1+\text{Deposits - TRY})$	0.000	0.001	0.000	0.000	0.000	1,208,136
$\Delta \ln(1+\text{Deposits - total})$	0.025	0.664	-0.029	0.000	0.059	1,208,136
Erdogan vote	49.317	8.736	37.900	50.000	55.500	1,258,475
Erdogan support						
Erdogan vote (top 10%)	0.098	0.298	0.000	0.000	0.000	1,258,475
Erdogan vote (bottom 10%)	0.107	0.310	0.000	0.000	1.000	1,258,475
Erdogan majority	0.619	0.486	0.000	1.000	1.000	1,258,475
Customer characteristics						
Male	0.638	0.481	0.000	1.000	1.000	1,189,125
Age	46.988	14.901	29.000	45.000	68.000	1,189,225
Married	0.690	0.462	0.000	1.000	1.000	1,188,075
Istanbul	0.371	0.483	0.000	0.000	1.000	1,258,475
Foreign citizen	0.022	0.148	0.000	0.000	0.000	1,189,225
Finance professional	0.068	0.253	0.000	0.000	0.000	1,189,175
College or above	0.575	0.494	0.000	1.000	1.000	907,600
Deposits (2017.08)	18.101	52.415	0.000	0.002	59.224	1,258,475
N	1,258,475					

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Table 2
Summary statistics by Erdogan vote

Summary statistics of monthly customer-level observations for the sample of all active deposit customers. The sample period is a 2-year window from August 2017 to August 2019.

	Erdogan majority			Erdogan top vs. bottom 10%		
	Majority	Minority	Diff.	Top 10%	Bottom 10%	Diff.
Customer characteristics						
Male	0.733	0.665	−0.068***	0.668	0.623	−0.046***
Age	45.977	46.040	0.064	47.130	48.369	1.239***
Married	0.735	0.665	−0.070***	0.762	0.700	−0.061***
Istanbul	0.000	0.486	0.486***	0.000	0.000	0.000
Foreign citizen	0.009	0.014	0.005***	0.009	0.009	0.000
Finance professional	0.035	0.063	0.027***	0.061	0.061	0.000
College or above	0.385	0.514	0.129***	0.460	0.679	0.218***
Deposits (2017.08)	7.175	9.592	2.417***	13.620	17.053	3.433***
N	29.934	84.101	114.035	4.947	5.408	10.355

Table 3
Choice of deposit currency

The dependent variable (and in Panel A, the deposit currency) is shown above each column. FX deposits are reported in USD. The total balance is calculated in Turkish lira. *Has FX* is a dummy indicating whether the depositor has FX. *Share FX* is the share of deposits held in FX by each depositor. *Entry FX* is a dummy taking the value one if the depositor has a positive FX balance in the current month and had no FX in the previous month. The sample period is a 2-year window from August 2017 to August 2019. Heteroscedasticity-consistent standard errors, clustered by customer, are shown in parentheses.

Panel A: Deposit currency mix

	Has FX	Share FX	Entry FX
	(1)	(2)	(3)
Post	0.0568***	0.0231***	0.0065***
	(0.0010)	(0.0009)	(0.0002)
Depositor FE	Yes	Yes	Yes
N	1,258,475	921,456	1,258,475
R^2	0.729	0.823	0.048

Panel B: Deposit balance and growth by currency

	ln(1+Deposits)			Δ ln(1+Deposits)		
	(1)	(2)	(3)	(4)	(5)	(6)
	FX	TRY	Total	FX	TRY	Total
Post	0.1105***	0.2248***	0.3721***	0.0001***	−0.0000	0.0041***
	(0.0026)	(0.0052)	(0.0059)	(0.0000)	(0.0003)	(0.0010)
Depositor FE	Yes	Yes	Yes	Yes	Yes	Yes
N	1,258,475	1,258,475	1,258,475	1,208,136	1,208,136	1,208,136
R^2	0.698	0.680	0.699	0.204	0.017	0.016

Significance levels: * 0.1, ** 0.05, * 0.01.**

Table 4
Shift to FX vs. regional political support for Erdogan

The dependent variable is shown above each column. *Has FX* is a dummy indicating whether the depositor has FX. *Share FX* is the share of deposits held in FX by each depositor. *Entry FX* is a dummy taking the value one if the depositor has a positive FX balance in the current month and had no FX in the previous month. The sample period is a 2-year window from August 2017 to August 2019. Heteroscedasticity-consistent standard errors, clustered by customer, are shown in parentheses.

Panel A: Erdogan vote – top and bottom 10%

	Has FX		Share FX		Entry FX	
	(1)	(2)	(3)	(4)	(5)	(6)
Erdogan vote (top 10%) x Post	−0.0178***	−0.0169***	−0.0102***	−0.0092**	−0.0007	−0.0007
	(0.0038)	(0.0039)	(0.0038)	(0.0038)	(0.0006)	(0.0006)
Erdogan vote (bottom 10%) x Post	0.0155***	0.0127***	0.0041	0.0040	0.0014***	0.0015***
	(0.0035)	(0.0035)	(0.0032)	(0.0033)	(0.0005)	(0.0005)
Erdogan vote (majority) x Post	0.0007	−0.0010	0.0027	0.0028	0.0001	0.0002
	(0.0029)	(0.0029)	(0.0026)	(0.0027)	(0.0004)	(0.0005)
ln(Age in 2017) x Post		0.0055*		−0.0032		−0.0016***
		(0.0029)		(0.0028)		(0.0004)
Male x Post		−0.0087***		−0.0005		0.0008**
		(0.0022)		(0.0020)		(0.0003)
Finance professional x Post		−0.0014		0.0212***		0.0009
		(0.0042)		(0.0040)		(0.0008)
ln(1+Deposits) (2017.08) x Post		−0.0147***		0.0032***		−0.0006***
		(0.0008)		(0.0007)		(0.0001)
Foreign citizen x Post		0.1558***		0.0035		0.0116***
		(0.0118)		(0.0100)		(0.0017)
Depositor FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes	Yes	Yes	Yes
N	1,258,475	1,188,775	921,456	868,334	1,258,475	1,188,775
R^2	0.732	0.728	0.824	0.817	0.050	0.050

Significance levels: * 0.1, ** 0.05, * 0.01.**

Panel B: Erdogan vote (continuous)

	Has FX		Share FX		Entry FX	
	(1)	(2)	(3)	(4)	(5)	(6)
Erdogan vote x Post	−0.0006***	−0.0006***	−0.0003**	−0.0002**	−0.0000**	−0.0000**
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0000)	(0.0000)
ln(Age in 2017) x Post		0.0055*		−0.0033		−0.0015***
		(0.0029)		(0.0028)		(0.0004)
Male x Post		−0.0087***		−0.0004		0.0008**
		(0.0022)		(0.0020)		(0.0003)
Finance professional x Post		−0.0010		0.0212***		0.0009
		(0.0042)		(0.0040)		(0.0008)
ln(1+Deposits) (2017.08) x Post		−0.0147***		0.0032***		−0.0006***
		(0.0008)		(0.0007)		(0.0001)
Foreign citizen x Post		0.1564***		0.0040		0.0116***
		(0.0118)		(0.0100)		(0.0017)
Depositor FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes	Yes	Yes	Yes
N	1,258,475	1,188,775	921,456	868,334	1,258,475	1,188,775
R^2	0.732	0.728	0.824	0.817	0.050	0.050

Significance levels: * 0.1, ** 0.05, * 0.01.**

Table 6
Shift to FX vs. regional political support for Erdogan – subsample analysis

The dependent variable is shown above each column. *Has FX* is a dummy indicating whether the depositor has FX. *Share FX* is the share of deposits held in FX by each depositor. *Entry FX* is a dummy taking the value one if the depositor has a positive FX balance in the current month and had no FX in the previous month. The sample period is a 2-year window from August 2017 to August 2019. Heteroscedasticity-consistent standard errors, clustered by customer, are shown in parentheses.

Panel A: Demographics

	Gender		Age		Married	
	(1)	(2)	(3)	(4)	(5)	(6)
	Male	Female	Old	Yound	Married	Unmarried
Erdogan vote (top 10%) x Post	−0.0148***	−0.0206***	−0.0180***	−0.0158***	−0.0157***	−0.0173**
	(0.0046)	(0.0072)	(0.0058)	(0.0050)	(0.0045)	(0.0076)
Erdogan vote (bottom 10%) x Post	0.0163***	0.0074	0.0175***	0.0079*	0.0141***	0.0106
	(0.0044)	(0.0059)	(0.0051)	(0.0048)	(0.0041)	(0.0068)
Erdogan vote (majority) x Post	−0.0053	0.0079	0.0047	−0.0071*	0.0013	−0.0053
	(0.0034)	(0.0054)	(0.0043)	(0.0039)	(0.0034)	(0.0055)
Depositor FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N	758,375	430,400	613,225	575,550	820,250	367,475
R^2	0.712	0.750	0.763	0.642	0.732	0.719

Significance levels: * 0.1, ** 0.05, * 0.01.**

Panel B: Proxies for financial sophistication

	Education		Wealth	
	(1) High	(2) Low	(3) High	(4) Low
Erdogan vote (top 10%) x Post	−0.0275***	−0.0014	−0.0050	−0.0279***
	(0.0068)	(0.0051)	(0.0051)	(0.0056)
Erdogan vote (bottom 10%) x Post	0.0071	0.0143**	0.0082*	0.0106**
	(0.0050)	(0.0059)	(0.0048)	(0.0050)
Erdogan vote (majority) x Post	0.0090*	−0.0025	−0.0009	−0.0006
	(0.0049)	(0.0037)	(0.0036)	(0.0044)
Depositor FE	Yes	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
N	522,225	385,225	587,600	601,175
R^2	0.677	0.747	0.832	0.479

Significance levels: * 0.1, ** 0.05, * 0.01.**

Table 8
Shift to FX vs. estimated probability of support for Erdogan

Panel A shows logit regressions using the World Values Survey 2018 sample of Turkish people, where the dependent variable is a dummy indicating whether the person intended to vote for Erdogan. Panel B shows OLS regressions using our bank sample, where the dependent variable is shown above each column. *Has FX* is a dummy indicating whether the depositor has FX. *Share FX* is the share of deposits held in FX by each depositor. *Entry FX* is a dummy taking the value one if the depositor has a positive FX balance in the current month and had no FX in the previous month. *Erdogan vote probability* is the predicted likelihood of voting Erdogan, using the coefficient estimates from Panel A, applied to corresponding variables in our bank sample. The sample period is a 2-year window from August 2017 to August 2019. Heteroscedasticity-consistent standard errors, clustered by customer, are shown in parentheses.

Panel A: Likelihood of voting Erdogan (World Values Survey)

	(1)	(2)	(3)
Male	0.3159***	0.3246***	0.3184***
	(0.1156)	(0.1158)	(0.1229)
Married	0.3675***	0.4378***	0.5748***
	(0.1198)	(0.1233)	(0.1335)
ln(Age)	0.0756		
	(0.1797)		
Student	−0.1241	−0.2451	−0.2411
	(0.2377)	(0.2509)	(0.2649)
Retired	−0.2667	−0.2427	−0.3275
	(0.2091)	(0.2176)	(0.2299)
Housewife	0.5503***	0.5528***	0.5544***
	(0.1411)	(0.1419)	(0.1512)
Unemployed	0.1956	0.1817	0.2161
	(0.1959)	(0.1963)	(0.2111)
Public sector	−0.4528**	−0.4386**	−0.4225**
	(0.1761)	(0.1768)	(0.1869)
Age category FE	No	Yes	Yes
Region FE	Yes	Yes	No
Townsize FE	Yes	Yes	No
Region x Townsize FE	No	No	Yes
N	2,223	2,224	2,142
Pseudo-R^2	0.116	0.117	0.157

Significance levels: * 0.1, ** 0.05, *** 0.01.

Panel B: Shift to FX vs. Erdogan vote probability

	Has FX		Share FX		Entry FX	
	(1)	(2)	(3)	(4)	(5)	(6)
Erdogan vote probability x Post	−0.0187***	−0.0262***	−0.0165***	−0.0153***	−0.0011	−0.0018**
	(0.0050)	(0.0050)	(0.0047)	(0.0047)	(0.0008)	(0.0008)
ln(Age in 2017) x Post		0.0050*		−0.0038		−0.0016***
		(0.0029)		(0.0028)		(0.0004)
Male x Post		−0.0088***		−0.0003		0.0008**
		(0.0022)		(0.0020)		(0.0003)
Finance professional x Post		−0.0009		0.0214***		0.0009
		(0.0042)		(0.0040)		(0.0008)
ln(1+Deposits) (2017.08) x Post		−0.0148***		0.0031***		−0.0006***
		(0.0008)		(0.0007)		(0.0001)
Foreign citizen x Post		0.1592***		0.0039		0.0113***
		(0.0121)		(0.0104)		(0.0018)
Depositor FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes	Yes	Yes	Yes
N	1,188,025	1,187,725	867,877	867,784	1,188,025	1,187,725
R^2	0.725	0.728	0.816	0.816	0.050	0.050

Significance levels: * 0.1, ** 0.05, *** 0.01.

Table 9
Turkish banks and currency mismatches

The dependent variable is shown above each column. *RoE* is the annualized quarterly return on equity. *Share FX* is the share of foreign currency deposits in retail deposits. *FX mismatch* is calculated as foreign currency deposits less foreign currency loans, divided by total assets. *Post* is a dummy taking the value one after August 2018. The sample includes all Turkish banks with consolidated financial statements available (22 banks). The variable Share FX is missing for two banks. The sample period is a two-year window around the lira crash of August 2018. Heteroscedasticity-consistent standard errors, clustered by bank, are shown in parentheses.

Panel A: Summary statistics for the sample

	Mean	Std	p10	p50	p90	N
Bank profitability						
Return on equity	0.339	0.204	0.110	0.319	0.632	174
Currency mismatch						
FX mismatch	0.044	0.203	-0.154	0.074	0.264	175
Δ FX mismatch	0.000	0.033	-0.034	-0.001	0.036	174
Share FX	0.484	0.147	0.337	0.455	0.686	158
Δ Share FX	0.007	0.055	-0.040	0.004	0.054	157
Share FX loans	0.414	0.154	0.239	0.378	0.642	175
Δ Share FX loans	0.009	0.034	-0.025	0.005	0.058	174
N	175					

Panel B: Pre vs. post currency shock

	RoE	Δ Share FX	Δ Share FX loans	Δ FX mismatch
	(1)	(2)	(3)	(4)
Post	−0.0155	0.0325***	−0.0050	0.0108***
	(0.0192)	(0.0072)	(0.0039)	(0.0034)
Bank FE	Yes	Yes	Yes	Yes
N	174	157	174	174
R^2	0.377	0.116	0.051	0.112

Panel C: Share FX and mismatch

	Δ Share FX loans			Δ FX mismatch		
	(1)	(2)	(3)	(4)	(5)	(6)
Δ Share FX	0.1096**	0.1176**	0.1311**	0.1197**	0.1078*	0.0982*
	(0.0472)	(0.0533)	(0.0483)	(0.0496)	(0.0596)	(0.0491)
Δ Share FX (t-1)		0.0229			−0.0343	
		(0.0459)			(0.0484)	
Post			−0.0077**			0.0077**
			(0.0035)			(0.0036)
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
N	157	156	157	157	156	157
R^2	0.065	0.067	0.077	0.120	0.121	0.131

Significance levels: * 0.1, ** 0.05, *** 0.01.

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Table 9
Turkish banks and currency mismatches (cont'd)

Panel D: RoE vs. Share FX and mismatch

	RoE			
	(1)	(2)	(3)	(4)
Δ Share FX	−0.6418***	−0.5676**		
	(0.2030)	(0.2502)		
Δ Share FX (t-1)		0.2109		
		(0.2423)		
Δ FX mismatch			−0.7290	−0.9763**
			(0.4593)	(0.4539)
Δ FX mismatch (t-1)				−1.2683***
				(0.2262)
Bank FE	Yes	Yes	Yes	Yes
N	157	156	174	173
R^2	0.400	0.402	0.388	0.427

Significance levels: * 0.1, ** 0.05, * 0.01.**

A Internet appendix

A.1 Deposits

Figure A.1: Deposits development - Bank vs. all Turkish banks

Deposit balances by currency for the average Bank customer, for the Bank in total, and for all Turkish banks combined.
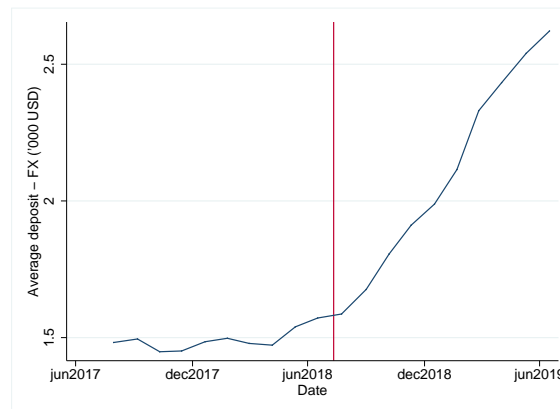
A. Turkish lira deposits
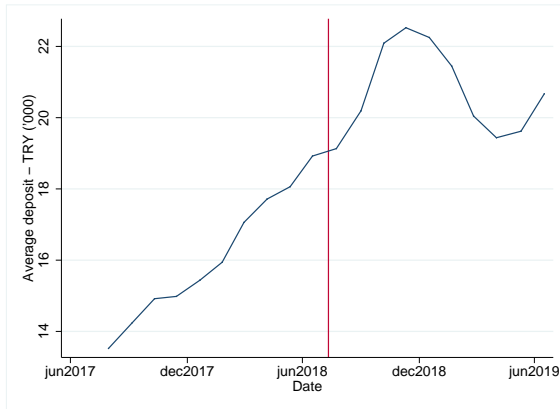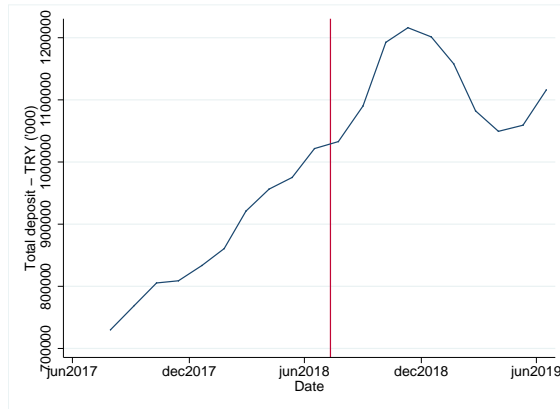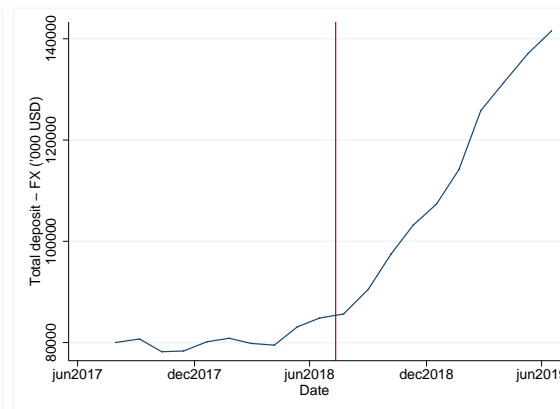
Average − Bank   **Total − Bank**   **Total − all Turkish banks**
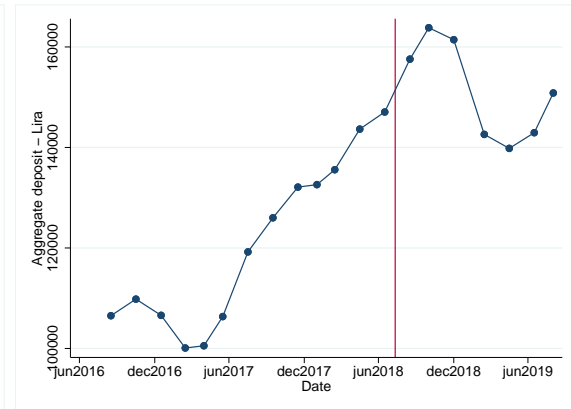
B. Foreign exchange deposits

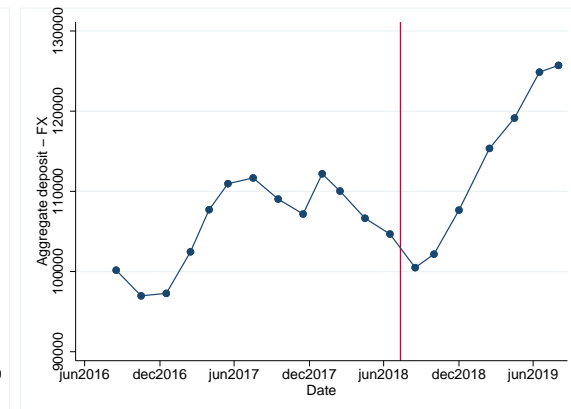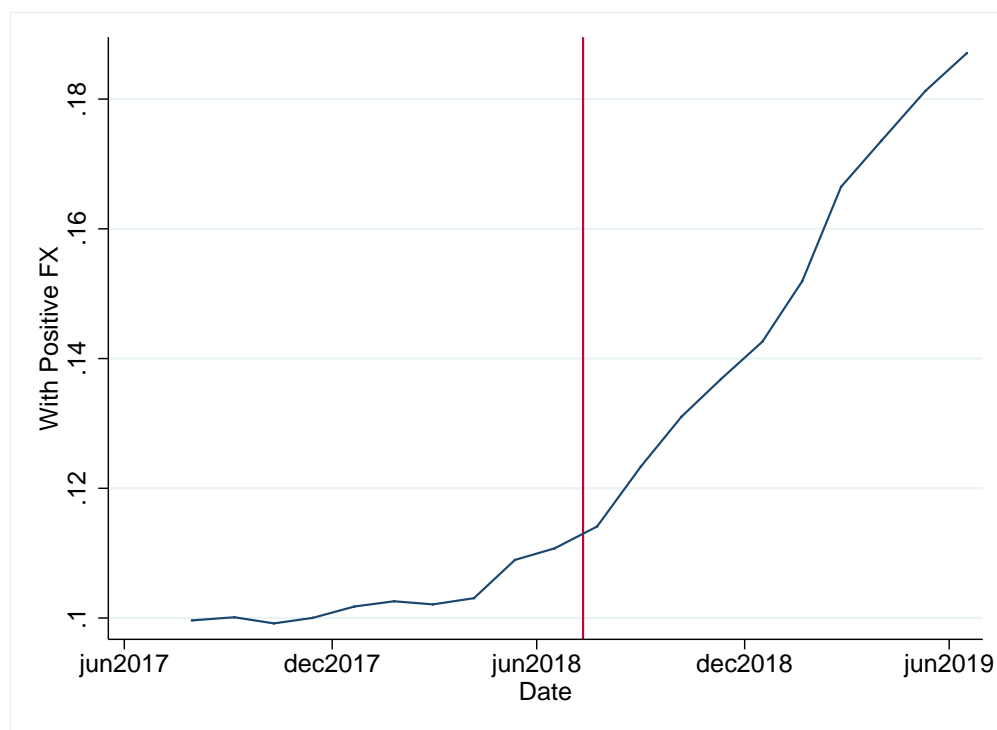**Average − Bank**   **Total − Bank**   **Total − all Turkish banks**

Figure A.2: Share of deposits held in foreign currency

The proportion of customers having foreign currency deposits and the average share of deposits held in foreign currency around the Turkish lira shock of August 2018.

A. Share of customers with active FX account

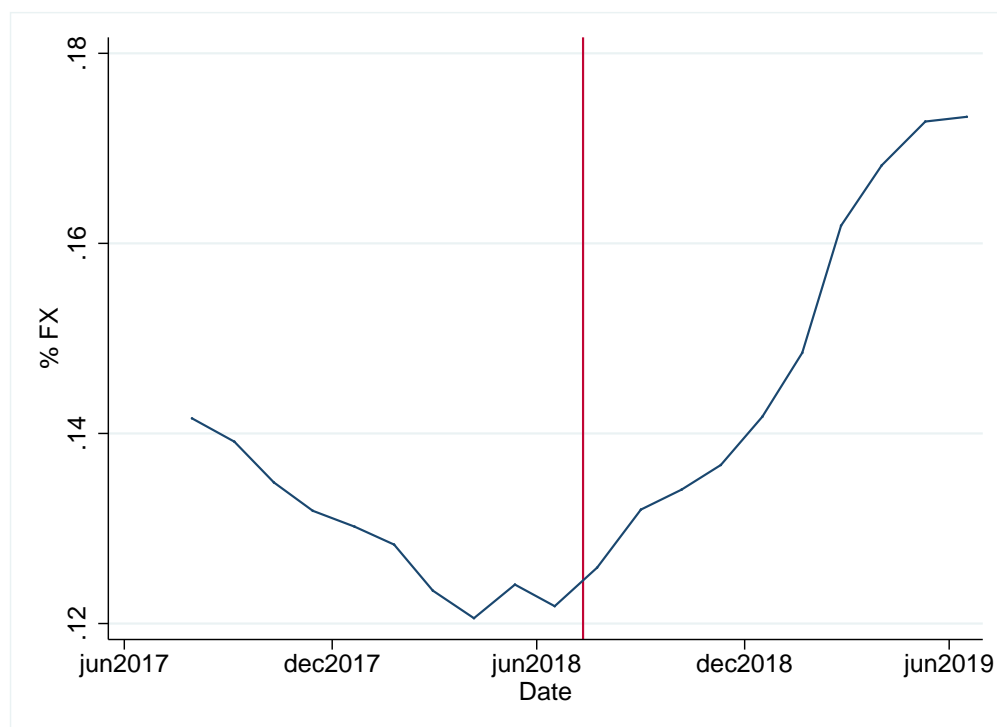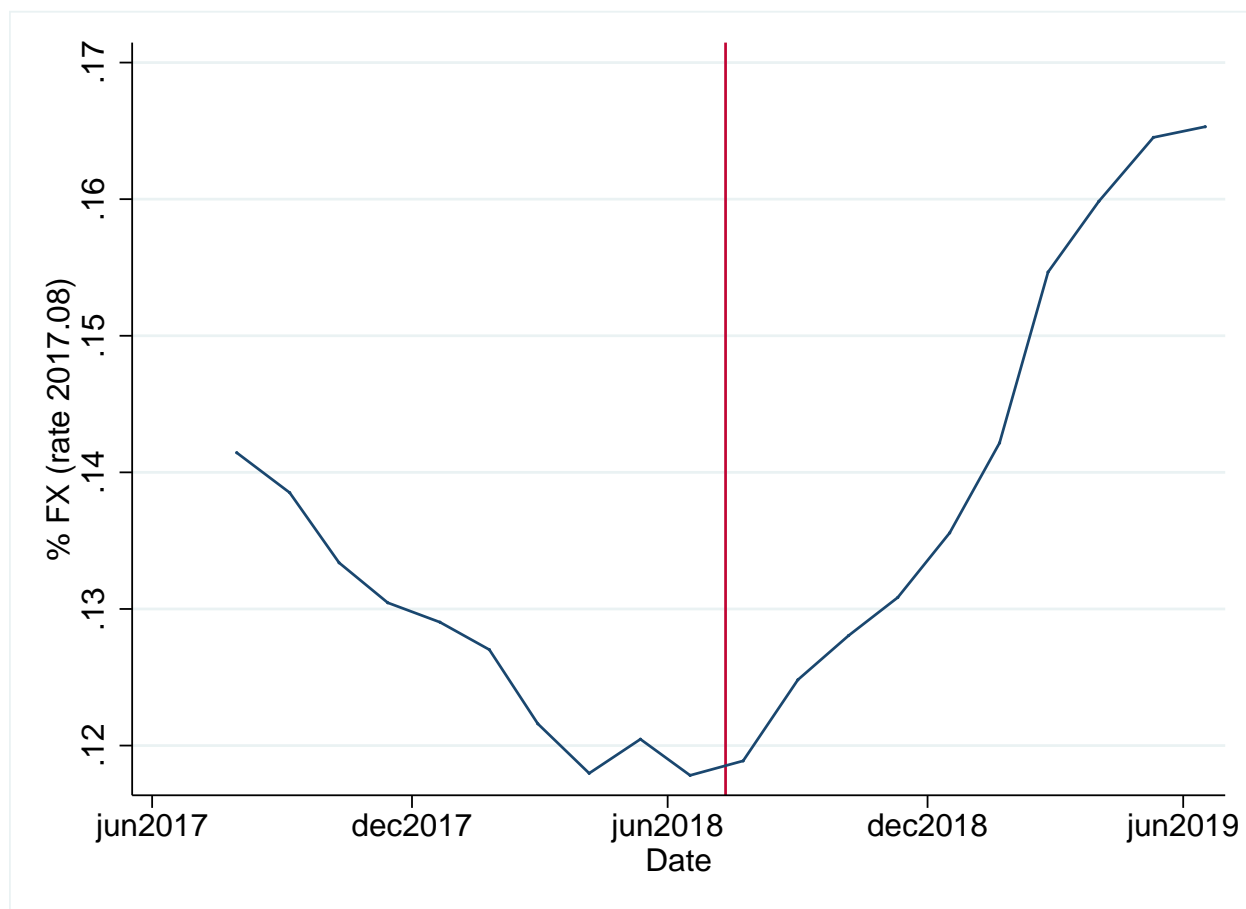**B. Average share of deposits held in foreign currency**

Figure A.3: Share of deposits held in foreign currency (constant rate 2016.09)

A.2 World Values Survey analysis of Erdogan voters

Table A.1
Erdogan vote vs. attitudes

This table analysis using data from the World Values Survey 2018 sample of Turkish people. The dependent variable is shown above each column. Heteroscedasticity-consistent robust standard errors are shown in parentheses.

Panel A: Confidence

	Conf. banks		Conf. gov't		Conf. major comp.		Conf. press	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Erdogan voter	0.0404	0.0890**	0.7060***	0.6840***	0.0888**	0.1353***	0.0841**	0.1332***
	(0.0389)	(0.0392)	(0.0341)	(0.0386)	(0.0349)	(0.0362)	(0.0357)	(0.0367)
Male		−0.0323		0.0564		−0.0032		0.0262
		(0.0432)		(0.0416)		(0.0398)		(0.0416)
Married		0.0244		−0.0591		−0.0270		−0.0937**
		(0.0468)		(0.0442)		(0.0431)		(0.0448)
Job dummies	No	Yes	No	Yes	No	Yes	No	Yes
Age category FE	No	Yes	No	Yes	No	Yes	No	Yes
Region x Townsize FE	No	Yes	No	Yes	No	Yes	No	Yes
N	2,175	2,165	2,204	2,192	2,137	2,126	2,208	2,196
R^2	0.000	0.258	0.163	0.288	0.003	0.216	0.003	0.228

Significance levels: * 0.1, ** 0.05, * 0.01.**

Panel B: Satisfaction

	Satisf. life		Satisf. polit. system		Satisf. fin. situation	
	(1)	(2)	(3)	(4)	(5)	(6)
Erdogan voter	0.3396***	0.1988**	2.1537***	1.9862***	0.0954	−0.1075
	(0.0801)	(0.0864)	(0.0814)	(0.0936)	(0.0806)	(0.0878)
Male		−0.2367**		−0.0004		−0.1238
		(0.0924)		(0.0987)		(0.0939)
Married		0.2501**		0.1357		0.1348
		(0.1052)		(0.1101)		(0.1031)
Job dummies	No	Yes	No	Yes	No	Yes
Age category FE	No	Yes	No	Yes	No	Yes
Region x Townsize FE	No	Yes	No	Yes	No	Yes
N	2,228	2,216	2,192	2,180	2,227	2,215
R^2	0.008	0.187	0.241	0.360	0.001	0.179

Significance levels: * 0.1, ** 0.05, * 0.01.**

Panel C: Trust

	Trust people		Trust family		Trust people you know	
	(1)	(2)	(3)	(4)	(5)	(6)
Erdogan voter	0.0130	0.0018	0.0819***	0.0548**	0.0123	0.0321
	(0.0149)	(0.0167)	(0.0208)	(0.0218)	(0.0336)	(0.0357)
Male		0.0087		0.0359		−0.0242
		(0.0182)		(0.0266)		(0.0386)
Married		0.0235		0.0167		−0.0673*
		(0.0191)		(0.0280)		(0.0401)
Job dummies	No	Yes	No	Yes	No	Yes
Age category FE	No	Yes	No	Yes	No	Yes
Region x Townsize FE	No	Yes	No	Yes	No	Yes
N	2,192	2,183	2,233	2,221	2,229	2,218
R^2	0.000	0.135	0.007	0.186	0.000	0.223

Significance levels: * 0.1, ** 0.05, * 0.01.**

A.3 Results excluding Istanbul

Table A.2
Choice of deposit currency – excluding Istanbul

The dependent variable (and in Panel A, the deposit currency) is shown above each column. FX deposits are reported in USD. The total balance is calculated in Turkish lira. *Has FX* is a dummy indicating whether the depositor has FX. *Share FX* is the share of deposits held in FX by each depositor. *Entry FX* is a dummy taking the value one if the depositor has a positive FX balance in the current month and had no FX in the previous month. The sample period is a 2-year window from August 2017 to August 2019. Heteroscedasticity-consistent standard errors, clustered by customer, are shown in parentheses.

Panel A: Choice of deposit currency

	Has FX	Share FX	Entry FX
	(1)	(2)	(3)
Post	0.0526***	0.0227***	0.0063***
	(0.0012)	(0.0011)	(0.0002)
Depositor FE	Yes	Yes	Yes
N	791,925	581,059	791,925
R^2	0.721	0.809	0.048

Panel B: Deposit balance and growth

	ln(1+Deposits)			Δ ln(1+Deposits)		
	(1)	(2)	(3)	(4)	(5)	(6)
	FX	TRY	Total	FX	TRY	Total
Post	0.1004***	0.2253***	0.3587***	0.0001***	−0.0003	0.0040***
	(0.0030)	(0.0066)	(0.0074)	(0.0000)	(0.0004)	(0.0012)
Depositor FE	Yes	Yes	Yes	Yes	Yes	Yes
N	791,925	791,925	791,925	760,248	760,248	760,248
R^2	0.680	0.677	0.695	0.201	0.017	0.016

Significance levels: * 0.1, ** 0.05, * 0.01.**

Table A.3
Shift to FX vs. regional political support for Erdogan – excl. Istanbul

The dependent variable is shown above each column. *Has FX* is a dummy indicating whether the depositor has FX. *Share FX* is the share of deposits held in FX by each depositor. *Entry FX* is a dummy taking the value one if the depositor has a positive FX balance in the current month and had no FX in the previous month. The sample period is a 2-year window from August 2017 to August 2019. Heteroscedasticity-consistent standard errors, clustered by customer, are shown in parentheses.

Panel A: Erdogan vote – top and bottom 10%

	Has FX		Share FX		Entry FX	
	(1)	(2)	(3)	(4)	(5)	(6)
Erdogan vote (top 10% excluding Istabul) x Post	−0.0244***	−0.0251***	−0.0174***	−0.0160***	−0.0023***	−0.0025***
	(0.0045)	(0.0046)	(0.0049)	(0.0049)	(0.0007)	(0.0007)
Erdogan vote (bottom 10% excluding Istabul) x Post	0.0277***	0.0229***	0.0038	0.0032	0.0020***	0.0021***
	(0.0040)	(0.0041)	(0.0037)	(0.0039)	(0.0006)	(0.0006)
Erdogan vote (majority) x Post	0.0073***	0.0057**	0.0023	0.0020	0.0009**	0.0009**
	(0.0028)	(0.0028)	(0.0026)	(0.0026)	(0.0004)	(0.0004)
ln(Age in 2017) x Post		0.0119***		−0.0002		−0.0004
		(0.0034)		(0.0034)		(0.0005)
Male x Post		−0.0083***		0.0021		0.0007*
		(0.0026)		(0.0025)		(0.0004)
Finance professional x Post		0.0012		0.0201***		0.0017
		(0.0060)		(0.0060)		(0.0011)
ln(1+Deposits) (2017.08) x Post		−0.0114***		0.0030***		−0.0003*
		(0.0010)		(0.0008)		(0.0001)
Foreign citizen x Post		0.0684***		0.0060		−0.0014
		(0.0171)		(0.0142)		(0.0029)
Depositor FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes	Yes	Yes	Yes
N	791,925	752,625	581,059	551,582	791,925	752,625
R^2	0.725	0.720	0.810	0.803	0.050	0.050

Significance levels: * 0.1, ** 0.05, * 0.01.**

Panel B: Erdogan vote (continuous)

	Has FX		Share FX		Entry FX	
	(1)	(2)	(3)	(4)	(5)	(6)
Erdogan vote x Post	−0.0007***	−0.0006***	−0.0003**	−0.0002**	−0.0000**	−0.0000**
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0000)	(0.0000)
ln(Age in 2017) x Post		0.0127***		−0.0003		−0.0003
		(0.0034)		(0.0034)		(0.0005)
Male x Post		−0.0086***		0.0020		0.0007*
		(0.0026)		(0.0025)		(0.0004)
Finance professional x Post		0.0025		0.0205***		0.0019*
		(0.0060)		(0.0060)		(0.0011)
ln(1+Deposits) (2017.08) x Post		−0.0115***		0.0030***		−0.0003**
		(0.0010)		(0.0008)		(0.0001)
Foreign citizen x Post		0.0696***		0.0063		−0.0012
		(0.0171)		(0.0142)		(0.0029)
Depositor FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes	Yes	Yes	Yes
N	791,925	752,625	581,059	551,582	791,925	752,625
R^2	0.725	0.720	0.810	0.803	0.050	0.050

Significance levels: * 0.1, ** 0.05, * 0.01.**

Figure A.4: FX deposits by Erdogan support – excl. Istanbul

This Figure shows the proportion of customers having foreign currency deposits for the the highest 10% and lowest 10% by Erdogan support.
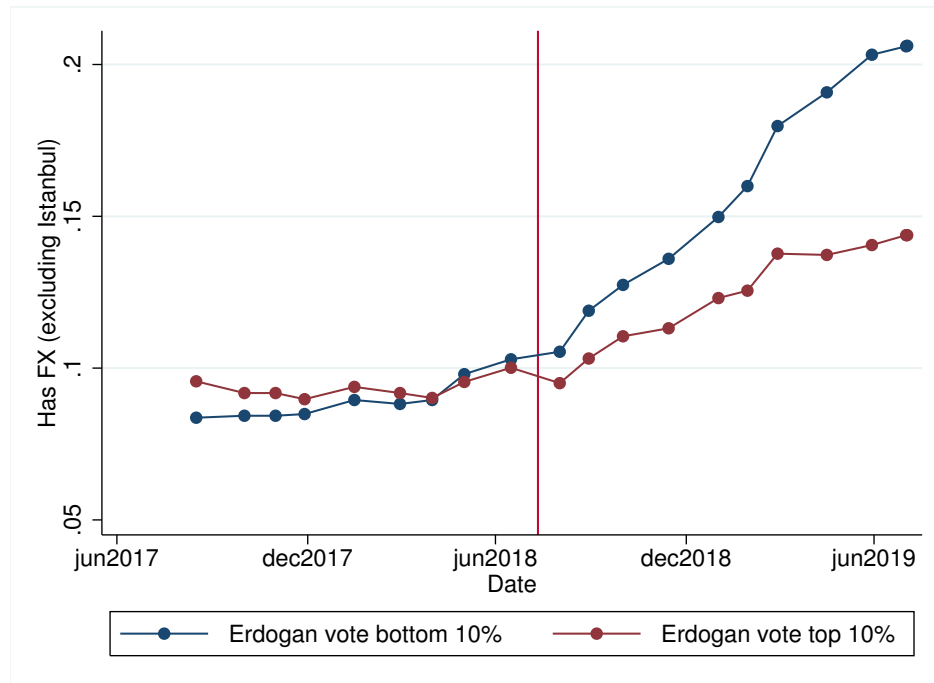
Shift to FX vs. predicted vote – excl. Istanbul

	Has FX		Share FX		Entry FX	
	(1)	(2)	(3)	(4)	(5)	(6)
Erdogan vote probability (excl. Istanbul) x Post	−0.0226***	−0.0278***	−0.0123***	−0.0110**	−0.0014**	−0.0019***
	(0.0045)	(0.0046)	(0.0042)	(0.0044)	(0.0007)	(0.0007)
ln(Age in 2017) x Post		0.0091***		−0.0019		−0.0006
		(0.0034)		(0.0035)		(0.0005)
Male x Post		−0.0086***		0.0020		0.0007*
		(0.0026)		(0.0025)		(0.0004)
Finance professional x Post		0.0033		0.0208***		0.0019*
		(0.0060)		(0.0060)		(0.0011)
ln(1+Deposits) (2017.08) x Post		−0.0118***		0.0029***		−0.0003**
		(0.0010)		(0.0008)		(0.0001)
Foreign citizen x Post		0.0708***		0.0058		−0.0013
		(0.0172)		(0.0145)		(0.0029)
Depositor FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes	Yes	Yes	Yes
N	752,700	752,450	551,522	551,437	752,700	752,450
R^2	0.719	0.720	0.803	0.803	0.050	0.050

Significance levels: * 0.1, ** 0.05, * 0.01.**

A.4 Predicted Erdogan vote – alternative specification (excl. location FE)

Shift to FX vs. predicted vote excl. location FE

	Has FX		Share FX		Entry FX	
	(1)	(2)	(3)	(4)	(5)	(6)
Erdogan vote probability (excl. location FE) x Post	−0.0195**	−0.0336***	−0.0133*	−0.0118	0.0003	0.0001
	(0.0085)	(0.0085)	(0.0076)	(0.0077)	(0.0012)	(0.0015)
ln(Age in 2017) x Post		0.0050*		−0.0035		−0.0003
		(0.0029)		(0.0028)		(0.0005)
Male x Post		−0.0088***		−0.0004		0.0006
		(0.0022)		(0.0020)		(0.0004)
Finance professional x Post		−0.0007		0.0214***		0.0018*
		(0.0042)		(0.0040)		(0.0011)
ln(1+Deposits) (2017.08) x Post		−0.0148***		0.0032***		−0.0003**
		(0.0008)		(0.0007)		(0.0001)
Foreign citizen x Post		0.1593***		0.0039		−0.0012
		(0.0121)		(0.0104)		(0.0029)
Depositor FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes	Yes	Yes	Yes
N	1,188,025	1,187,725	867,877	867,784	1,188,025	752,450
R^2	0.725	0.728	0.816	0.816	0.050	0.050

Significance levels: * 0.1, ** 0.05, *** 0.01.

A.5 Inflows, outflows, and transfers between accounts

In addition to studying the composition of deposit balances, we estimate account-level cash flows and analyze account activity around the currency shock. We calculate inflows and outflows for lira and FX accounts, as well as net inflows based on those. We also estimate active net transfers between accounts held by the same depositor based on contemporaneuous inflow on one account and outflow on the other. Figure A.5 shows the average monthly inflows by currency, as well as average monthly net transfers to FX from lira accounts. These charts confirm several observations suggested by the analysis of account balances as well. First, there is an initial uptick in savings right after the shock, followed by a net reduction in total deposits. Second, the net outflows come entirely from lira accounts, while FX accounts experience sustained positive net inflows following the shock. Third, households seem to be actively transferring deposits from lira accounts to FX accounts following the shock.

In Table A.7, we present the results of a regression analysis of account flows around the currency shock. From Panel A, we see that, on average, both monthly inflows and outflows increase following the shock, regardless of currency. From Panel B, we see that also the net inflows increase regardless of currency, even if the charts suggest that there are several months with net outflows from lira accounts in the post-shock period. Similarly, the monthly number of both inflows and outflows increases, regardless of currency, shown in Panel C. In contrast, Panel D shows that the average size of both inflows and outflows decreases. Finally, Panel E shows that the share of FX increases in both inflows and outflows. Taken together, these results suggest that overall account activity increases significantly follwoing the shock, with significantly more account inflows and outflows of smaller size.
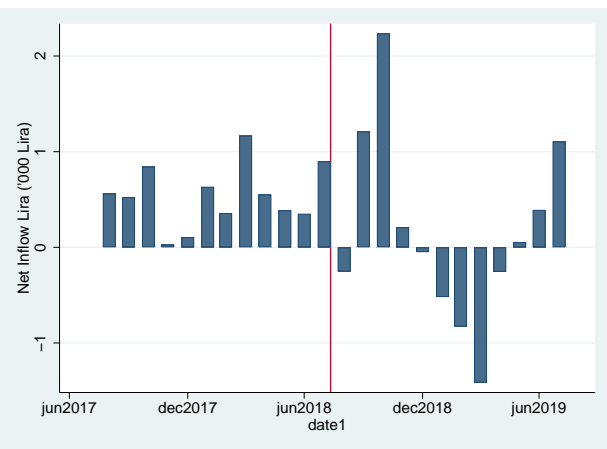
Figure A.5: Net inflows and transfers

Average monthly net account inflow by currency. Net transfers to FX are estimated monthly amounts transferred directly from lira to FX account.
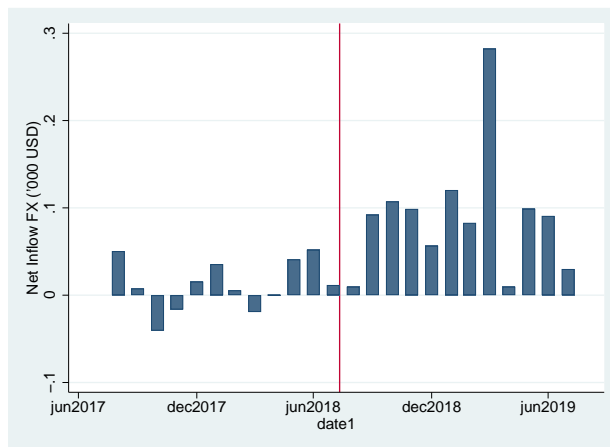
A. Net inflow – total
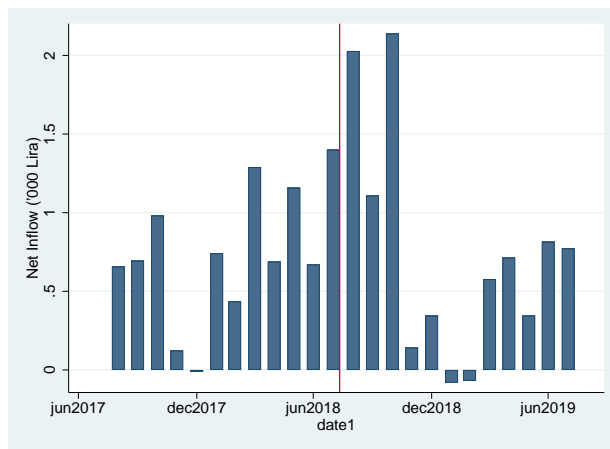
B. Net inflow – lira

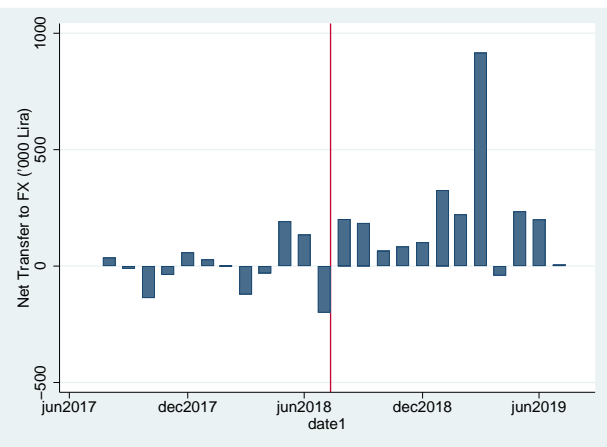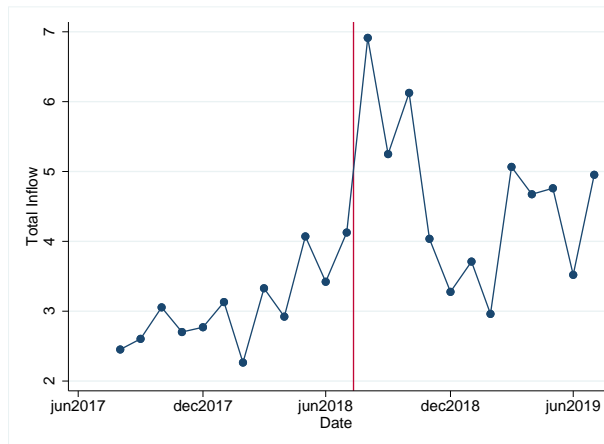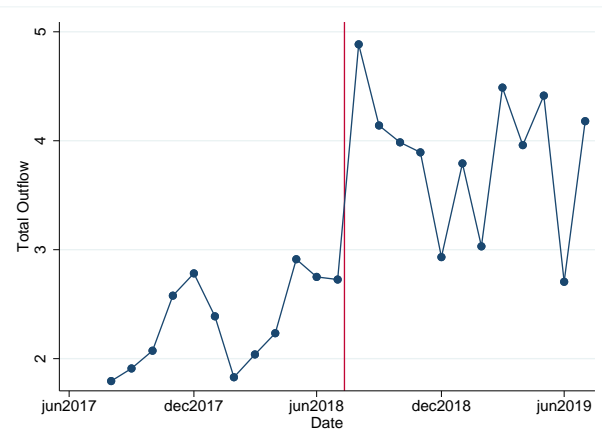**C. Net inflow – FX**

D. Net transfers to FX

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Figure A.6: Inflows and outflows
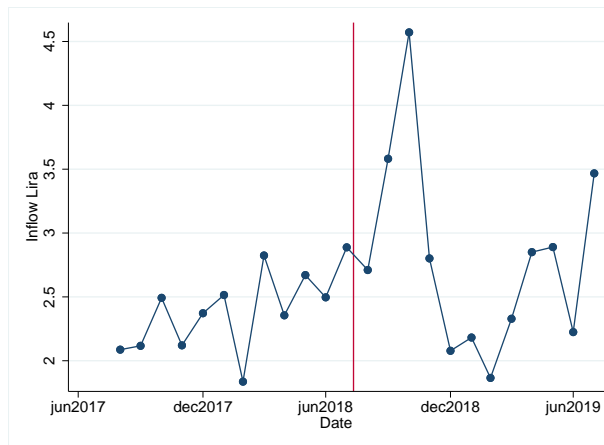
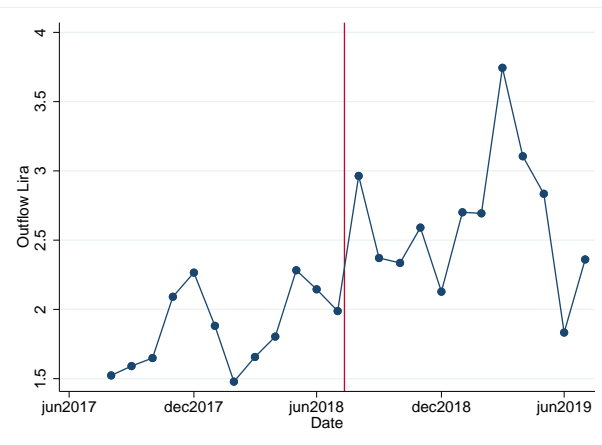## A. Average total inflow and outflow

Inflow

Outflow

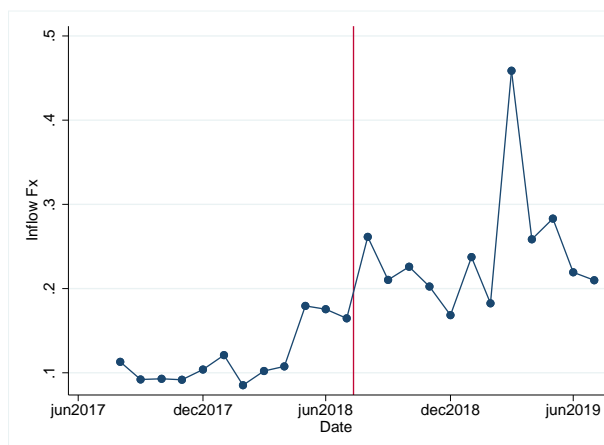## B. Average inflow and outflow – Turkish lira accounts

Inflow

Outflow

C. Average inflow and outflow – foreign currency accounts
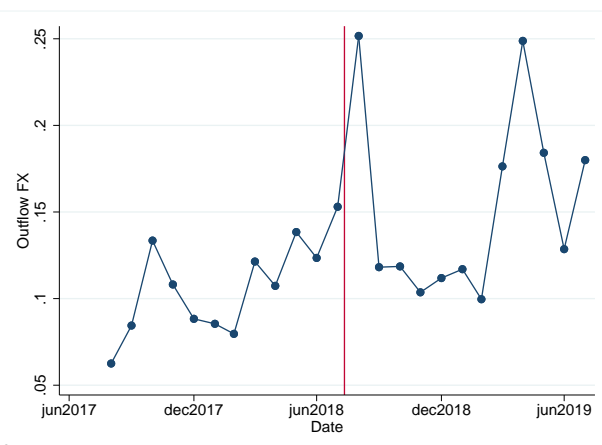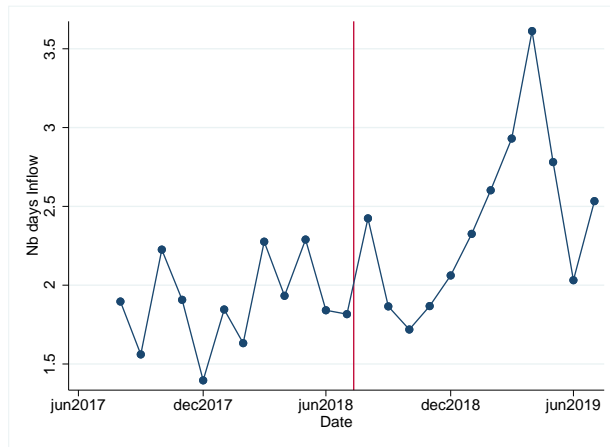
Inflow

Outflow

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Figure A.6: Inflows and outflows (cont'd)

D. Average number of inflows and outflows by month

Number of inflows

Number of outflows

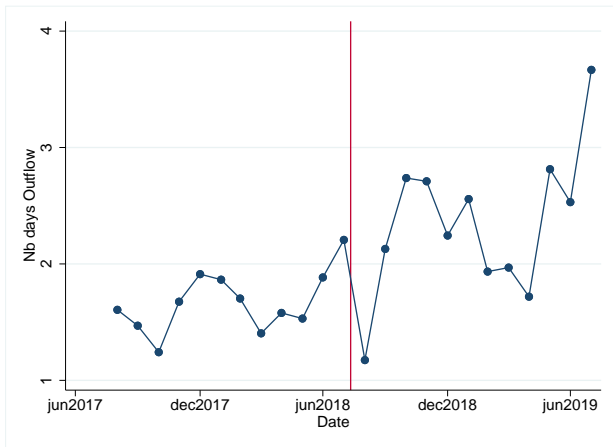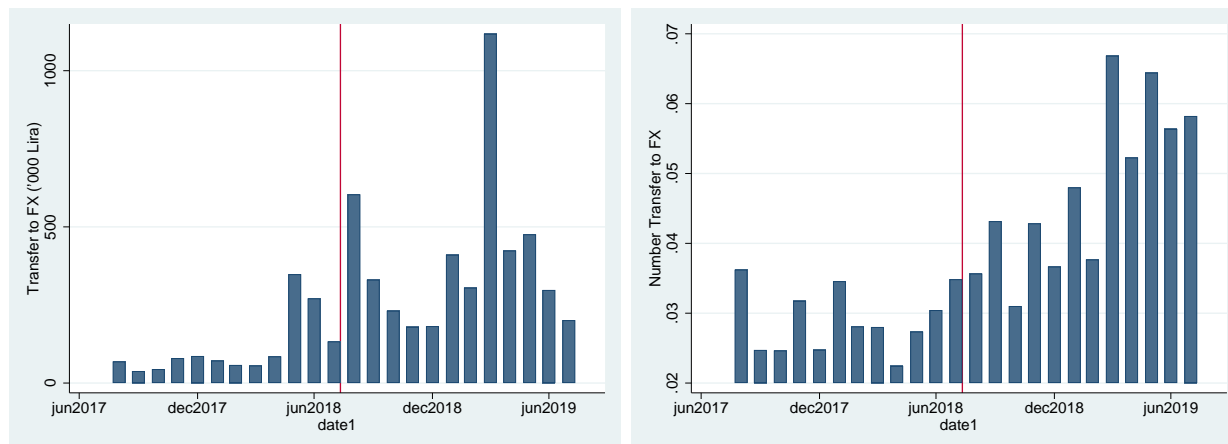## Figure A.7: Transfers between accounts

A. Transfers of deposits to foreign currency

Transfers to FX (amount)   **Transfers to FX (number)**

B. Transfers of deposits to Turkish lira

Transfers to lira (amount)   **Transfers to lira (number)**
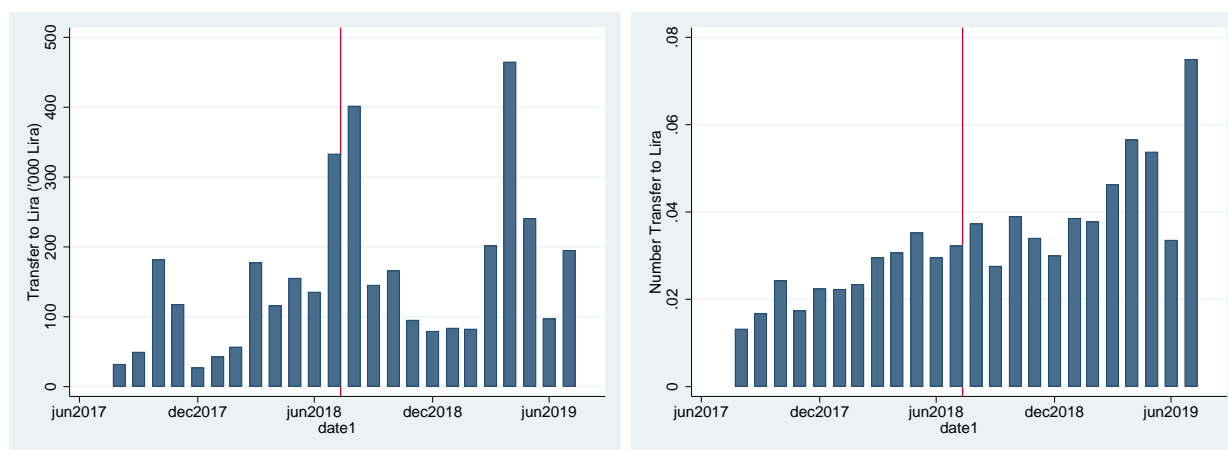

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Table A.7
Account inflows and outflows

The dependent variable and the deposit currency in question are shown above each column. The sample period is a 2-year window from August 2017 to August 2019. Heteroscedasticity-consistent standard errors, clustered by customer, are shown in parentheses.

Panel A: Inflow and outflow

	ln(1+Inflow)			ln(1+Outflow)		
	(1) FX	(2) TRY	(3) Total	(4) FX	(5) TRY	(6) Total
Post	0.0260***	0.0828***	0.1796***	0.0105***	0.0686***	0.1618***
	(0.0007)	(0.0020)	(0.0027)	(0.0006)	(0.0018)	(0.0025)
Depositor FE	Yes	Yes	Yes	Yes	Yes	Yes
N	1,208,136	1,208,136	1,208,136	1,208,136	1,208,136	1,208,136
R^2	0.165	0.303	0.421	0.179	0.295	0.423

Panel B: Net inflow

	FX	TRY	Total
	(1)	(2)	(3)
Post	0.0207***	0.0707***	0.1259***
	(0.0006)	(0.0017)	(0.0021)
Depositor FE	Yes	Yes	Yes
N	1,198,999	1,148,867	1,124,681
R^2	0.091	0.205	0.261

Panel C: Number of flows

	ln(1+N inflows)			ln(1+N outflows)		
	(1) FX	(2) TRY	(3) Total	(4) FX	(5) TRY	(6) Total
Post	0.0482***	0.0485***	0.1422***	0.0373***	0.0287***	0.1473***
	(0.0014)	(0.0016)	(0.0026)	(0.0013)	(0.0014)	(0.0025)
Depositor FE	Yes	Yes	Yes	Yes	Yes	Yes
N	1,208,136	1,208,136	1,208,136	1,208,136	1,208,136	1,208,136
R^2	0.759	0.500	0.692	0.776	0.619	0.706

Significance levels: * 0.1, ** 0.05, * 0.01.**

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Panel D: Average flow size

	ln(1+Average inflow)			ln(1+Average outflow)		
	(1) FX	(2) TRY	(3) Total	(4) FX	(5) TRY	(6) Total
Post	−0.0465***	−0.0278***	−0.0199***	−0.0333***	−0.0082***	0.0229***
	(0.0034)	(0.0028)	(0.0024)	(0.0034)	(0.0031)	(0.0026)
Depositor FE	Yes	Yes	Yes	Yes	Yes	Yes
N	119,438	476,292	588,366	83,922	334,536	466,667
R^2	0.473	0.431	0.430	0.660	0.554	0.506

Panel E: Share of flows in FX

	% FX		% FX days	
	(1) Inflow	(2) Outflow	(3) Inflow	(4) Outflow
Post	0.0234***	0.0091***	0.0235***	0.0106***
	(0.0010)	(0.0009)	(0.0010)	(0.0009)
Depositor FE	Yes	Yes	Yes	Yes
N	546,195	391,434	546,195	391,434
R^2	0.786	0.830	0.855	0.897

Significance levels: * 0.1, ** 0.05, * 0.01.**