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Abstract

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

JEL Classification: D14, D81, E71

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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

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.

¹President 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).

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 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 Erdoğan and perform a logit regression analysis of the likelihood of Erdoğan 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 Erdoğan vote probability. Consistent with the regional vote results, depositors with higher predicted Erdoğan 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

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 literature. 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 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.

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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 affect 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. Endr sz and Harasztsi (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

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 members. 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

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.

²For 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. Approximately 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

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:

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

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 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 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 Erdoğan 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*

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:

$$\text{Erdogan vote}_i = \alpha + \beta \times X_i + \epsilon_i, \quad (2)$$

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 specification 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 currency 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

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.

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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.

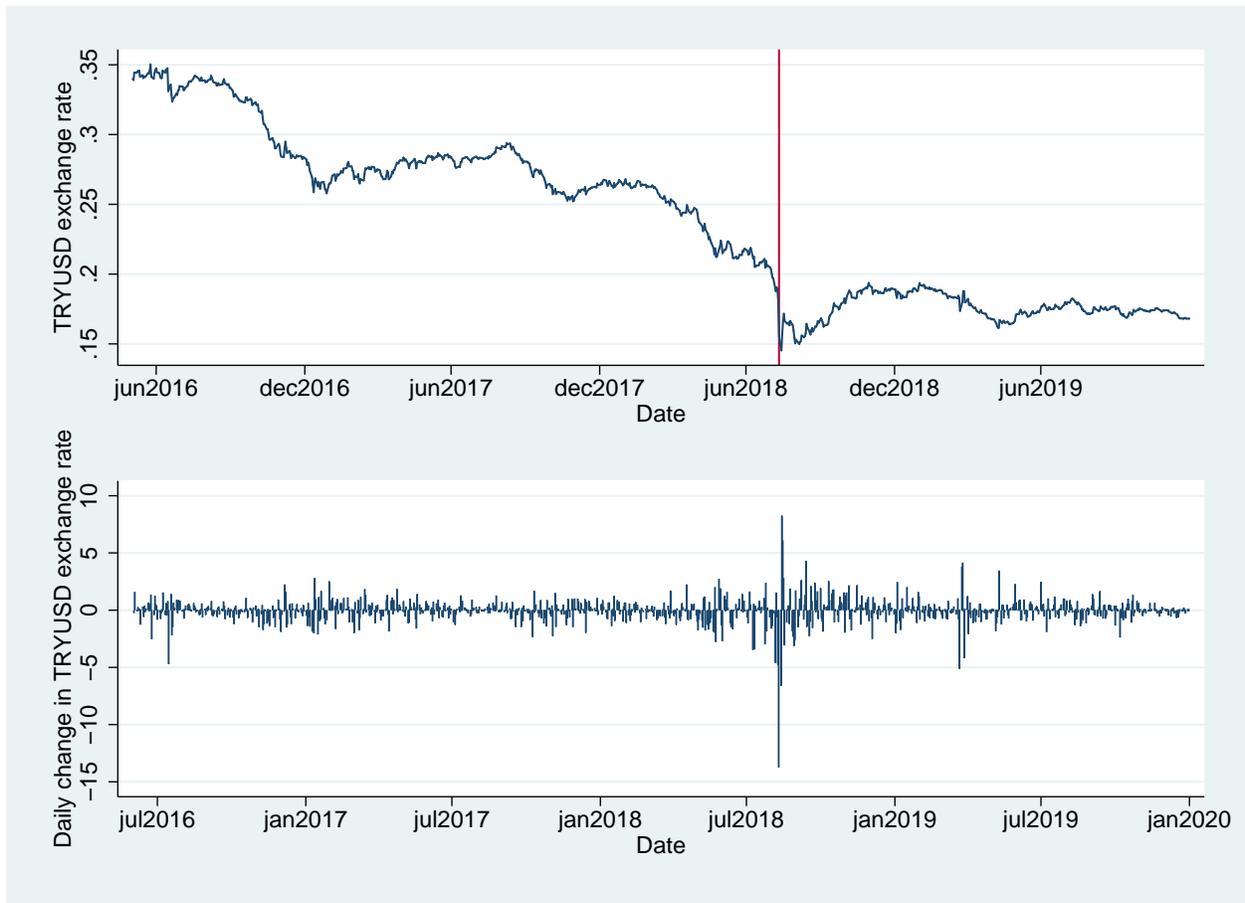


Figure 2: Deposit interest rates by currency

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).

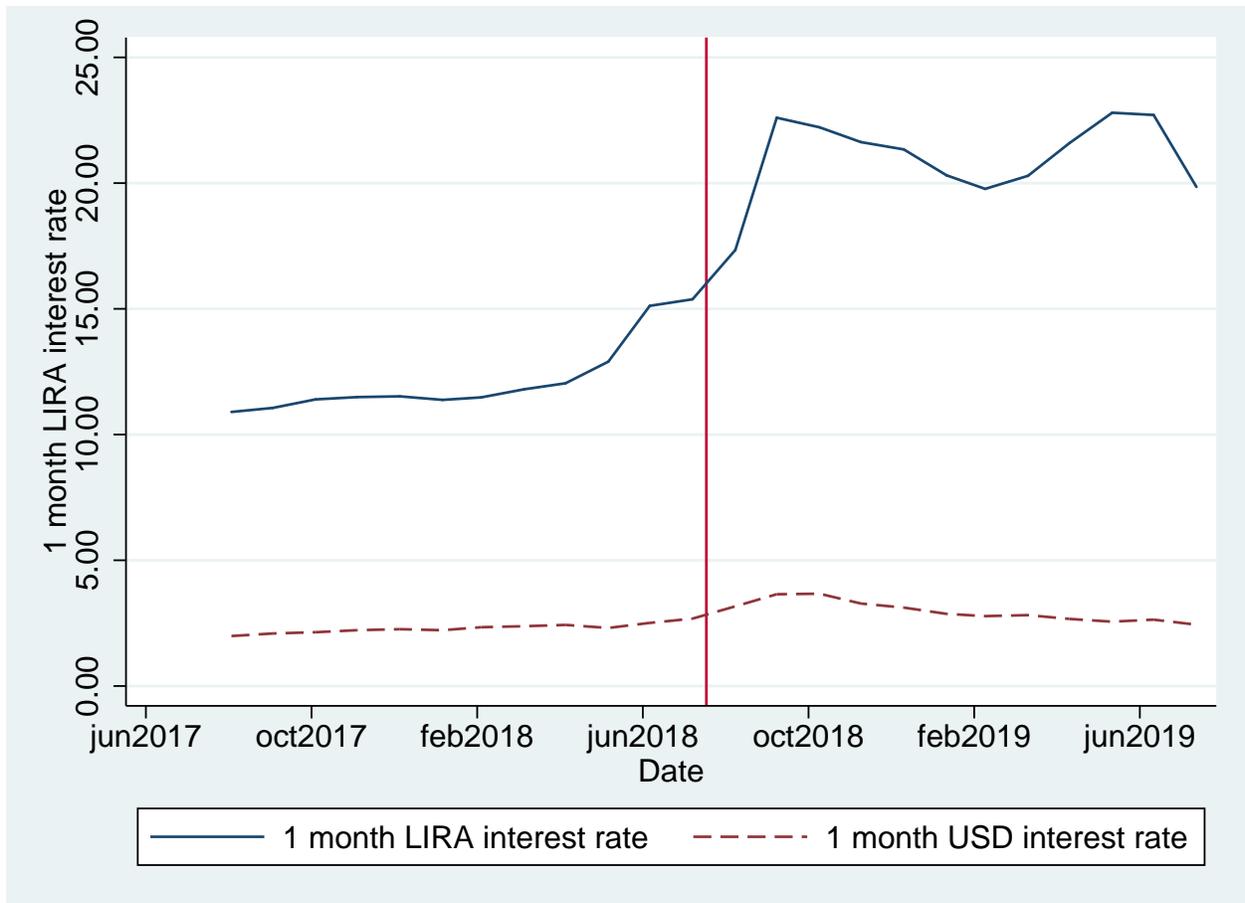
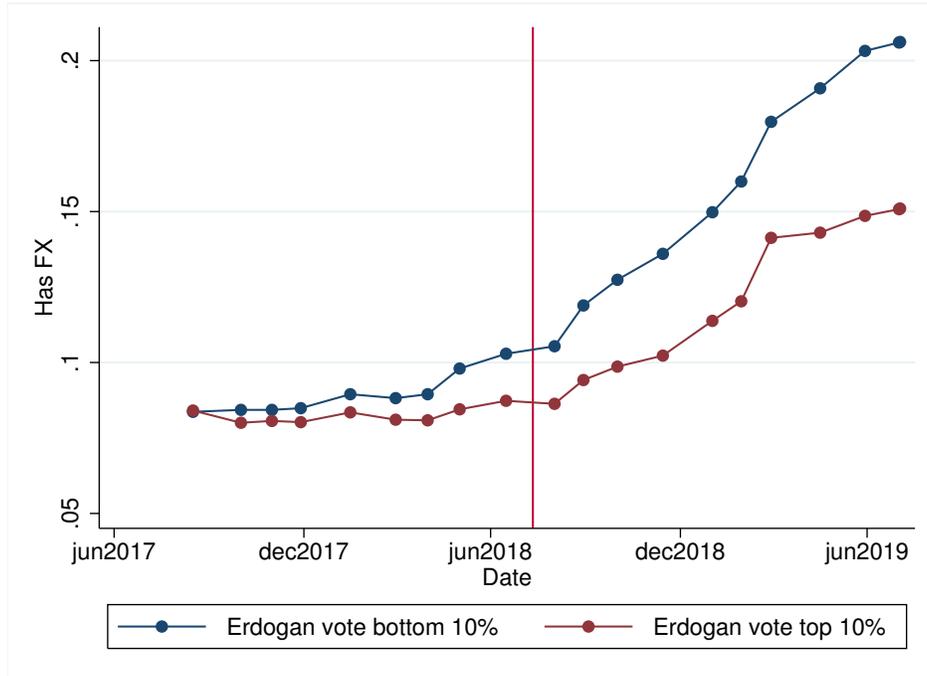


Figure 3: FX deposits by Erdogan support

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.

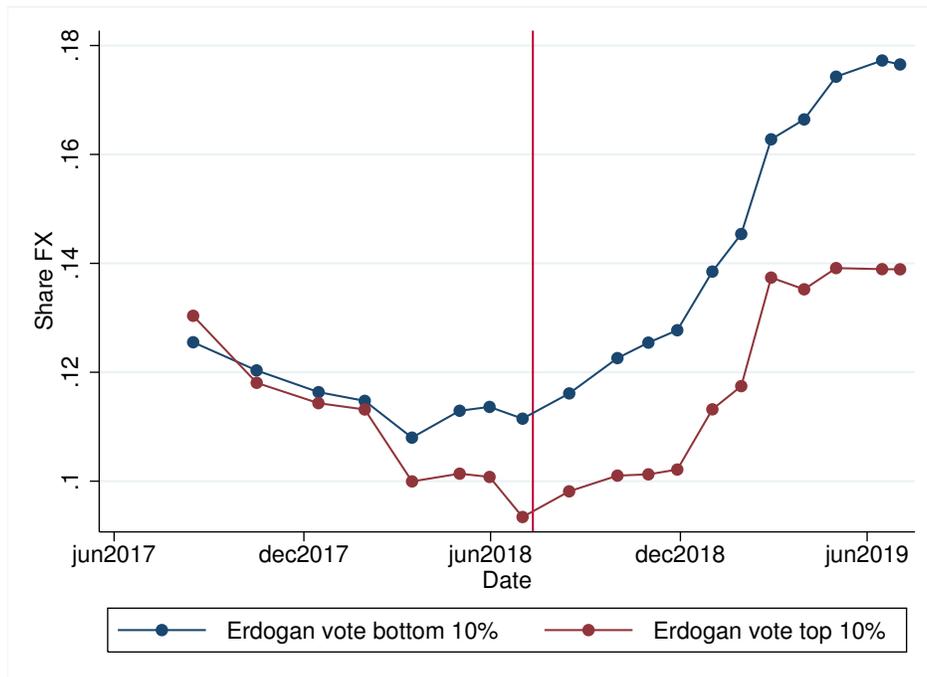


Table 1
Summary statistics

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 |
| $\Delta \ln(1+\text{Deposits} - \text{FX})$ | 0.010 | 0.239 | -0.015 | 0.000 | 0.041 | 1,208,136 |
| $\Delta \ln(1+\text{Deposits} - \text{TRY})$ | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 1,208,136 |
| $\Delta \ln(1+\text{Deposits} - \text{total})$ | 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 | | | | | |

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

| | <u>Has FX</u> | <u>Share FX</u> | <u>Entry FX</u> |
|--------------|-----------------------|-----------------------|-----------------------|
| | (1) | (2) | (3) |
| Post | 0.0568*** (0.0010) | 0.0231*** (0.0009) | 0.0065*** (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

| | <u>ln(1+Deposits)</u> | | | <u>Δ ln(1+Deposits)</u> | | |
|--------------|-----------------------|-----------------------|-----------------------|---|---------------------|-----------------------|
| | (1) FX | (2) TRY | (3) Total | (4) FX | (5) TRY | (6) Total |
| Post | 0.1105*** (0.0026) | 0.2248*** (0.0052) | 0.3721*** (0.0059) | 0.0001*** (0.0000) | -0.0000 (0.0003) | 0.0041*** (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*** (0.0038) | −0.0169*** (0.0039) | −0.0102*** (0.0038) | −0.0092** (0.0038) | −0.0007 (0.0006) | −0.0007 (0.0006) |
| Erdogan vote (bottom 10%) x Post | 0.0155*** (0.0035) | 0.0127*** (0.0035) | 0.0041 (0.0032) | 0.0040 (0.0033) | 0.0014*** (0.0005) | 0.0015*** (0.0005) |
| Erdogan vote (majority) x Post | 0.0007 (0.0029) | −0.0010 (0.0029) | 0.0027 (0.0026) | 0.0028 (0.0027) | 0.0001 (0.0004) | 0.0002 (0.0005) |
| ln(Age in 2017) x Post | | 0.0055* (0.0029) | | −0.0032 (0.0028) | | −0.0016*** (0.0004) |
| Male x Post | | −0.0087*** (0.0022) | | −0.0005 (0.0020) | | 0.0008** (0.0003) |
| Finance professional x Post | | −0.0014 (0.0042) | | 0.0212*** (0.0040) | | 0.0009 (0.0008) |
| ln(1+Deposits) (2017.08) x Post | | −0.0147*** (0.0008) | | 0.0032*** (0.0007) | | −0.0006*** (0.0001) |
| Foreign citizen x Post | | 0.1558*** (0.0118) | | 0.0035 (0.0100) | | 0.0116*** (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*** (0.0001) | -0.0006*** (0.0001) | -0.0003** (0.0001) | -0.0002** (0.0001) | -0.0000** (0.0000) | -0.0000** (0.0000) |
| ln(Age in 2017) x Post | | 0.0055* (0.0029) | | -0.0033 (0.0028) | | -0.0015*** (0.0004) |
| Male x Post | | -0.0087*** (0.0022) | | -0.0004 (0.0020) | | 0.0008** (0.0003) |
| Finance professional x Post | | -0.0010 (0.0042) | | 0.0212*** (0.0040) | | 0.0009 (0.0008) |
| ln(1+Deposits) (2017.08) x Post | | -0.0147*** (0.0008) | | 0.0032*** (0.0007) | | -0.0006*** (0.0001) |
| Foreign citizen x Post | | 0.1564*** (0.0118) | | 0.0040 (0.0100) | | 0.0116*** (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) Male | (2) Female | (3) Old | (4) Young | (5) Married | (6) Unmarried |
| Erdogan vote (top 10%) x Post | -0.0148*** (0.0046) | -0.0206*** (0.0072) | -0.0180*** (0.0058) | -0.0158*** (0.0050) | -0.0157*** (0.0045) | -0.0173** (0.0076) |
| Erdogan vote (bottom 10%) x Post | 0.0163*** (0.0044) | 0.0074 (0.0059) | 0.0175*** (0.0051) | 0.0079* (0.0048) | 0.0141*** (0.0041) | 0.0106 (0.0068) |
| Erdogan vote (majority) x Post | -0.0053 (0.0034) | 0.0079 (0.0054) | 0.0047 (0.0043) | -0.0071* (0.0039) | 0.0013 (0.0034) | -0.0053 (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*** (0.0068) | -0.0014 (0.0051) | -0.0050 (0.0051) | -0.0279*** (0.0056) |
| Erdogan vote (bottom 10%) x Post | 0.0071 (0.0050) | 0.0143** (0.0059) | 0.0082* (0.0048) | 0.0106** (0.0050) |
| Erdogan vote (majority) x Post | 0.0090* (0.0049) | -0.0025 (0.0037) | -0.0009 (0.0036) | -0.0006 (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*** (0.1156) | 0.3246*** (0.1158) | 0.3184*** (0.1229) |
| Married | 0.3675*** (0.1198) | 0.4378*** (0.1233) | 0.5748*** (0.1335) |
| ln(Age) | 0.0756 (0.1797) | | |
| Student | -0.1241 (0.2377) | -0.2451 (0.2509) | -0.2411 (0.2649) |
| Retired | -0.2667 (0.2091) | -0.2427 (0.2176) | -0.3275 (0.2299) |
| Housewife | 0.5503*** (0.1411) | 0.5528*** (0.1419) | 0.5544*** (0.1512) |
| Unemployed | 0.1956 (0.1959) | 0.1817 (0.1963) | 0.2161 (0.2111) |
| Public sector | -0.4528** (0.1761) | -0.4386** (0.1768) | -0.4225** (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*** (0.0050) | -0.0262*** (0.0050) | -0.0165*** (0.0047) | -0.0153*** (0.0047) | -0.0011 (0.0008) | -0.0018** (0.0008) |
| ln(Age in 2017) x Post | | 0.0050* (0.0029) | | -0.0038 (0.0028) | | -0.0016*** (0.0004) |
| Male x Post | | -0.0088*** (0.0022) | | -0.0003 (0.0020) | | 0.0008** (0.0003) |
| Finance professional x Post | | -0.0009 (0.0042) | | 0.0214*** (0.0040) | | 0.0009 (0.0008) |
| ln(1+Deposits) (2017.08) x Post | | -0.0148*** (0.0008) | | 0.0031*** (0.0007) | | -0.0006*** (0.0001) |
| Foreign citizen x Post | | 0.1592*** (0.0121) | | 0.0039 (0.0104) | | 0.0113*** (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 (0.0192) | 0.0325*** (0.0072) | -0.0050 (0.0039) | 0.0108*** (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** (0.0472) | 0.1176** (0.0533) | 0.1311** (0.0483) | 0.1197** (0.0496) | 0.1078* (0.0596) | 0.0982* (0.0491) |
| Δ Share FX (t-1) | | 0.0229 (0.0459) | | | -0.0343 (0.0484) | |
| Post | | | -0.0077** (0.0035) | | | 0.0077** (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.

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*** (0.2030) | -0.5676** (0.2502) | | |
| Δ Share FX (t-1) | | 0.2109 (0.2423) | | |
| Δ FX mismatch | | | -0.7290 (0.4593) | -0.9763** (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

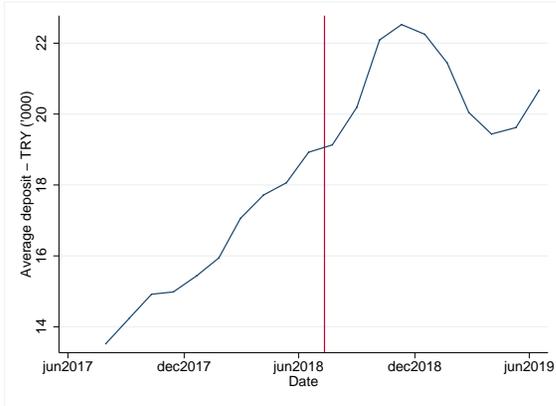
A.1 Deposits

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

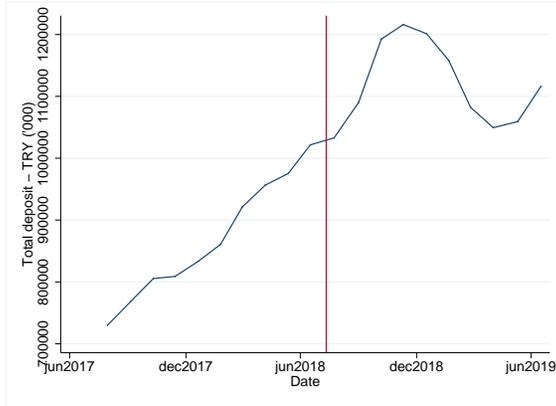
Deposit balances by currency for the average Bank customer, for the Bank in total, and for all Turkish banks combined.

A. Turkish lira deposits

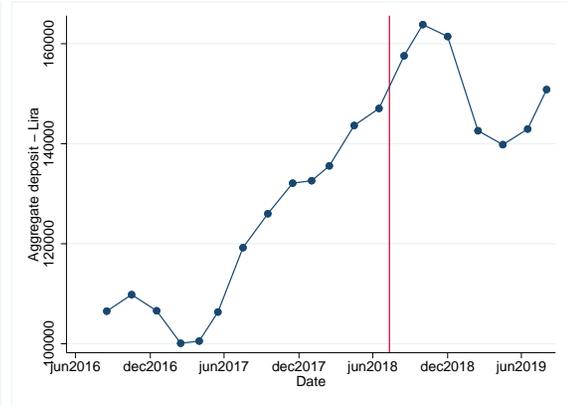
Average – Bank



Total – Bank

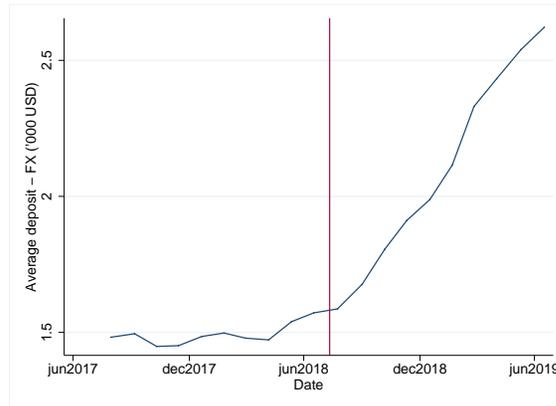


Total – all Turkish banks

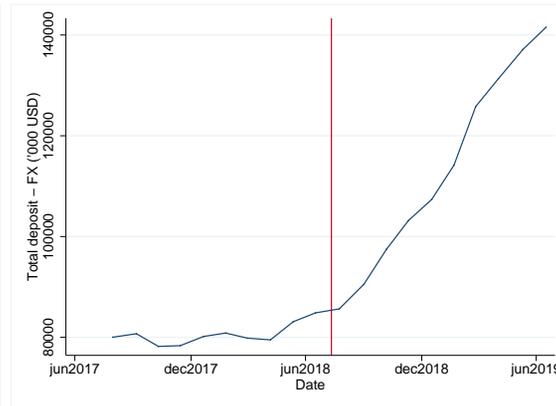


B. Foreign exchange deposits

Average – Bank



Total – Bank



Total – all Turkish banks

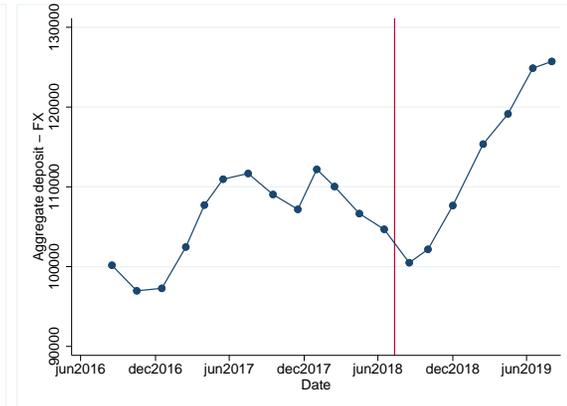
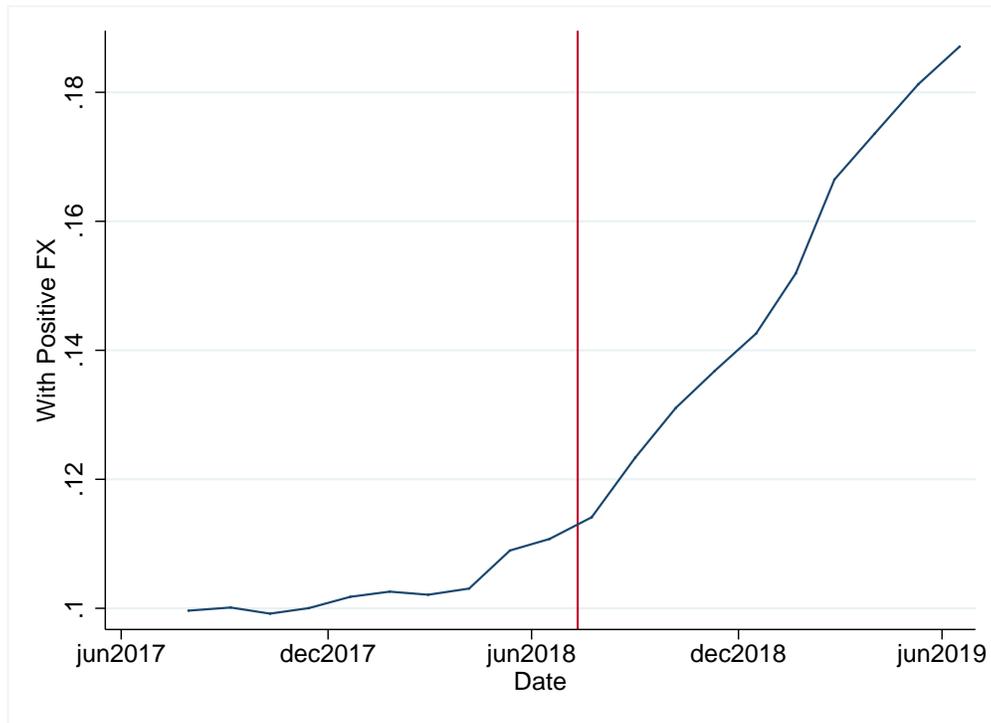


Figure A.2: Share of deposits held in foreign currency

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

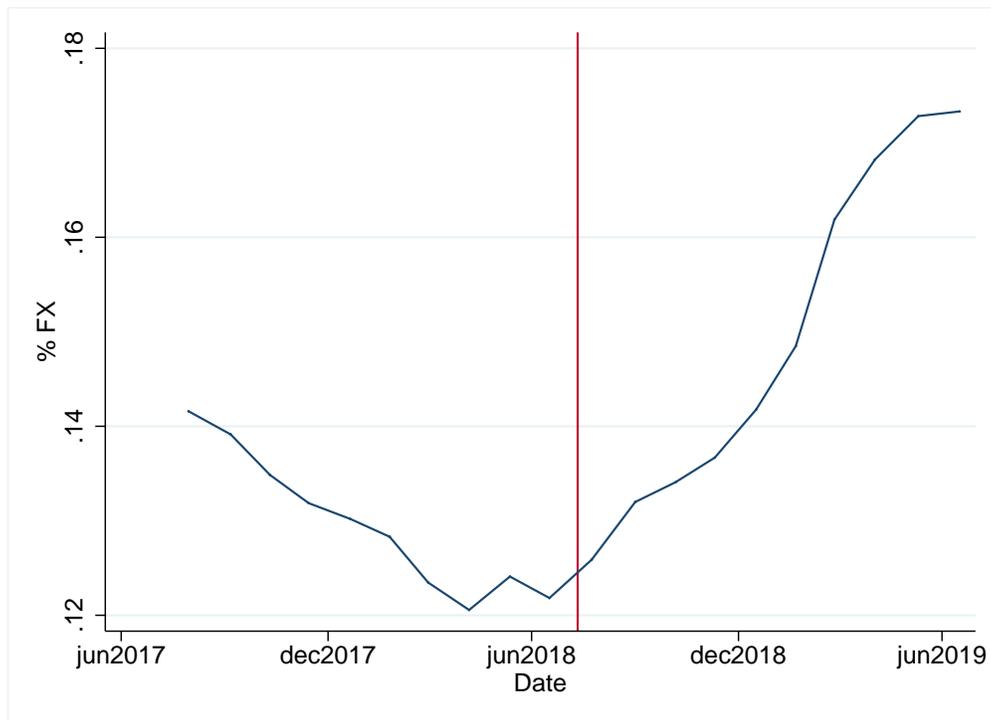
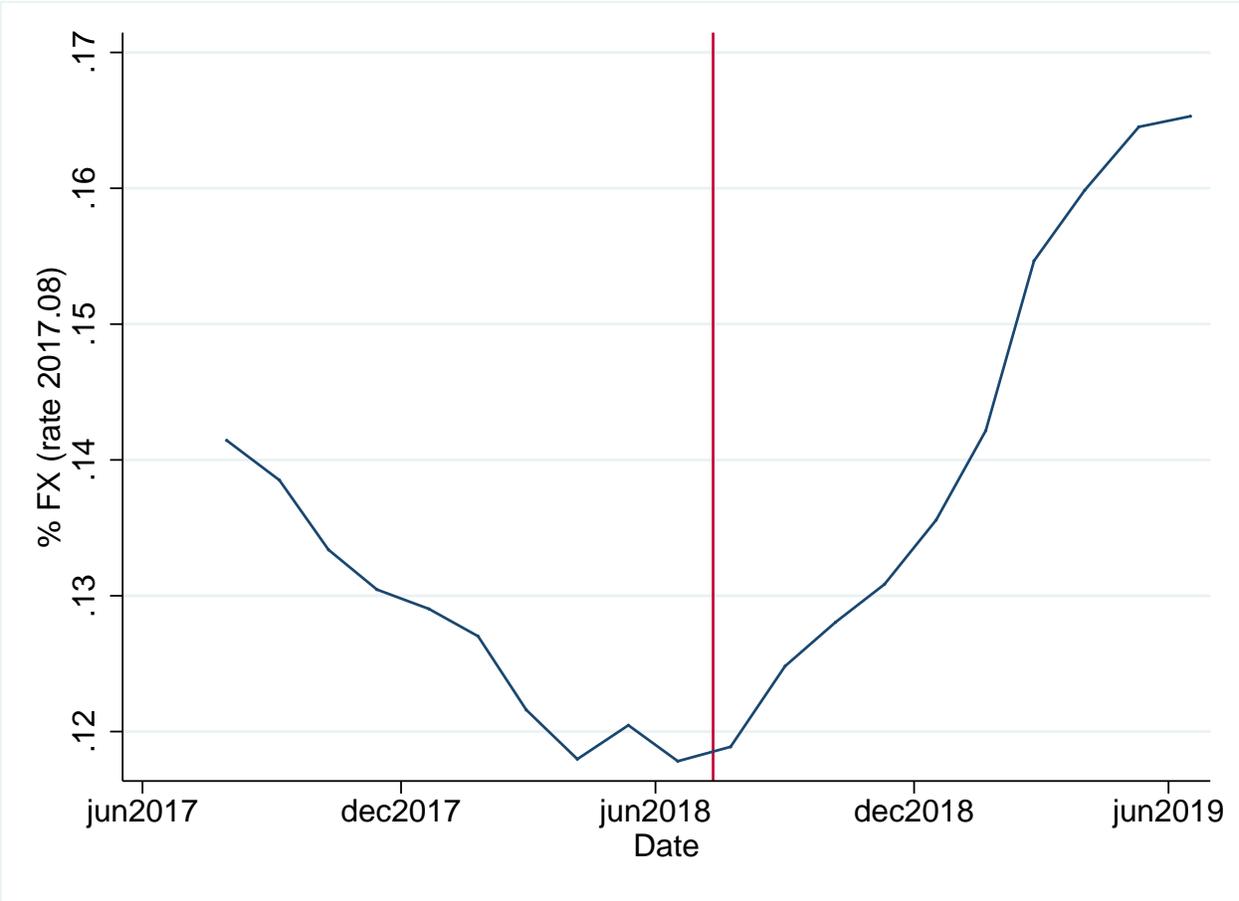


Figure A.3: Share of deposits held in foreign currency (constant rate 2016.09)



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 (0.0389) | 0.0890** (0.0392) | 0.7060*** (0.0341) | 0.6840*** (0.0386) | 0.0888** (0.0349) | 0.1353*** (0.0362) | 0.0841** (0.0357) | 0.1332*** (0.0367) |
| Male | | -0.0323 (0.0432) | | 0.0564 (0.0416) | | -0.0032 (0.0398) | | 0.0262 (0.0416) |
| Married | | 0.0244 (0.0468) | | -0.0591 (0.0442) | | -0.0270 (0.0431) | | -0.0937** (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*** (0.0801) | 0.1988** (0.0864) | 2.1537*** (0.0814) | 1.9862*** (0.0936) | 0.0954 (0.0806) | -0.1075 (0.0878) |
| Male | | -0.2367** (0.0924) | | -0.0004 (0.0987) | | -0.1238 (0.0939) |
| Married | | 0.2501** (0.1052) | | 0.1357 (0.1101) | | 0.1348 (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 (0.0149) | 0.0018 (0.0167) | 0.0819*** (0.0208) | 0.0548** (0.0218) | 0.0123 (0.0336) | 0.0321 (0.0357) |
| Male | | 0.0087 (0.0182) | | 0.0359 (0.0266) | | -0.0242 (0.0386) |
| Married | | 0.0235 (0.0191) | | 0.0167 (0.0280) | | -0.0673* (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*** (0.0012) | 0.0227*** (0.0011) | 0.0063*** (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) FX | (2) TRY | (3) Total | (4) FX | (5) TRY | (6) Total |
| Post | 0.1004*** (0.0030) | 0.2253*** (0.0066) | 0.3587*** (0.0074) | 0.0001*** (0.0000) | -0.0003 (0.0004) | 0.0040*** (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 Istanbul) x Post | -0.0244*** (0.0045) | -0.0251*** (0.0046) | -0.0174*** (0.0049) | -0.0160*** (0.0049) | -0.0023*** (0.0007) | -0.0025*** (0.0007) |
| Erdogan vote (bottom 10% excluding Istanbul) x Post | 0.0277*** (0.0040) | 0.0229*** (0.0041) | 0.0038 (0.0037) | 0.0032 (0.0039) | 0.0020*** (0.0006) | 0.0021*** (0.0006) |
| Erdogan vote (majority) x Post | 0.0073*** (0.0028) | 0.0057** (0.0028) | 0.0023 (0.0026) | 0.0020 (0.0026) | 0.0009** (0.0004) | 0.0009** (0.0004) |
| ln(Age in 2017) x Post | | 0.0119*** (0.0034) | | -0.0002 (0.0034) | | -0.0004 (0.0005) |
| Male x Post | | -0.0083*** (0.0026) | | 0.0021 (0.0025) | | 0.0007* (0.0004) |
| Finance professional x Post | | 0.0012 (0.0060) | | 0.0201*** (0.0060) | | 0.0017 (0.0011) |
| ln(1+Deposits) (2017.08) x Post | | -0.0114*** (0.0010) | | 0.0030*** (0.0008) | | -0.0003* (0.0001) |
| Foreign citizen x Post | | 0.0684*** (0.0171) | | 0.0060 (0.0142) | | -0.0014 (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.

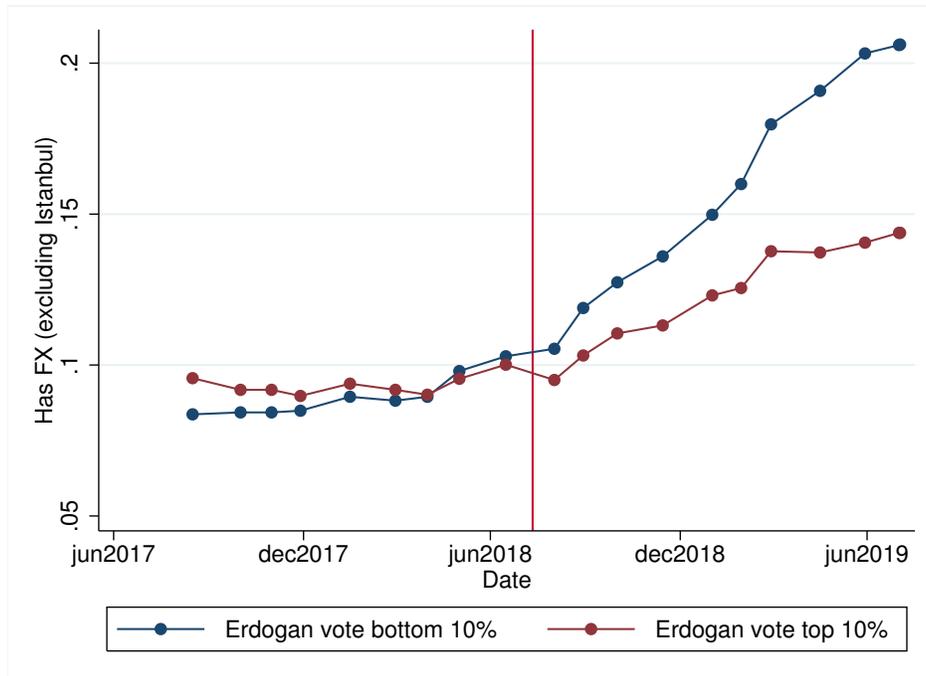
Panel B: Erdogan vote (continuous)

| | Has FX | | Share FX | | Entry FX | |
|---------------------------------|------------------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Erdogan vote x Post | -0.0007*** (0.0001) | -0.0006*** (0.0001) | -0.0003** (0.0001) | -0.0002** (0.0001) | -0.0000** (0.0000) | -0.0000** (0.0000) |
| ln(Age in 2017) x Post | | 0.0127*** (0.0034) | | -0.0003 (0.0034) | | -0.0003 (0.0005) |
| Male x Post | | -0.0086*** (0.0026) | | 0.0020 (0.0025) | | 0.0007* (0.0004) |
| Finance professional x Post | | 0.0025 (0.0060) | | 0.0205*** (0.0060) | | 0.0019* (0.0011) |
| ln(1+Deposits) (2017.08) x Post | | -0.0115*** (0.0010) | | 0.0030*** (0.0008) | | -0.0003** (0.0001) |
| Foreign citizen x Post | | 0.0696*** (0.0171) | | 0.0063 (0.0142) | | -0.0012 (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*** (0.0045) | -0.0278*** (0.0046) | -0.0123*** (0.0042) | -0.0110** (0.0044) | -0.0014** (0.0007) | -0.0019*** (0.0007) |
| ln(Age in 2017) x Post | | 0.0091*** (0.0034) | | -0.0019 (0.0035) | | -0.0006 (0.0005) |
| Male x Post | | -0.0086*** (0.0026) | | 0.0020 (0.0025) | | 0.0007* (0.0004) |
| Finance professional x Post | | 0.0033 (0.0060) | | 0.0208*** (0.0060) | | 0.0019* (0.0011) |
| ln(1+Deposits) (2017.08) x Post | | -0.0118*** (0.0010) | | 0.0029*** (0.0008) | | -0.0003** (0.0001) |
| Foreign citizen x Post | | 0.0708*** (0.0172) | | 0.0058 (0.0145) | | -0.0013 (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** (0.0085) | -0.0336*** (0.0085) | -0.0133* (0.0076) | -0.0118 (0.0077) | 0.0003 (0.0012) | 0.0001 (0.0015) |
| ln(Age in 2017) x Post | | 0.0050* (0.0029) | | -0.0035 (0.0028) | | -0.0003 (0.0005) |
| Male x Post | | -0.0088*** (0.0022) | | -0.0004 (0.0020) | | 0.0006 (0.0004) |
| Finance professional x Post | | -0.0007 (0.0042) | | 0.0214*** (0.0040) | | 0.0018* (0.0011) |
| ln(1+Deposits) (2017.08) x Post | | -0.0148*** (0.0008) | | 0.0032*** (0.0007) | | -0.0003** (0.0001) |
| Foreign citizen x Post | | 0.1593*** (0.0121) | | 0.0039 (0.0104) | | -0.0012 (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

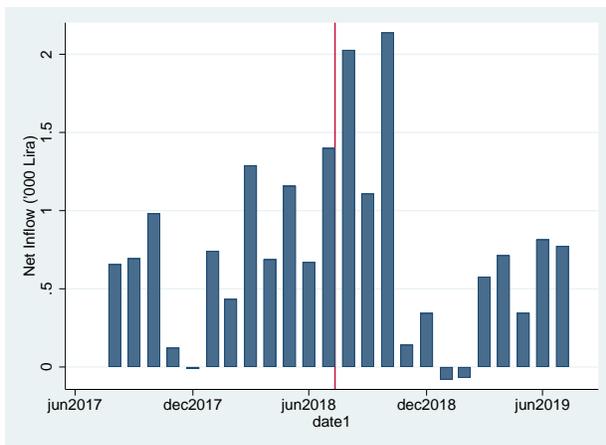
In addition to studying the composition of deposit balances, we estimate account-level cash flows and analyze account activity around the currency shock. We calculate inflows and outflows for lira and FX accounts, as well as net inflows based on those. We also estimate active net transfers between accounts held by the same depositor based on contemporaneous 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 following the shock, with significantly more account inflows and outflows of smaller size.

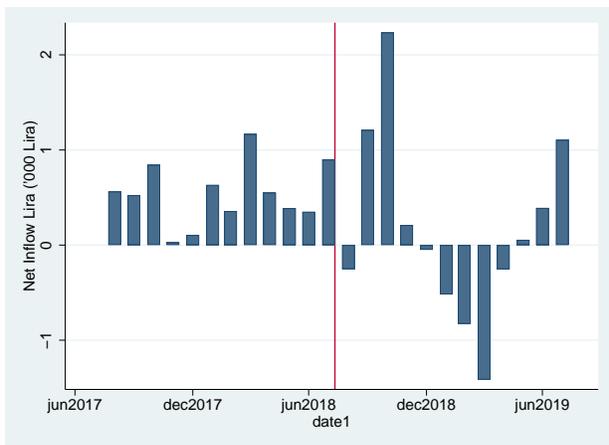
Figure A.5: Net inflows and transfers

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

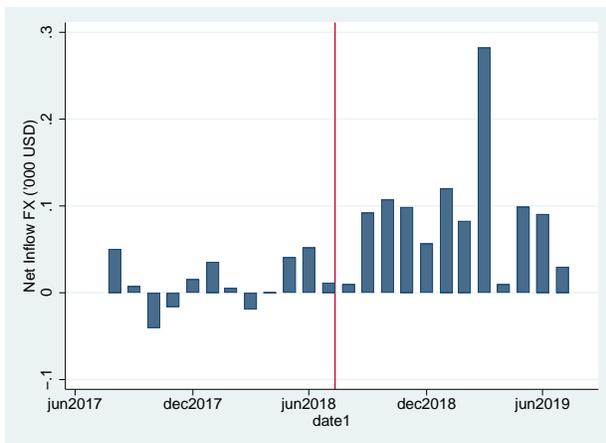
A. Net inflow – total



B. Net inflow – lira



C. Net inflow – FX



D. Net transfers to FX

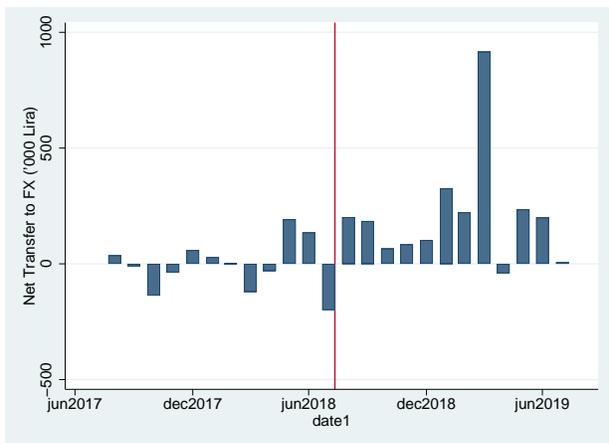
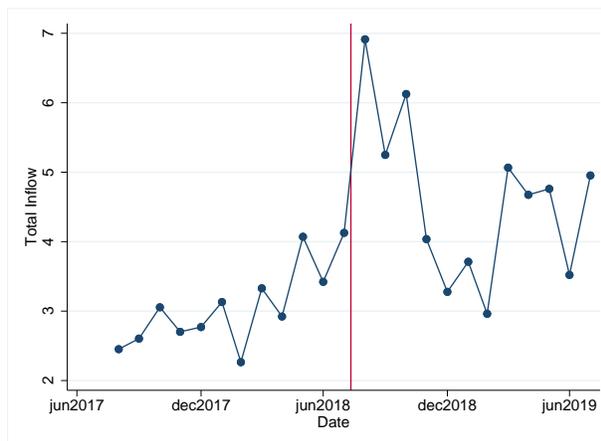


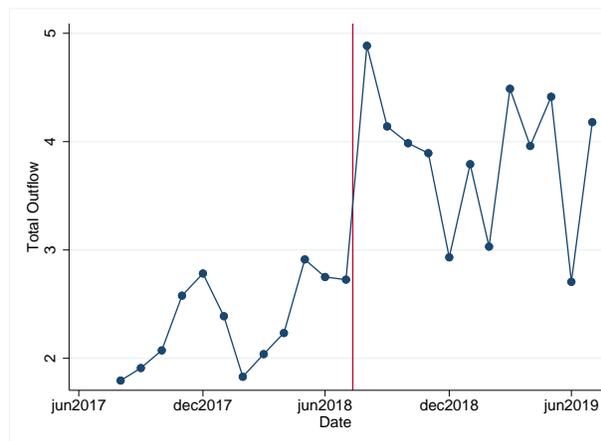
Figure A.6: Inflows and outflows

A. Average total inflow and outflow

Inflow

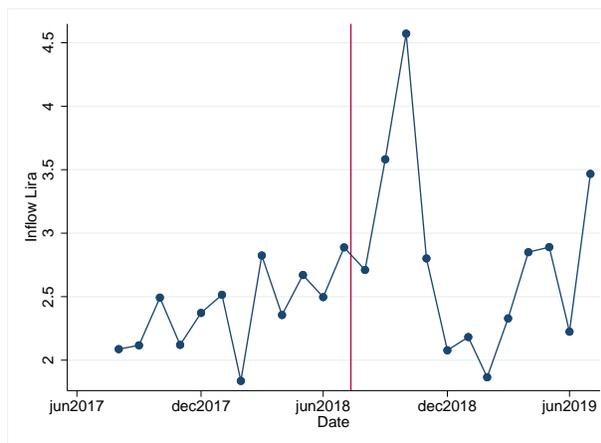


Outflow

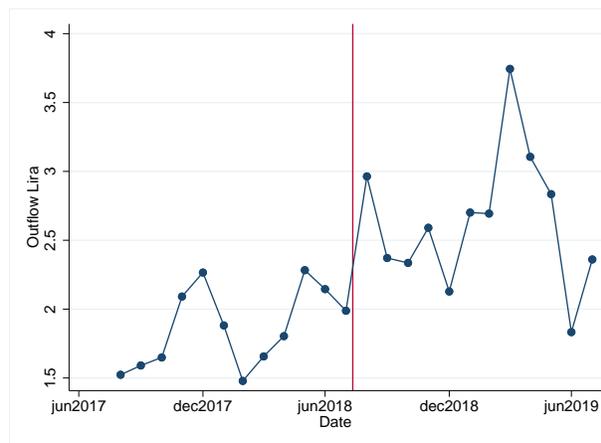


B. Average inflow and outflow – Turkish lira accounts

Inflow

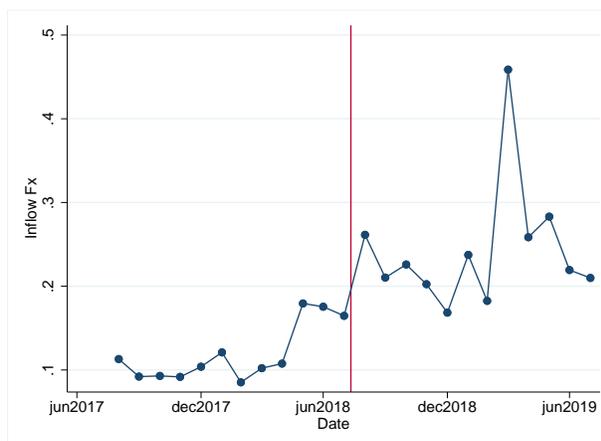


Outflow



C. Average inflow and outflow – foreign currency accounts

Inflow



Outflow

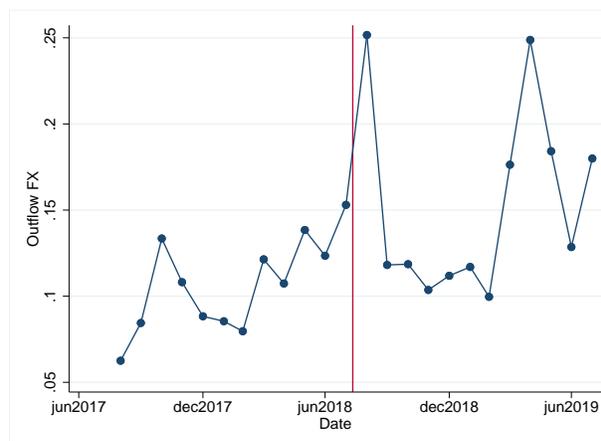
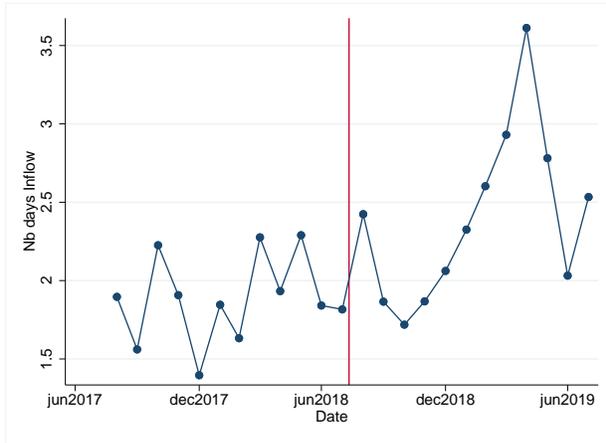


Figure A.6: Inflows and outflows (cont'd)

D. Average number of inflows and outflows by month

Number of inflows



Number of outflows

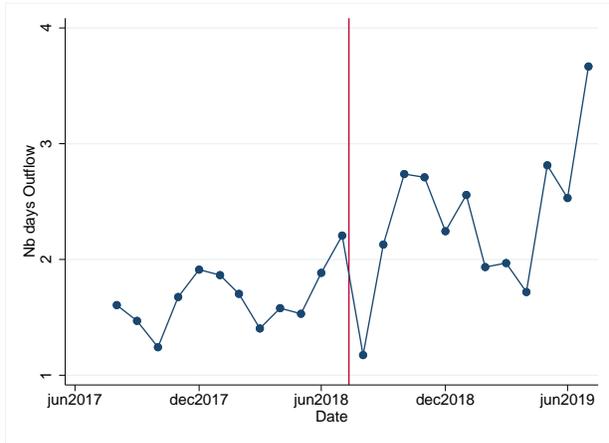
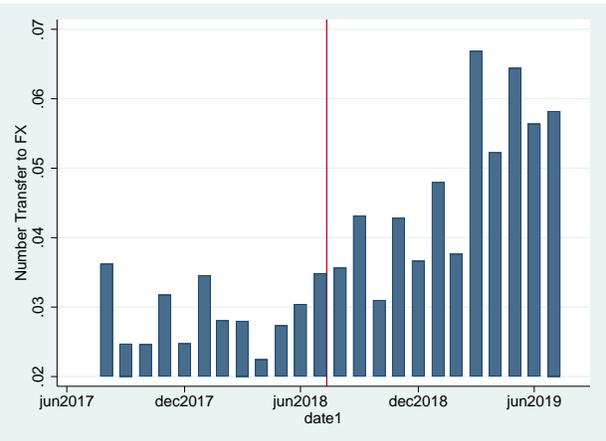
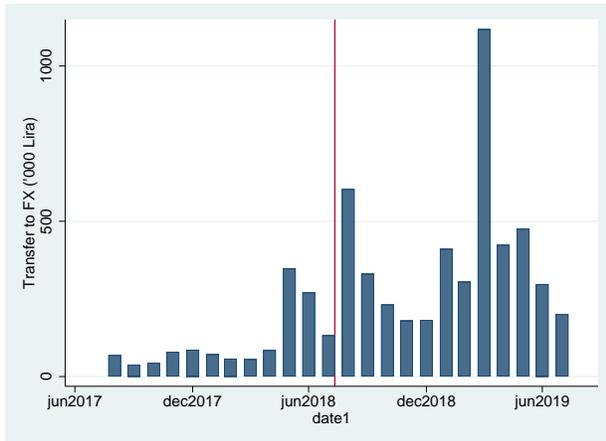


Figure A.7: Transfers between accounts

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)

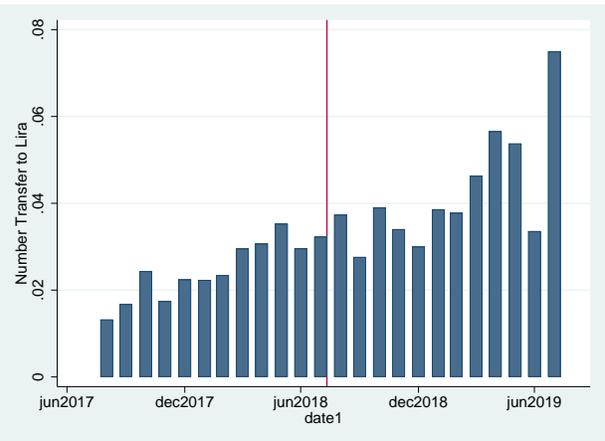
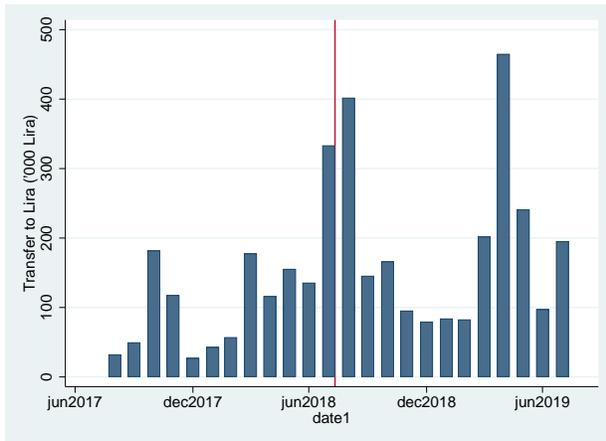


Table A.7
Account inflows and outflows

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*** (0.0007) | 0.0828*** (0.0020) | 0.1796*** (0.0027) | 0.0105*** (0.0006) | 0.0686*** (0.0018) | 0.1618*** (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*** (0.0006) | 0.0707*** (0.0017) | 0.1259*** (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*** (0.0014) | 0.0485*** (0.0016) | 0.1422*** (0.0026) | 0.0373*** (0.0013) | 0.0287*** (0.0014) | 0.1473*** (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.

Table A.7
Account inflows and outflows (cont'd)

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*** (0.0034) | -0.0278*** (0.0028) | -0.0199*** (0.0024) | -0.0333*** (0.0034) | -0.0082*** (0.0031) | 0.0229*** (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*** (0.0010) | 0.0091*** (0.0009) | 0.0235*** (0.0010) | 0.0106*** (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.