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N A T I O N A L   R E S E A R C H   U N I V E R S I T Y

Vladimir Sokolov, Amir Khairutdinov

**BOND FUNDS DURING
THE SOVEREIGN DEBT CRISIS:
THE ARGENTINIAN EXPERIENCE**

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Using the unexpected outcome of Argentinian presidential primary elections in August 2019, which led to the country's sovereign default, we investigate how the exposure of international bond funds to Argentinian sovereign bonds affected the discretionary sales of bonds by fund managers and flows by ultimate investors, conditional on fund liquidity and maturity structure. We find that more liquid and longer duration funds exhibit less sensitivity to pre-default funds' exposure in terms of bond holding growth. Our second finding deals with asymmetric information among funds regarding the restructuring of post-default bonds and varying renegotiation costs. These costs are proxied by funds' previous experience of holding the defaulted Argentinian debt interacted with fund's distance to Buenos Aires. We confirm our hypothesis that the experienced North American funds with the lowest renegotiation costs retained more of their holdings of Argentinian bonds than all other groups.

Vladimir Sokolov, ICEF, National Research University Higher School of Economics, Russian Federation; E-mail: vsokolov@hse.ru

Amir Khairutdinov, ICEF, National Research University Higher School of Economics, Russian Federation; E-mail: amir_khairutdinov@mail.ru

1 Introduction

Bond funds have significantly increased assets under management over the last decade[1]. At the same time a prolonged low interest rate environment pushed many bond funds to pursue a "reaching for yield" strategy (i.e., Becker and Ivashina (2015), Choi and Kronlund (2017), Campbell and Sigalov (2021)). In order to understand the potential threats to financial fragility we need to investigate reallocations of bond holdings and investor flows for funds that pursued such a strategy after they experienced a negative shock leading to a default of high-yield bonds in the funds' portfolio.

Using the unexpected outcome of the Argentinian presidential primary elections in August 2019, which brought a left-wing candidate into power and soon led to the country's sovereign default we investigate how variation in international bond funds' exposure to Argentinian sovereign bonds and past experience with the Argentinian debt affected the discretionary sales of bonds by fund managers and flows by ultimate investors.

The Argentinian case provides an ideal setting for our study. Although Argentina has experienced eight previous sovereign defaults in its modern history, with the most recent one taking place in 2001, it enjoyed a successful return to the international debt markets in 2016-2018 when the country raised $56 billion from international bond funds and other financial institu-

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[1]Goldstein, Jiang and Ng (2017) report that assets under management of corporate bond funds tripled and the share of these funds in the holdings of outstanding bonds went up.

tions[2]. However, the unexpected outcome of presidential primaries in 2019 resulted in an overnight reassessment of the sovereign default probability of Argentinian debt and an immediate collapse of the prices of sovereign bonds.

Our contribution to the literature is twofold. Firstly, we contribute to the bond funds literature (i.e., Chen, Goldstein, and Jiang (2010), Goldstein, Jiang and Ng (2017), Choi and Kronlund (2017), Shek, Shim and Shin (2018)) by investigating a rare event of default probability reassessment that caught fund managers and investors off-guard allowing us to employ the quasi-natural experiment methodology and address possible endogeneity issues.

Secondly, we contribute to the literature on sovereign debt defaults and restructuring. The influential theoretical studies in the area (i.e., Bolton and Jeanne (2007), Pitchford and Wright (2012)) build a framework for optimal debt restructuring while empirical investigations involve cross-country bond level analysis (i.e., Sturzenegger and Zettelmeyer (2008), Cruces and Trebesch (2013), Fang, Schumacher and Trebesch (2020)). To the best of our knowledge we are the first ones to compile data at the bond funds level and study how bond funds adjust their bond holdings during a sovereign default.

When studying how exposure and experience of funds affect their holding adjustments and flows following negative shock, inference may be confounded if the variation in exposure and experience is endogenous to unobserved vari-

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[2]In our work we focus only on the so-called 'Murci bonds' (M-bonds) that were issued under New York law in US dollars and Euro.

ation in funds' investment opportunities during the shock. In order to purge our specifications of this variation, we include only predetermined funds' exposure and experience before the primary elections. The unexpected nature of the elections outcome in our case creates a meaningful component of randomness in distribution of funds' pre-election exposure, liquidity, maturity structure, experience and location. Using exogenous variation in these characteristics, we can then causally estimate their impact on funds' post-shock holdings adjustments and flows.

Our first set of results shows that the degree of fund's exposure to Argentinian bonds prior to the elections is significantly associated with both bond sales by fund managers and investors outflows. We test the strength of these relationships by conditioning on the level of funds' liquidity and average maturity of bonds going through default and restructuring.

Recent studies by Chen, Goldstein, and Jiang (2010) Goldstein, Jiang and Ng (2017) raise the importance of bond funds' illiquidity for the relationship between funds' returns and investors' flows due to strategic complementarity among investors.

We find that a higher level of fund liquidity prior to an adverse shock offsets the negative impact of fund's shock exposure on discretionary bond sales but has no effect on the relationship between funds exposure and overall investor flows. This evidence suggests that fund managers are aware of the strategic complementarity among fund's investors which leads managers of less liquid funds to reduce Argentinian bond holdings more in anticipation of investors' redemptions.

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Next we test the hypothesis on how the asymmetric losses on short-term versus long-term bonds during the restructuring process are reflected in fund managers' positions and investors' flows. Asonuma, Niepelt and Ranciere (2017) and Fang, Schumacher and Trebesch (2020) show that during sovereign defaults and subsequent restructuring the "haircuts" or losses on short-term bonds are significantly higher compared to those on long-term bonds.

We find that following the event that substantially increased the probability of the sovereign default and restructuring, managers of funds with longer duration of Argentinian bonds were less sensitive to fund's exposure as discretionary sales for such funds were lower compared to funds with shorter duration of Argentinian bonds in their portfolio. This suggests that fund managers anticipate higher losses in the upcoming restructuring on shorter duration bonds and execute deeper liquidations of positions in such bonds comparing to funds with longer duration portfolios.

Our second set of results deals with the impact of: i) funds' previous *experience* of holding Argentinian sovereign bonds; and ii) funds' *location* on their discretionary bond sales and flows. During the post-election/pre-default period funds had to evaluate the outcome of the upcoming debt restructuring negotiations and adjust expectations about the new bonds' pay-off. Normally restructuring involves outright losses in the form of haircuts and extension of bonds' maturity (debt reprofiling in IMF's jargon). Cruses and Trebesch (2013) show that outcomes of sovereign debt negotiations vary a lot and involve multiple meetings of funds' representatives with

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the country's government.

Sovereign debt restructuring could be lengthy and involves coordination problems for multiple bondholders. We posit the hypothesis that bond funds with a previous *experience* in defaulted Argentinian debt have lower information asymmetry regarding the negotiation outcome and hence lower renegotiations costs. Thus, we expect the experienced funds to decrease their Argentinian bond holdings less, compared to the *newcomer* funds who only held newly issued M-bonds. In a similar fashion we expect funds that are located closer to Buenos Aires to have lower costs and lower decrease in their Argentinian bond holdings compared to more distant funds.

In order to construct a measure of bond funds' previous *experience* in defaulted Argentinian debt we have collected data on our sample funds' holdings of sovereign Argentinian bonds during the last default back in 2001[3]. In addition to that we have collected data on our sample funds' holdings of so-called 'Kirchner bonds' (K-bonds) that were issued in 2005 in exchange for defaulted bonds.

Our second variable of interest is the distance between Buenos Aires and the city where a fund's managers are located. Portes and Rey (2005), Hau and Rey (2008) show that distance is a good proxy for information costs and information asymmetry between domestic and foreign investors for equity

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[3]Following the 2001 default Argentina had restructured its bonds on 2005 with a haircut of approximately 76 per cent (Sturzenegger and Zettelmeyer (2006, 2008)). Fang, Schumacher and Trebesch (2020) analyzed all individual Argentinian bond issues and found that the difference between the highest and the lowest haircuts was 56 percentage points. That default involved high holdout rates (Cruces and Samples (2016)) and litigation in courts (Weidemaier and Gelpern (2014), Schumacher (2014)).

fund flows. Coval and Moskowitz (1999, 2001) study the abnormal turnover of mutual funds and find that the turnover is highly negatively related to the local bias which is consistent with higher asymmetric information costs for more distant investors.

We employ an empirical specification which interacts a fund's *experience* in holding Argentinian bonds and its distance to Buenos Aires. Since most funds are located either in North America or Europe we can summarize the distance by indicator variables for these two continents.

Our results provide a nuanced picture. As we would expect *experienced* funds based in North America is the group with the lowest renegotiation costs and the lowest average discretionary sales of Argentinian bonds relative to other groups. For example, relative to this reference group the North American *newcomer* funds decreased their holdings by 23 per cent, the Europe based *experienced* funds decreased their bond holdings by 21 per cent, while Europe based *newcomer* funds decreased their holdings by 6 per cent.

All in all, as expected *experienced* North American funds exhibit the most conservative adjustment of Argentinian bonds holdings after the negative shock that the election outcome represented.

The caveat in our result is the fact that within Europe *experienced* funds decreased their position more relative to *newcomer* funds. But further analysis at the extensive margin reveals that this result is driven by the fact that following the presidential primaries and the collapse of Argentinian sovereign bond prices, a significant number of Europe- based *newcomer* funds entered positions in Argentinian distressed bonds for the first time in pursuit of a

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"gamble for resurrection" strategy.

Our estimates for fund flows show that previous *experience* of funds with Argentinian debt and the distance from fund's location are not significantly related to funds flows. Only in a cross-sectional regression without fund group fixed effects did the North America based *newcomer* funds have a deeper flow decline by 1.1 per cent relative to the *experienced* funds.

It is important to emphasize that it is the geographical location of a fund's management team that matters, not the country where the fund is incorporated.

2 The Argentinian primary elections shock

After pro-market candidate Mauricio Marci was elected president in November 2015 and settled all previous debt litigations, Argentina triumphantly returned to the global capital markets after being cut-off from them for 15 years. In April 2016 it raised $16.5 billion through the issuance of sovereign bonds, which was four times oversubscribed with the total bids from international investors amounting to $68.6 billion. According to Bronstein and Marsh (2016), one of the investors described the environment at that time as follows:

"Argentina is a grab-fest out there."

This anecdotal evidence conveys the mood of international bond fund managers in the "reaching for yield".

However, in August 2019 Argentina's President Mauricio Macri unexpectedly lost a primary vote by a landslide, indicating a defeat in upcoming presidential election in October.

Zhou and Makse (2019) report that the top five Argentinian pollsters: Real Time Data, Poliarquia, Isonomia, Giacobbe and Elypsis made wrong predictions for the primary elections. All pollsters predicted that Macri would win the re-election and it was widely documented in the press that pollsters held several telephone conferences with foreign investors prior to the primaries telling them:

"Macri wins by one point: 38 to 37%."

In line with these predictions, the stock market rose in the days preceding the election. The outcome of the primaries was considered by many as a referendum on Macri's austerity-driven economic policies. With the loss of Macri by 16 points the Argentinian stock market plunged by 30 per cent, making it the second-biggest one day stock market slump since 1950 internationally. On the same day the Argentinian Peso slid by 15 per cent against the US dollar. Figure 1 illustrates the dynamics of Argentinian Stock Market Merval Index and the exchange rate of the Peso (ARS) against the US dollar.

According to the CNBC report by Meredith (2019) the next day post primaries shock was described as follows:

"Speaking from Buenos Aires on Monday morning, Jimena Blanco,
head of Americas research at risk consultancy Verisk Maplecroft,

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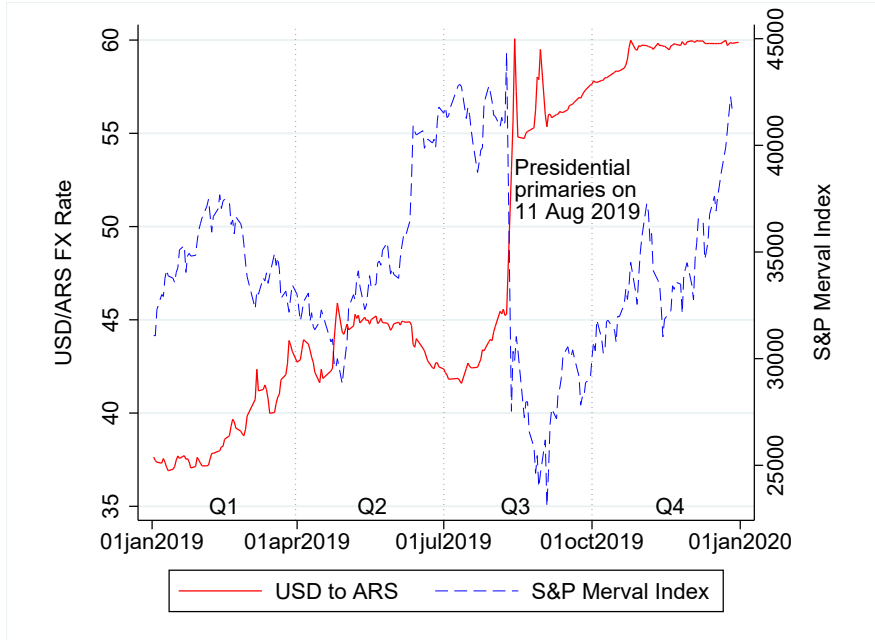
Figure 1: Peso exchange rate and Argentinian stock market dynamics

told CNBC that nobody — not even the most optimistic Fernandez supporters — expected to wake up to this result.

"There is total shock on both sides," Blanco said, emphasizing that almost all polls had predicted a much closer race between the two leading candidates."

At the same time prices of sovereign Argentinian bonds declined by 40 per cent as visible from Figure 2. We illustrate the dynamics of the Argentinian bond market in parallel with JPMorgan EMBI+ Index which did not exhibit any significant drop during the same period. Which makes the shock to bond funds' portfolios Argentina-specific.

Figure 2: The most liquid Argentinian bond and JPMorgan EMBI+ index dynamics

The unexpected outcome of the primary elections and the abrupt overnight revaluation of Argentinian financial assets allow us to overcome the endogeneity concerns and follow studies on the impact of close elections or sudden deaths of politicians on financial performance of firms (Akey (2015),

Brogaard, Denes and Duchin (2020)).

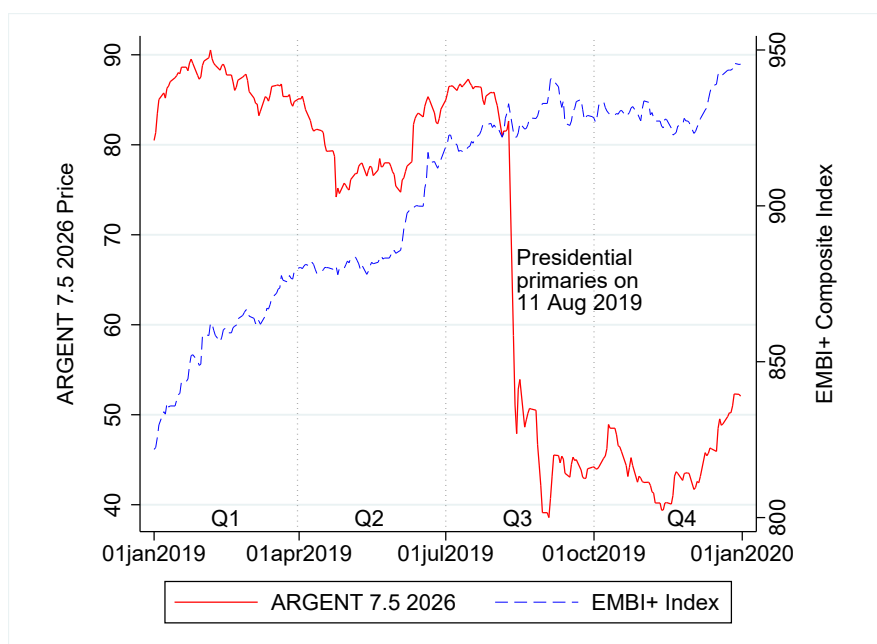In the period leading to the ninth Argentinian default in May 2020 the new left-leaning government discussed the possibility of maturities extension on the outstanding bonds. This "debt reprofiling" would have postponed but not reduced the principal and interest payments.

Argentina has learned from the legal battle with holdouts during its past restructuring and new "Marci bonds" included *single-limb collective action clauses (CAC)* modification that requires only one affirmative vote by 75 percent of bondholders across all bond series. Fang, Schumacher and Trebesch (2020) demonstrate that the strongest form of CACs, with *single-limb* modification would have eliminated holdout and litigation risks.

In August 2020 Argentina reached an agreement with its creditors on debt restructuring. According to Bloomberg, the deal gave creditors 55 cents per dollar and was considered favorable for creditors (Millan and do Rosario (2020)).

3 Data and Empirical Strategy

3.1 Data and Variables Description

We have collected our data set from Bloomberg. First, we identified all Argentinian sovereign bonds and notes issued in 2016-2018 under the New York Law in US dollar and Euro. Table 9 in Appendix lists all these bonds and their characteristics. Next, we collect data on all international bond funds'

holdings of these bonds and fund-specific variables. The data is provided at quarterly frequency.

A. Defining Bond Holdings Growth and Fund Flows

Our key dependent variable is growth of each fund's Argentinean bond holdings. Entry and exit of funds are frequent in our case and in order to accommodate for both extensive and intensive margins of fund holdings dynamics we employ the symmetric growth rate formula:

$$Holding\ Growth_{\tau-1,\tau} = \frac{(H_\tau - H_{\tau-1})}{0.5 \cdot (H_\tau + H_{\tau-1})}, \tag{1}$$

where H_τ is a total number of Argentinian M-bonds held by a fund at the end of quarter τ. All M-bonds have the same par value of \$1000 US[4]. This measure is a second-order approximation of the standard growth rate around zero and is bounded by [-2,2] which correspond to exit and entry. It has been used by Chodorow-Reich (2014) and by Hau, Massa and Peress (2010) and normalizes the quarterly change in holdings by the average of holdings over two consecutive quarters.

Our second variable of interest is fund flow generated by ultimate investors as defined by Goldstein, Jiang and Ng (2017):

$$Flow_{\tau-1,\tau} = \frac{TNA_\tau - TNA_{\tau-1}(1 + R_\tau)}{TNA_{\tau-1}}, \tag{2}$$

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[4]There are a few M-bonds denominated in Euro with 1000 Euro par value. We adjust funds' holdings of those bonds by multiplying fund's position in Euro denominated bonds by 1.1 which corresponds to EUR/USD exchange rate at that time.

where TNA_τ is the total net asset value of a fund at the end of quarter τ, and R_τ is the fund's quarterly return. As a standard practice we winsorize fund flows at 1% and 99% levels.

B. Defining Funds Exposure to Argentinian Bonds

Our fist independent variable measures each fund's exposure to a 40% collapse of Argentinian bond prices in the post-election period.

$$Exposure\ Sov_{\tau-1} = \frac{H_{\tau-1}}{TSH_{\tau-1}}, \tag{3}$$

where $H_{\tau-1}$ are fund's holdings at the end of pre-election quarter and $TSH_{\tau-1}$ are fund's Total sovereign bond holdings which include bonds of other countries with below prime ratings.

For robustness check we employ another measure of fund's exposure to Argentina where we normalize the value of Argentinian bond holdings by fund's Total net assets:

$$Exposure\ Tot_{\tau-1} = \frac{H_{\tau-1}}{TNA_{\tau-1}}, \tag{4}$$

where $H_{\tau-1}$ are fund's holdings at the end of pre-election quarter and $TNA_{\tau-1}$ are fund's Total net assets at the end of the same quarter.

C. Defining Funds Experience with Previous Argentinian Bonds

We define funds as *experienced* if in addition to holding new M-bonds it

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had previous experience of holding Argentinian bonds listed in Table 18 that were issued prior to 2016.

$$Experienced\ fund = \mathbb{1}\left\{\mathrm{H}_{old} > 1 | H_{new} > 0\right\}, \tag{5}$$

where *old* is a period of old Argentinian bond issuance before 2016; *new* is a period of new Argentinian M-bonds issuance 2016-2018.

The *newcomer* funds are those that only held new Argentinian M-bonds listed in Table 9 that were issued in 2016-2018 period.

$$Newcomer\ fund = \mathbb{1}\left\{\mathrm{H}_{old} = 0 | H_{new} > 0\right\}, \tag{6}$$

The *Newcomer* funds are those that only had experience if holding new M-bonds for the first time.

D. Distance variables

We have collected information from Bloomberg on all cities where funds' management teams are located. Further, we have employed *Microsoft Bing* service to geolocate all these cities and calculate distance to Buenos Aires.

Besides location of the management team Bloomberg also reports the country where fund is incorporated. As visible from Table 10 in the Appendix country of fund's location and country of incorporation often do not coincide. In order to provide a more detailed account of this phenomenon we further break down the difference between fund teams' location and incorporation

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for top six countries by number of funds: US, UK, Germany, France, Italy and Switzerland in Table 12.

Since most funds are located or incorporated either in North America or Europe we summarize their location by the continent dummies. Indicator variable *Europe manager* takes value one if fund's management team is located in one of the European countries, zero otherwise. Indicator variable *Europe incorporated* takes value one if fund is incorporated in one of the European countries.

3.2 Summary statistics and non-parametric evidence

In Tables 1 and 2 we report the summary statistics across all sample funds. Table 3 provides a detailed description of the variables used in our study.

Additional descriptive statistics of our sample funds can be found in Tables 15- 17 in the Appendix. These tables report distribution of funds by type, objective and strategy.

A. Scatterplots of dependent variables against fund's exposure

Figures 3-6 in the Appendix provide the visualization of the scatter-plots of our key dependent and independent variables.

In Figure 3 we plot Argentinian bond Holdings growth of each sample fund and fund's flow against fund's exposure. Funds with cash share of total net assets *below* the sample median are represented by black dots and the black line represents the fitted linear regression for this sub-sample. Funds

Table 1: **Summary statistics**

	N	Mean	St. Dev	Min	p50	Max
Dependent variable						
Argen. bond holdings$_{\tau-1}$	937	12091.42	38849.15	0	1710	623761
Argen. bond holding$_\tau$	937	11763.94	45216.67	0	1250	722731
Holdings growth$_{\tau-1,\tau}$	937	-0.154	0.954	-2	0	2
Flow$_{\tau-1,\tau}$	937	0.002	0.133	-0.454	-0.014	0.794
Variables of interest						
Exposure Sov$_{\tau-1}$	937	0.151	0.245	0	0.055	1
Exposure Tot$_{\tau-1}$	937	0.010	0.025	-0.025	0.004	0.677
Cash Share$_{\tau-1}$	937	0.027	0.070	-0.699	0.005	1
Maturity Arg$_{\tau-1}$ (N. Years)	937	9.180	9.404	0	7	98
1{Newcomer fund}	937	0.386	0.487	0	0	1
Distance (Km)	937	10301.8	1471.05	7426.09	11050.16	18950.87
Distance (Ln)	937	9.231	0.138	8.913	9.31	9.85
1{Europe manager located}	937	0.536	0.499	0	1	1
1{Europe incorporated}	937	0.565	0.496	0	1	1

Table 2: **Summary statistics. (Cont.)**

	N	Mean	St. Dev	Min	p50	Max
Control variables						
Fund manager fee	937	0.009	0.005	0	0.008	0.037
Fund manager fee (Ln)	937	-4.833	0.699	-6.908	-4.722	-3.283
1{Rear load}	937	0.186	0.389	0	0	1
Fund return$_{\tau-1}$	937	2.468	1.502	-1.75	2.55	7.69
Fund return volatility$_{\tau-1}$	937	2.793	1.643	0.192	2.431	11.827
Fund size$_{\tau-1}$ ($ Mln.)	937	1989.74	6778.79	1.256	386.2	127806.6
Fund size$_{\tau-1}$ (Ln)	937	6.018	1.765	0.229	5.956	11.758
Fund age$_{\tau-1}$ (N. months)	937	154.822	112.387	9	119	956
Fund age$_{\tau-1}$ (Ln)	937	4.771	0.777	2.197	4.779	6.863
Sovereign bond share (%)	937	15.033	23.184	0	3.56	97.67
Industrial bond share (%)	937	23.422	21.517	0	18.78	89.75
Treasury bond share (%)	937	16.155	21.046	0	7.1	94.02

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Table 3: **Variables Definitions**

Variable	Definition
Argentinian bond holdings	Number of bonds held be the fund at the end of the quarter.
Holdings growth	Symmetric growth rate of Argentinian bond holdings, Q-to-Q.
Flow	Growth of total net assets adjusted for quarterly return
Exposure Sov	Share of Argentinian bond holdings in total fund's sovereign bond holdings.
Exposure Tot	Share of fund's Argentinian bond holdings in total fund's holdings.
Cash share	Share of cash in total fund's holdings.
Maturity Arg	Average value weighted maturity of fund's Argentinean bond holdings.
Experienced fund	Takes value one if fund held Argentinian bonds issued prior to 2016, zero otherwise.
Newcomer fund	Takes value one if fund only held new 'Murci bonds' issued in 2016-2018, zero otherwise.
Distance	Distance between the managing team's location and Buenos Aires.
Europe manager located	Takes value one if fund manager is located in Europe, zero otherwise.
Europe incorporated	Takes value one if fund is incorporated in Europe, zero otherwise.
Fund manager fee	Base management fee that the management company charges annually for its service. The value represents percentage.
Rear load	Indicator variable that takes value one if fund charges the redemption fee, zero otherwise.
Fund return	The quarterly total fund's return.
Fund return volatility	Standard deviation of daily fund returns within a quarter.
Fund size	Total amount of money invested in the fund, including cash and securities (in USD millions).
Fund age	Number of months since fund's inception.
Fund Objective	Goals that meet the requirements of investors and commensurate with the acceptable risk levels.
Fund Type	Description of a product designation provided by the fund company through a regulatory filling or prospectus.
Fund Strategy	Investment strategy the fund focuses on for investment opportunities as stated in the prospectus or offering memorandum.

with cash share of total net assets *above* the sample median are represented by red dots and the red dotted line represents the fitted linear regression for this sub-sample.

As one can see form the top figure sub-sample of funds with low cash share (illiquid funds) exhibits a pronounced negative relationship between holdings growth and exposure. For liquid funds with high cash share the relationship is also negative but is much weaker.

The bottom figure suggests that there is no discernible relationship between fund flows and exposure for either sub-sample.

Similar non-parametric evidence transpires from Figure 4 where we plot the unconditional correlation between our key variables conditional on fund's maturity duration of Argentinian bonds.

The pre-shock duration of Argentinian bond holdings matters for the relationship between holdings growth and exposure and does not matter for fund's flow. As visible form the top figure the negative relationship between holdings growth and exposure is more pronounced for funds with shorter average maturity of holdings.

B. Scatterplots of dependent variables against fund's distance to Buenos Aires

In Figure 5 we plot Argentinian bond Holdings growth of each sample fund and fund's flow against distance to Buenos Aires from the city where fund's team is located. Funds that had previous experience of holding Argentinian bonds listed in Table 18 are represented by black dots and the

black line represents the fitted linear regression for this sub-sample. Funds that only held new Argentinian M-bonds listed in Table 9 are represented by red dots and the red dotted line represents the fitted linear regression for this sub-sample.

The top figure indicates that *experienced* funds located in North America and *newcomer* funds located in Europe exhibited the lowest decline in growth of holdings. The bottom figure shows that fund flows and distance are not significantly related.

The next Figure 6 plots the same information as Figure 5 for a sub-sample of funds that belong to top three Fund groups: Invesco, BlackRock, Fidelity. This plot presents evidence on intra-fund group relationship between our variables of interest.

4 Econometric Setup and Identification

4.1 Empirical specification

A. Fund's exposure, liquidity and maturity length

Our first specification tests how pre-shock exposure of funds to Argentinian bonds affects the growth of bond holdings and fund flow.

$$Y_{\tau-1,\tau} = \alpha + \delta_i + \beta Exposure^k_{\tau-1} + \gamma Controls_{\tau-1} + \varepsilon_\tau \qquad (7)$$

where $Y_{\tau-1,\tau}$ is either *Holding Growth*$_{\tau-1,\tau}$ or *Flow*$_{\tau-1,\tau}$; k=(*Exposure*

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Sov, Exposure Tot).

$Controls_{\tau-1}$ is a set of variables which control for observable fund's characteristics and include: Manager fee, Rear load, Fund size, Fund age, Fund return and fixed effects for Fund type, Fund strategy, Fund objective.

In a specification with a fund group fixed effect δ_i the coefficient β captures the differential effect of the fund's exposure on dependent variables *within* a fund group. In a specification without a fund group fixed effect δ_i the coefficient β captures the effect of the fund's exposure on dependent variables across all funds.

Our second specification (8) tests the strength of the relationship between fund's exposure and dependent variables conditional on funds liquidity. We use the pre-election $Cash\ Share_{\tau-1}$ of total net assets as a measure of fund's liquidity and interact this liquidity measure with fund's exposure.

$$Y_{\tau-1,\tau} = \alpha + \delta_i + \beta_1 Exposure\ Sov_{\tau-1} +$$
$$+\beta_2 Exposure\ Sov_{\tau-1} \times Cash\ Share_{\tau-1} + \qquad (8)$$
$$+\beta_3 Cash\ Share_{\tau-1} + \gamma Controls_{\tau-1} + \varepsilon_\tau$$

where coefficient β_1 captures the impact of $Exposure\ Sov_{\tau-1}$ on zero cash funds, while β_2 is the coefficient on the interaction term capturing the differential response of fund managers and investors to exposure conditional on different levels of fund's liquidity.

Specification (9) follows the same identification strategy for testing the

strength of the relationship between fund's exposure and dependent variables conditional on the maturity structure of the fund's Argentinian bond holdings.

Here we interact our variable of interest $Exposure\ Sov_{\tau-1}$ with $Maturity\ Arg_{\tau-1}$ and interpret the estimate of the coefficient β_2 as the differential response of fund managers and investors to exposure conditional on the duration length of funds' Argentinian bond portfolio.

$$
\begin{aligned}
Y_{\tau-1,\tau} = \alpha + \delta_i + \beta_1 Exposure\ Sov_{\tau-1} + \\
+\beta_2 Exposure\ Sov_{\tau-1} \times Maturity\ Arg_{\tau-1} + \\
+\beta_3 Maturity\ Arg_{\tau-1} + \gamma Controls_{\tau-1} + \varepsilon_{\tau}
\end{aligned}
\tag{9}
$$

B. Fund's experience, location, jurisdiction

Our next specification aims at testing the relationship between our dependent variables and fund's previous *experience* with Argentinian bonds conditional on fund's location (distance).

We put forward the hypothesis that *experience* and location (distance) measure the asymmetry of renegotiation and restructuring costs among funds and should be reflected in fund's holdings adjustment of defaulting Argentinian bonds and overall flows.

In specification (10) we interact the indicator variable $\mathbb{1}\left\{\text{Newcomer fund}\right\}$ with *Distance* measured in kilometers between Buenos Aires and city of the fund's managing team.

$$Y_{\tau-1,\tau} = \alpha + \delta_i + \beta_1 \mathbb{1}\left\{\text{Newcomer fund}\right\} +$$
$$+\beta_2 \mathbb{1}\left\{\text{Newcomer fund}\right\} \times Distance+ \qquad (10)$$
$$+\beta_3 Distance + \gamma Controls_{\tau-1} + \varepsilon_\tau$$

where coefficient β_1 captures the differential growth rate between *Newcomer* and *Experienced* funds at zero distance, while β_2 is the coefficient on the interaction term capturing the differential response of fund managers and investors in *Newcomer* and *Experienced* funds conditional on their remoteness from Buenos Aires.

Table 10 in the Appendix and Figure 5 demonstrate that most funds in our sample are located and incorporated in Europe or North America which creates two large clusters of funds if we sort them by distance to Buenos Aires.

In our next specification we create four groups of funds: Europe based managing teams vs. North America based managing teams and Europe incorporated funds vs. North America incorporated funds. We again employ the interaction term specification in (11) which provides a parsimonious setting for estimating the differential effects of asymmetric information and

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costs among these multiple groups of funds.

$$Y_{\tau-1,\tau} = \alpha + \delta_i + \beta_1 \mathbb{1}\{\text{Newcomer fund}\} +$$
$$+\beta_2 \mathbb{1}\{\text{Newcomer fund}\} \times \mathbb{1}\left\{\text{Europe}^l\right\} + \quad (11)$$
$$+\beta_3 \mathbb{1}\left\{\text{Europe}^l\right\} + \gamma Controls_{\tau-1} + \varepsilon_\tau$$

where $l=$(managing team location, fund's jurisdiction). For specification where $l=$managing team location the reference group are North America based *experienced* funds. Thus, coefficient β_1 captures the difference in our dependent variables between North America based *newcomer* and the reference group. Coefficients β_2 and β_3 capture the difference in the dependent variables between Europe based *newcomer* and the reference group and difference between North America based *experienced* funds and the reference group respectively.

We employ the same set of control variables and test two specifications: with fund group fixed effect δ_i and one without this fixed effect.

5 Results

A. Fund's exposure,liquidity and maturity length

The estimation results of the baseline specification (7) are presented in Table 4. Comparing the estimates of the coefficient β in the first and third

columns of Table 4 we see that $Exposure\ Sov_{\tau-1}$ had significant negative impact on post-election growth of Argentinian bonds' holdings but the effect was weaker *within* the fund group. In other words, keeping the observable fund characteristics constant, the more exposed funds to the defaulting bonds the more they reduce their exposure in the immediate aftermath of the negative shock.

The economic magnitude of the effect is strong. A 1-standard-deviation increase in exposure leads to 0.2 standard-deviation decrease in funds' growth of Argentinian bond holdings.

At the same time estimates of β in columns (5) and (7) reveal that exposure of bond funds also had a significant negative effect on the overall funds' flow. This demonstrates that ultimate investors adjust their flows in funds exposed to high-yield debt upon arrival of the negative news regarding the probability of default of funds' high-yield holdings.

The economic magnitude of the effect on fund's flow is weaker. A 1-standard-deviation increase in exposure leads to 0.07 standard-deviation decrease in overall funds' flows.

Estimates of coefficient β in columns (2), (4), (6) and (8) where we employ $Exposure\ Tot_{\tau-1}$ are statistically insignificant suggesting that variation in funds' exposure normalized by total net assets contains a lot of other shocks possibly offsetting the negative shock hitting a portion of sovereign debt holdings of the funds. Perhaps other types of bonds (Treasury, Industry) in bond funds' portfolios provide a natural hedge to a negative shock hitting a fraction of Sovereign bonds.

The change in holdings of Argentinean bonds could be driven by expectations of a steep decline in the future pay-off following the sovereign default and the uncertainty of the renegotiation process. Are these sales driven by discretionary sales of fund managers or by redemptions of mutual fund investors whose negative expectations transpire through fund managers sales? In order to answer this question one needs high-frequency data on bond fund trades and investor redemptions. Our quarterly data allows us to find the equilibrium adjustment of bond positions and fund flows after an unanticipated negative shock[5].

A1. Conditioning Exposure on Liquidity and Maturity

In Table 5 we report estimates of coefficients β_1, β_2 and β_3 for specifications (8) and (9).

Estimates on coefficient β_1 in columns (1) and (3) of Table 5 suggest that the negative relationship between holdings growth and $ExposureSov_{\tau-1}$ is very strong for zero cash (illiquid) funds. On the other hand the estimates of the interaction term in the second row for those columns indicate that as share of cash (liquidity) in fund's assets increase the strength of the negative relationship between exposure and growth significantly declines. In other words fund managers in more liquid funds are less sensitive to the exposure and are less forced to execute the discretionary sales.

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[5]In a related study Shek, Shim and Shin (2018) find that discretionary sales by fund managers and investor flow-driven sales are positively correlated and that fund manager sales tend to reinforce the investor driven sales.

Table 4: **Effect of exposure to Argentinian bonds on holdings growth and fund flows**

This table presents the estimates of cross-sectional regressions during the Argentinian presidential primary elections across bond funds that held Argentinian bonds. The dependent variable in columns (1)-(4) is symmetric growth of funds' Argentinian bond holdings. The dependent variable in columns (5)-(8) is flow of fund. In Panels A and C the standard errors are clustered at the country level. In Panels B and D the standard errors are clustered at the fund group level which accounts for serial correlation across funds within the same fund group. Significance levels are * 10%, ** 5%, *** 1%.

Dependent variable:	Holdings growth$_{\tau-1,\tau}$				Flow$_{\tau-1,\tau}$			
	Panel A: OLS		Panel B: Group FE		Panel C: OLS		Panel D: Group FE	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Exposure Sov$_{\tau-1}$	-0.767*** (0.135)		-0.504*** (0.175)		-0.035*** (0.010)		-0.048** (0.019)	
Exposure Tot$_{\tau-1}$		-1.576 (1.196)		-0.893 (1.311)		0.018 (0.317)		0.041 (0.182)
Manager fee (Ln)	0.117** (0.043)	0.109** (0.041)	0.078 (0.050)	0.057 (0.050)	-0.001 (0.010)	-0.001 (0.010)	0.006 (0.012)	0.003 (0.012)
Rear load	-0.168*** (0.059)	-0.130* (0.064)	-0.163 (0.106)	-0.151 (0.107)	0.009* (0.004)	0.010** (0.005)	-0.001 (0.016)	0.001 (0.015)
Fund age$_{\tau-1}$ (Ln)	-0.114* (0.063)	-0.134** (0.063)	-0.105* (0.056)	-0.117** (0.058)	-0.023*** (0.003)	-0.024*** (0.003)	-0.021*** (0.008)	-0.022*** (0.008)
Fund size$_{\tau-1}$ (Ln)	0.002 (0.020)	0.012 (0.019)	0.001 (0.022)	0.007 (0.022)	-0.001 (0.002)	-0.001 (0.002)	-0.005 (0.003)	-0.004 (0.003)
Fund return$_{\tau-1}$	-0.042 (0.026)	-0.018 (0.026)	-0.013 (0.025)	0.002 (0.027)	0.012** (0.006)	0.013** (0.006)	0.009** (0.004)	0.010** (0.004)
Fund type FE	YES	YES	YES	YES	YES	YES	YES	YES
Fund strategy FE	YES	YES	YES	YES	YES	YES	YES	YES
Fund obj. FE	YES	YES	YES	YES	YES	YES	YES	YES
Fund group FE	NO	NO	YES	YES	NO	NO	YES	YES
Num. groups (i)			119	119			119	119
R^2	0.064	0.030	0.463	0.452	0.071	0.067	0.277	0.272
Observations	937	937	848	848	937	937	848	848

This result underpins the importance of liquidity in fund's managers adjustment of bond holdings who recognize the strategic complementarity among investors when they redeem their investments from the fund.

The same coefficients estimates for fund flows reported in columns (5) and (7) indicate that investors strongly respond to exposure in zero cash (illiquid) funds but as funds' liquidity goes up investors do not significant reevaluate interaction of funds liquidity and exposure. In other words, investors' sensitivity to fund's exposure is unaffected by fund's liquidity.

Columns (2), (4), (6) and (8) report estimation results of specification(9). We test here if variation in maturity structure of Argentinian bonds held by funds impacts the sensitivity between bond fund's exposure and bond sales by managers and flows by investors.

The results reported in columns (2) and (4) convey the following message. Funds with the shortest maturity (zero in years) exhibit a strong negative relationship between exposure and holdings growth. Positive estimates of coefficients β_2 suggest that fund managers of funds with longer duration of Argentinian bonds decrease their holdings of Argentinian bonds less compared to funds with shorter duration of their portfolios.

This funding suggests that fund managers anticipate higher losses in the upcoming restructuring on shorter duration bonds (documented by Asonuma, Niepelt and Ranciere (2017) and Fang, Schumacher and Trebesch (2020)) and liquidate their positions in such bonds more than comparable funds with longer duration portfolios.

As evident from columns (6) and (8) conditioning on maturity structure

of funds' portfolio of Argentinian bonds does not have any pronounced effect on overall fund flows.

B. Fund's experience, location, jurisdiction

In this part of our analysis we turn to testing how previous experience of holding Argentinian debt and participating in negotiations and restructuring affects our main dependent variables.

We interact indicator variable measuring the previous fund experience with distance and continent dummies that proxy for negotiation costs associated with information asymmetry across funds.

B1. Fund's Argentinian bonds holdings growth

The left-hand side panel of Table 6 tabulates the distribution of funds by their *experience* and across locations of managing teams, while the right-hand side panel of the same table tabulates the distribution of funds by *experience* and across continents where funds are incorporated.

Table 7 reports the estimation results of specifications(10)-(11) for growth of bond holdings. Highly significant coefficient estimates β_3 on *Distance* in columns (1)and (4) reveal that holdings growth for *Experienced* funds declines with distance. This finding is consistent with negative slope of the black solid line on the left-hand side Figure 5 plotting the unconditional relationship between distance and holding growth for a sub-sample of *Experienced* funds.

Table 5: **Effect of fund's liquidity and maturity on fund's sensitivity to exposure**

This table presents the estimates of cross-sectional regressions during the Argentinian presidential primary elections across bond funds that held Argentinian bonds. The dependent variable in columns (1)-(4) is symmetric growth of funds' Argentinian bond holdings. The dependent variable in columns (5)-(8) is flow of fund. In Panels A and C the standard errors are clustered at the country level. In Panels B and D the standard errors are clustered at the fund group level which accounts for serial correlation across funds within the same fund group. Significance levels are * 10%, ** 5%, *** 1%.

Dependent variable:	Holdings growth$_{\tau-1,\tau}$				Flow$_{\tau-1,\tau}$			
	Panel A: OLS		Panel B: Group FE		Panel C: OLS		Panel D: Group FE	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Exposure Sov$_{\tau-1}$	-0.889***	-1.081***	-0.595***	-0.644**	-0.025**	-0.034	-0.041**	-0.027
	(0.135)	(0.198)	(0.183)	(0.256)	(0.012)	(0.023)	(0.018)	(0.028)
Exposure × Cash$_{\tau-1}$	3.386**		3.005*		-0.212		-0.148	
	(1.242)		(1.794)		(0.134)		(0.205)	
Exposure × Maturity$_{\tau-1}$		0.034***		0.017		-0.000		-0.002
		(0.009)		(0.018)		(0.003)		(0.002)
Cash share$_{\tau-1}$	-1.175**		-0.907**		-0.043		-0.036	
	(0.428)		(0.390)		(0.043)		(0.060)	
Maturity Arg.$_{\tau-1}$		-0.012***		-0.017***		-0.001		0.001
		(0.003)		(0.006)		(0.000)		(0.001)
Controls$_{\tau-1}$	YES	YES	YES	YES	YES	YES	YES	YES
Fund type FE	YES	YES	YES	YES	YES	YES	YES	YES
Fund strategy FE	YES	YES	YES	YES	YES	YES	YES	YES
Fund obj. FE	YES	YES	YES	YES	YES	YES	YES	YES
Fund group FE	NO	NO	YES	YES	NO	NO	YES	YES
Num. groups (i)			119	119			119	119
R^2	0.069	0.074	0.466	0.476	0.073	0.072	0.278	0.278
Observations	937	937	848	848	937	937	848	848

Table 6: **Distribution of funds across continents and by experience with Argentinian bonds**

	Managing team location				Fund Incorporated			
	N. America	Europe	Asia	Total	N. America	Europe	Asia	Total
Newcomer funds	123	228	11	362	110	244	8	362
Experienced funds	301	274	0	575	290	285	0	575
Total	424	502	11	937	400	529	8	937

Coefficient estimates β_2 on interaction term of *Distance* with the *Newcomer* dummy is positive but statistically significant only in column (1) for a specification without fund group fixed effect. This evidence suggests that for the *Newcomer* funds holdings growth increases with distance, which also is consistent with positive slope of the red dotted line from Figure 5 for a *Newcomer* funds sub-sample.

The most interesting findings can be founds in columns (2) and (5) where we test specification (11) and replace distance by indicator variables for continents where managing teams are located.

Relative to the reference group *experienced* funds based in North America the coefficient β_1 in column (2) reveals that North American *newcomer* funds decreased their holdings growth by 23 per cent. Estimate of coefficient β_3 indicates that relative to the reference group Europe based *experienced* funds decreased their bond holdings growth by 21 per cent. Finally, we can infer that Europe based *newcomer* funds decreased their holdings growth by 6 per cent relative to the reference group.

As we expect the reference group of *experienced* funds based in North America which has the lowest renegotiation costs, exhibited the lowest average discretionary sales of Argentinian bonds relative to other groups.

The estimation result of the same specification with fund group fixed effects are reported in column (5). As we can see relative to the reference group the only significant group are Europe based *experienced* funds which decreased their holdings growth by 27 per cent. This means that *within* the fund group of *experienced* funds distance matters. More distant Europe

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based funds which have higher renegotiation costs decreased their holding more relative to North America based funds with lower renegotiation costs.

In other words, if we include the fund group fixed effect and study variation *within* the fund group the statistical significance of difference between *newcomer* and *experienced* bond funds *within* continents disappears. But difference between Europe versus North America based *experienced* funds remains. Within the same fund group European *experienced* funds decrease their bond holdings more relative North American funds. This result must be driven by some continent specific unobserved factors which keep the gravity relationship present even within the same fund group - more remote funds have higher discretionary holdings sales.

Columns (3) and (6) report estimates for specification where instead of distance we employ dummies for continents where funds are incorporated. Only one coefficient is marginally significant in each column which suggests that place of fund's incorporation does not capture asymmetry of information regarding the restructuring costs. The sign of marginally significant coefficient estimates in columns (3) and (6) are consistent with those in columns (2) and (5).

B2. Fund's Flows

Table 8 reports the estimation results of specifications(10)-(11) for fund flows. The significant coefficient estimates appear in columns (1) and (2) without inclusion of the fund group fixed effect. In both columns we deal with distance between fund's managing team and Buenos Aires but differently

Table 7: **Effect of fund's experience and fund's location on holdings growth**

This table presents the estimates of cross-sectional regressions during the Argentinian presidential elections across bond funds that held Argentinian bonds. The dependent variable is symmetric growth of funds' Argentinian bond holdings. In Panel A the standard errors are clustered at the country level. In Panel B the standard errors are clustered at the fund group level which accounts for serial correlation across funds within the same fund group. and 3. Significance levels are * 10%, ** 5%, *** 1%.

Dependent variable:						
		Holdings growth$_{\tau-1,\tau}$				
	Panel A: OLS			Panel B: Group FE		
	(1)	(2)	(3)	(4)	(5)	(6)
1{Newcomer fund}	-8.750** (3.371)	-0.227*** (0.080)	-0.185 (0.126)	-6.040 (5.113)	0.021 (0.148)	0.188 (0.158)
1{Newcomer fund} × Distance	0.947** (0.370)			0.662 (0.552)		
1{Newcomer fund} × 1{Europe manager}		0.375*** (0.093)			0.084 (0.180)	
1{Newcomer fund} × 1{Europe incorporated}			0.284* (0.142)			-0.148 (0.187)
Distance (Ln)	-0.793** (0.373)			-1.086*** (0.338)		
1{Europe manager}		-0.210* (0.116)			-0.274** (0.112)	
1{Europe incorporated}			-0.145 (0.182)			-0.211* (0.111)
Controls$_{\tau-1}$	YES	YES	YES	YES	YES	YES
Fund type FE	YES	YES	YES	YES	YES	YES
Fund strategy FE	YES	YES	YES	YES	YES	YES
Fund obj. FE	YES	YES	YES	YES	YES	YES
Fund group FE	NO	NO	NO	YES	YES	YES
Num. groups (i)				119	119	119
R^2	0.034	0.037	0.033	0.457	0.456	0.455
Observations	937	937	937	848	848	848

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measured.

The statistically significant negative coefficient on Distance in column (1) reveals that flows for *Experienced* funds declines with distance. Negative coefficient on indicator variable *Newcomer* fund in column (2) means this funds based in North America exhibit stronger decline in flows relative to *Experienced* North America based funds.

The economic magnitude of the coefficients for flows is low. A 1-standard-deviation increase in log distance leads to 0.07 standard-deviation decrease in overall funds' flows. We can interpret this result as evidence that if one differentiates international bond funds by distance to the source of negative shock to the fraction of their portfolio the impact of distance on overall fund's flows is present but rather weak.

This table presents the estimates of cross-sectional regressions during the Argentinian presidential elections across bond funds that held Argentinian bonds. The dependent variable is fund's flow. In Panel A the standard errors are clustered at the country level. In Panel B the standard errors are clustered at the fund group level which accounts for serial correlation across funds within the same fund group. and 3. Significance levels are * 10%, ** 5%, *** 1%.

6 Conclusion

Our study investigates the rare event of unexpected presidential elections outcome in Argentina that lead to a sovereign default and caught bond fund managers and investors off-guard.

Table 8: **Effect of fund's experience and fund's location on flow**

This table presents the estimates of cross-sectional regressions during the Argentinian presidential elections across bond funds that held Argentinian bonds. The dependent variable is fund's flow. In Panel A the standard errors are clustered at the country level. In Panel B the standard errors are clustered at the fund group level which accounts for serial correlation across funds within the same fund group. and 3. Significance levels are * 10%, ** 5%, *** 1%.

Dependent variable:						
		Flow$_{\tau-1,\tau}$				
	Panel A: OLS			Panel B: Group FE		
	(1)	(2)	(3)	(4)	(5)	(6)
1{Newcomer fund}	-0.178 (0.367)	-0.011*** (0.003)	-0.001 (0.006)	-0.387 (1.061)	-0.024 (0.020)	-0.019 (0.032)
1{Newcomer fund} × Distance	0.018 (0.040)			0.041 (0.115)		
1{Newcomer fund} × 1{Europe manager}		0.003 (0.010)			0.036 (0.032)	
1{Newcomer fund} × 1{Europe incorporated}			-0.012 (0.013)			0.021 (0.043)
Distance (Ln)	-0.074** (0.034)			-0.082 (0.084)		
1{Europe manager}		-0.022 (0.014)			-0.019 (0.025)	
1{Europe incorporated}			-0.007 (0.019)			-0.005 (0.025)
Controls$_{\tau-1}$	YES	YES	YES	YES	YES	YES
Fund type FE	YES	YES	YES	YES	YES	YES
Fund strategy FE	YES	YES	YES	YES	YES	YES
Fund obj. FE	YES	YES	YES	YES	YES	YES
Fund group FE	NO	NO	NO	YES	YES	YES
Num. groups (i)				119	119	119
R^2	0.072	0.072	0.072	0.274	0.277	0.276
Observations	937	937	937	848	848	848

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We find that following the event that substantially increased probability of the sovereign default funds which on average held more cash (liquid funds) decreased their bond holdings less compared to illiquid funds with the same level of exposure to Argentinian sovereign debt.

We also find that funds with longer-term Argentinian bonds were less sensitive to exposure compared to funds with shorter duration of the Argentinian bonds portfolio.

We confirm our hypothesis that the *experienced* North American funds with the lowest renegotiation costs retained more of their holdings of Argentinian bonds than all other groups.

Given the fact that Argentina has defaulted 8 times over its history the success of the country's return to the debt markets in 2016 was remarkable. The overview of international bond fund holdings in 2019 when country elected the left-wing candidate and paved its path to a 9th default reveals that Argentinian bonds comprised 15 per cent of their sovereign bond holdings. This shows that in a competitive "reaching for yield" environment when bond funds managers have a greater risk appetite, countries with a poor history of international borrowing gain by having access to external finance through dispersing its debt among multiple international lenders.

We conduct one of the first micro-level studies of international bond funds holdings during the sovereign default. From macro perspective the implication of our study is that in the "reaching for yield" environment when multiple funds compete for investors' flows countries with bad credit history can still borrow. The competitive setting of over thousand funds also allows a relatively orderly pre-default trading leading to a less painful post-default restructuring.

Appendix

Table 9: **List of new 'Murci Bonds' held by international bond funds**

This table reports all Argentinian 'Murci Bonds' issued by Argentina under New York Law in 2016-2018. Growth of fund holdings in these bonds is a key dependent variable of our study.

Bond	ISIN	Date Issue	Maturity	Currency	Par Value	Amount Issued (M)
ARGENT 6 7/8 01/26/27	US040114HL72	03/14/2017	01/26/2027	USD	1000	3,749,835.00
ARGENT 7 1/2 04/22/26	US040114GX20	03/14/2017	04/22/2026	USD	1000	6,497,345.00
ARGENT 7 5/8 04/22/46	US040114GY03	03/14/2017	04/22/2046	USD	1000	2,749,648.00
ARGENT 5 5/8 01/26/22	US040114HK99	03/14/2017	01/26/2022	USD	1000	3,249,930.00
ARGENT 7 1/8 07/06/36	US040114HG87	03/14/2017	07/06/2036	USD	1000	1,749,800.00
ARGENT 5 7/8 01/11/28	US040114HQ69	01/04/2018	01/11/2028	USD	1000	4,250,000.00
ARGENT 6 7/8 04/22/21	US040114GW47	03/14/2017	04/22/2021	USD	1000	4,497,440.00
ARGENT 6 5/8 07/06/28	US040114HF05	03/14/2017	07/06/2028	USD	1000	999,520.00
ARGENT 6 7/8 01/11/48	US040114HR43	01/04/2018	01/11/2048	USD	1000	3,000,000.00
ARGENT 4 5/8 01/11/23	US040114HP86	01/04/2018	01/11/2023	USD	1000	1,750,000.00
ARGENT 7 1/8 06/28/17	US040114HN39	05/18/2018	06/28/2117	USD	1000	2,602,855.00
ARGENT 5 1/4 01/15/28	XS1715303779	11/02/2017	01/15/2028	EUR	1000	1,000,000.00
ARGENT 3 3/8 01/15/23	XS1715303340	11/02/2017	01/15/2023	EUR	1000	1,000,000.00
ARGENT 6 1/4 11/09/47	XS1715535123	11/02/2017	11/09/2047	EUR	1000	750,000.00
ARGENT 3 7/8 01/15/22	XS1503160225	10/05/2016	01/15/2022	EUR	1000	1,250,000.00
ARGENT 5 01/15/27	XS1503160498	10/05/2016	01/15/2027	EUR	1000	1,250,000.00

Table 10: **Countries of funds' incorporation and management teams' location**

Country	N. of funds with management teams located in country	N. of funds incorporated in a country
ASIA		
AUSTRALIA	1	1
HONG KONG	1	1
MALAYSIA	0	1
SINGAPORE	4	0
TAIWAN	5	5
EUROPE		
AUSTRIA	7	7
BELGIUM	3	0
DENMARK	18	17
FINLAND	2	2
FRANCE	25	6
GERMANY	42	24
GREECE	1	1
IRELAND	24	71
ISRAEL	1	1
ITALY	56	43
LIECHTENSTEIN	3	4
LUXEMBOURG	161	303
NETHERLAND	1	0
POLAND	1	1
RUSSIA	2	2
SPAIN	4	4
SWITZERLAND	31	7
TURKEY	2	2
UNITED KINGDOM	118	34
NORTH AMERICA		
CANADA	55	61
UNITED STATES	369	339
Total	937	937

Table 11: **Top six countries of funds' management team location against countries of incorporation**

This table reports top six countries where bond funds' management teams are located: US, UK, Germany, France, Italy and Switzerland. Values in the columns tabulate countries where these funds are incorporated. As visible from the table besides the native country's jurisdiction Luxembourg is second most popular one.

Country of incorporation of **US** based manager	N. of funds incorporated	Country of incorporation of **UK** based manager	N. of funds incorporated
UNITED STATES	320	UNITED KINGDOM	33
LUXEMBOURG	22	LUXEMBOURG	39
IRELAND	19	IRELAND	27
CANADA	6	UNITED STATES	19
AUSTRIA	1		
UNITED KINGDOM	1		118
	369		

Table 12: **Top six countries of funds' management team location against countries of incorporation**

This table reports top six countries where bond funds' management teams are located: US, UK, Germany, France, Italy and Switzerland. Values in the columns tabulate countries where these funds are incorporated. As visible from the table besides the native country's jurisdiction Luxembourg is second most popular one.

Country of incorporation of **Germany** based manager	N. of funds incorporated
GERMANY	23
LUXEMBOURG	17
IRELAND	2
	42

Country of incorporation of **France** based manager	N. of funds incorporated
FRANCE	6
LUXEMBOURG	19
	25

Country of incorporation of **Italy** based manager	N. of funds incorporated
ITALY	43
LUXEMBOURG	13
	56

Country of incorporation of **Switzerland** based manager	N. of funds incorporated
SWITZERLAND	7
LUXEMBOURG	24
	31

Table 13: **Distribution of management teams' locations for Top-3 Fund Groups**

This table lists management companies and cities of their locations for top three fund groups in our sample (Invesco, BlackRock, Fidelity). We assign the top three status to a fund group by value of Argentinian bonds holdings prior to primary presidential elections. The last column reports the number of funds managed by each management company in each city of the team's location.

Fund group	Management company	Country incorporated	Managing company location	N. of funds
Invesco	Invesco Management SA	Luxembourg	Atlanta, USA	1
		Luxembourg	Henley-on-Thames, UK	3
		Luxembourg	Luxembourg	9
	Invesco Fund Managers Ltd	UK	Henley-on-Thames, UK	10
	Invesco Advisers Inc	USA	Atlanta, USA	3
		USA	New York, USA	6
	Invesco Capital Management	USA	Wheaton, USA	1
	Invesco Canada Ltd	Canada	Toronto, Canada	1
BlackRock	BlackRock Advisors LLC	USA	New York, USA	9
		USA	San Francisco, USA	2
		USA	Wilmington, USA	8
		USA	London, UK	1
	BlackRock Financ. Management	Japan	Wilmington, USA	1
	BlackRock Fund Managers	UK	London, UK	2
		UK	Sydney, Australia	1
	BlackRock Invest. Management	USA	Springfield, USA	1
		Luxembourg	London, UK	4
		Luxembourg	Luxembourg	19
	BlackRock Luxembourg SA	Luxembourg	Luxembourg	2
	BlackRock Japan Ltd	Japan	Tokyo, Japan	1

Table 14: **Distribution of management teams' locations for Top-3 Fund Groups (Cont.)**

This table lists management companies and cities of their locations for top three fund groups in our sample (Invesco, BlackRock, Fidelity). We assign the top three status to a fund group by value of Argentinian bonds holdings prior to primary presidential elections. The last column reports the number of funds managed by each management company in each city of the team's location.

Fund group	Management company	Country incorporated	Managing company location	N. of funds
Fidelity	Fidelity Management&Research	USA	Boston, USA	18
		USA	London, UK	2
	Fidelity Investments Canada	Canada	Toronto, Canada	16
		Canada	Merrimack, Canada	1
		Canada	Boston, USA	3
	FIL Investment Management	Luxembourg	Luxembourg	3
		Luxembourg	Paris, France	1
		Luxembourg	London, UK	4
	FIL Investment Services UK	UK	Tonbridge, UK	1
		UK	Kent, UK	1
		UK	London, UK	3
	Fidelity Investments Japan Ltd	Japan	Tokyo, Japan	1

Table 15: **Distribution of bond funds by type**

Fund type	Freq.	Percent	Cum.
Open-End Fund	508	54.22	54.22
SICAV	213	22.73	76.95
OEIC	37	3.95	80.9
Closed-End Fund	48	5.12	86.02
Fund of Funds	18	1.92	87.94
Unit Trust	87	9.28	97.23
Variable Annuity	26	2.77	100
Total	937	100	

Table 16: **Distribution of bond funds by objective**

Fund objective	Freq.	Percent	Cum.
Capital appreciation	111	11.85	11.85
Capital preservation	38	4.06	15.90
Current income	189	20.17	36.07
Excess return	39	4.16	40.23
Replicate performance	13	1.39	41.62
Total return	547	58.38	100
Total	937	100	

Table 17: **Distribution of bond funds by strategy**

Fund strategy	Freq.	Percent	Cum.
Aggregate	522	55.71	55.71
Aggressive Allocation	3	0.32	56.03
Asset Backed	3	0.32	56.35
Bank Loans	2	0.21	56.56
Blend	16	1.71	58.27
Conservative Allocation	23	2.45	60.73
Convertible	1	0.11	60.83
Corporate	75	8	68.84
Currency Focused	2	0.21	69.05
Derivative	2	0.21	69.26
Dynamic Allocation	65	6.94	76.2
Equity Hedge	3	0.32	76.52
Fixed Income Directional	4	0.43	76.95
Global Allocation	97	10.35	87.3
Government	56	5.98	93.28
Growth	5	0.53	93.81
Inflation Protected	2	0.21	94.02
Macro	5	0.53	94.56
Moderate Allocation	34	3.63	98.19
Multi-Strategy	9	0.96	99.15
Target 2016-2025	4	0.43	99.57
Value	4	0.43	100
Total	937	100	

Table 18: List of 'old' bonds held by international bond funds

The upper panel of the table reports all Argentinain bonds on which Argentina defaulted in 2001 and which were held by the *experienced* funds in our sample. The lower panel of the table lists 'Kirchner Bonds' issued by Argentina in 2005-2010 in exchange for the defaulted bonds. We classify our sample fund as *experienced* if it held position in either of these bonds.

Bonds on which Argentina defaulted in 2001

Bond	ISIN	Coupon	Date Issue	Maturity	Currency	Issued (M)
ARGENT 10 1/4 07/21/30	US040114GB00	10.25	07/11/2000	07/21/2030	USD	1,250,000.00
ARGENT 12 02/01/20	US040114FB19	12	01/25/2000	02/01/2020	USD	1,250,000.00
ARGENT 9 06/20/03	BBG0003MR26	9	05/31/2000	06/20/2003	EUR	1,000,000.00
ARGENT 12 06/19/31	US040114GH79	12	05/24/2001	06/19/2031	USD	8,820,686.90
ARGENT 12 1/4 06/19/18	US040114GG96	12.25	05/24/2001	06/19/2018	USD	7,463,250.00
ARGENT 11 3/4 06/15/15	US040114GA27	11.75	06/02/2000	06/15/2015	USD	2,402,701.00
ARGENT 11 3/8 03/15/10	US040114FC91	11.375	03/06/2000	03/15/2010	USD	1,000,000.00
ARGENT 12 3/8 02/21/12	US040114GD65	12.375	02/07/2001	02/21/2012	USD	1,593,950.00
ARGENT 15 1/2 12/19/08	US040114GF14	15.5	05/24/2001	12/19/2008	USD	3,164,935.33
ARGENT Float 03/29/05	XS0043120236	Float	11/30/1992	03/29/2005	USD	8,466,548.00
ARGENT 6 03/31/23	XS0043119147	6	04/07/1992	03/31/2023	USD	12,489,000.00
ARGENT 11 3/4 04/07/09	US040114BE93	11.75	03/29/1999	04/07/2009	USD	1,500,000.00
ARGENT 11 3/8 01/30/17	US040114AR16	11.375	01/22/1997	01/30/2017	USD	4,575,000.00
ARGENT 11 12/04/05	US040114AZ32	11	11/18/1998	12/04/2005	USD	1,000,000.00
ARGENT 11 10/09/06	US040114AN02	11	10/01/1996	10/09/2006	USD	1,300,000.00
ARGENT 12 1/8 02/25/19	US040114BC38	12.125	02/12/1999	02/25/2019	USD	1,433,497.00
ARGENT 8 3/8 12/20/03	US040114AH34	8.325	12/08/1993	12/20/2003	USD	2,050,000.00
ARGENT 9 3/4 09/19/27	US040114AV28	9.75	09/12/1997	09/19/2027	USD	3,435,086.00

Bonds issued after 2005 and 2010 restructuring (K-bonds)

| Bond	ISIN	Coupon	Date Issue	Maturity	Currency	Issued (M)
ARGENT Float 12/15/35	XS0501197262	Float	04/15/2010	12/15/2035	USD	2,833,038.18
ARGENT Float 12/15/35	US040114GM64	Float	01/19/2005	12/15/2035	USD	14,386,491.31
ARGENT 3 3/4 12/31/38	US040114GK09	3.75	01/19/2005	12/31/2038	USD	5,313,142.82
ARGENT 3.38 12/31/38	XS0205537581	3.38	01/19/2005	12/31/2038	EUR	5,072,556.41
ARGENT 8.28 12/31/33	US040114GL81	8.28	01/19/2005	12/31/2033	USD	3,046,138.97
ARGENT 7.82 12/31/33	XS0205545840	7.82	01/19/2005	12/31/2033	EUR	3,107,569.66
ARGENT Float 12/15/35	XS0209139244	Float	01/19/2005	12/15/2035	EUR	18,947,454.21

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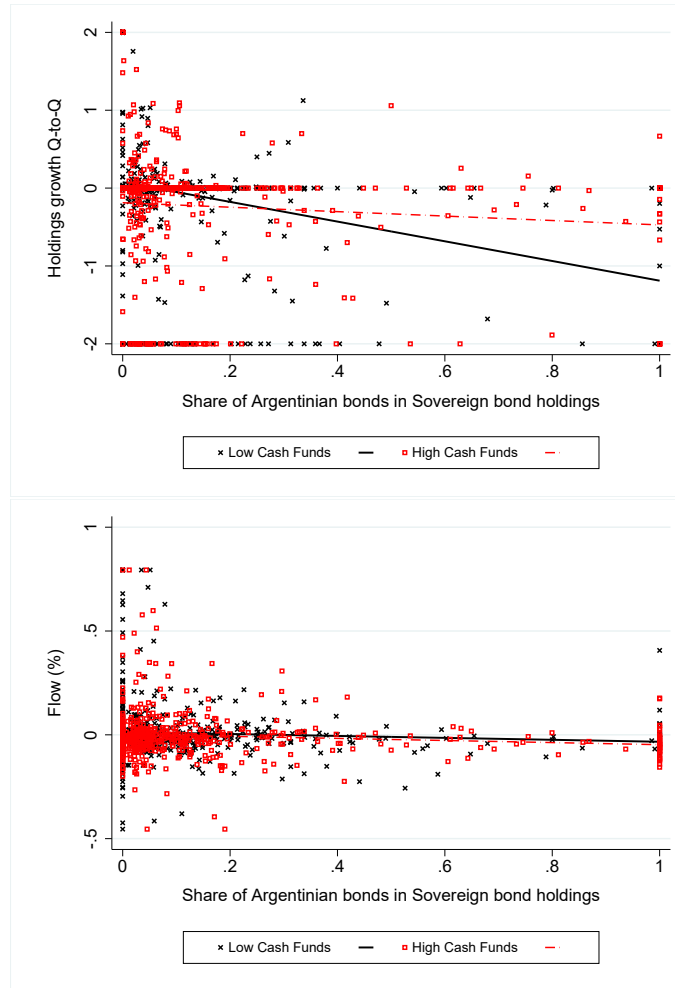
Figure 3: **Holdings growth and flows against fund's exposure conditional on fund's liquidity**

The top figure plots Argentinian bond Holdings growth of each sample fund against fund's exposure. The bottom figure plots funds' flows against fund's exposure. In both figures funds with cash share of total net assets *below* the sample median are represented by black dots a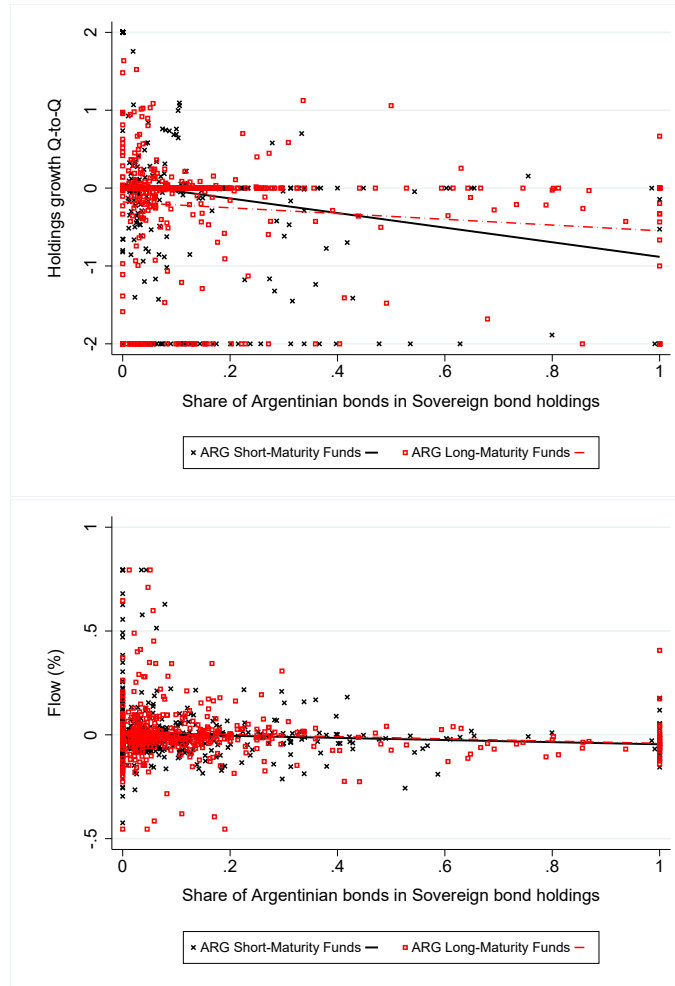nd the fitted linear regression for this sub-sample. Funds with cash share of total net assets *above* the sample median are represented by red dots and the fitted linear regression for this sub-sample.

Figure 4: **Holdings growth and flows against fund's exposure conditional on average maturity of Argentinian bonds in fund's portfolio**
The top figure plots Argentinian bond Holdings growth of each sample fund against fund's exposure. The bottom figure plots funds' flows against fund's exposure. In both figures funds with average maturity of Argentinian bonds *below* the sample median are represented by black dots and the fitted linear regression for this sub-sample. Funds with longer average maturity of Argentinian bonds *above* the sample median are represented by red dots and the fitted linear regression for this sub-sample.
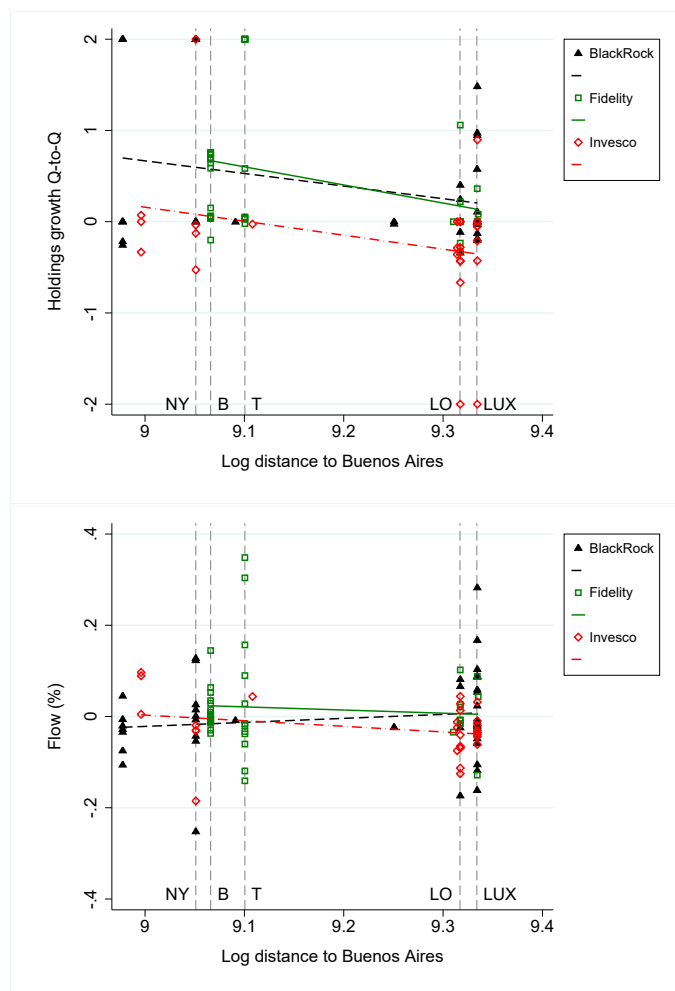
52
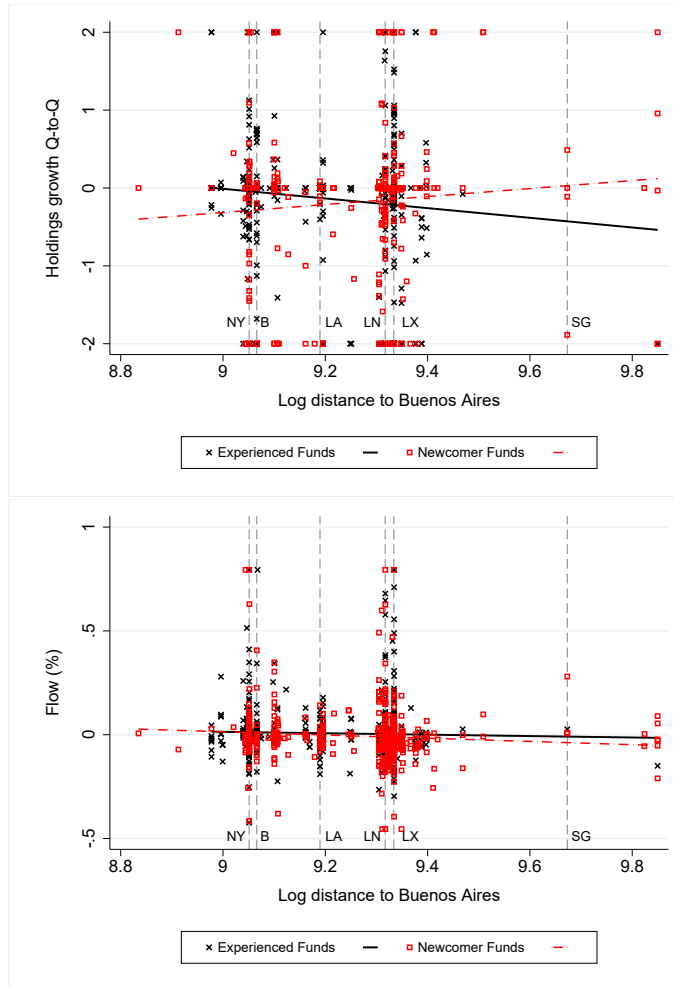
Figure 5: **Holdings growth and flows against fund's distance to Buenos Aires**

The top figure plots Argentinian bond Holdings growth of each sample fund against its distance to Buenos Aires. The bottom side figure plots funds' flows against distance. In both figures funds with previous *experience* in Argentinian bonds are represented by black dots and the fitted linear regression for this sub-sample. *Newcomer* funds that entered M-bonds are represented by red dots and the fitted linear regression for this sub-sample.

Figure 6: **Holdings growth and flows against fund's distance to Buenos Aires for Top-3 Fund Groups**

The top figure plots Argentinian bond Holdings growth against its distance to Buenos Aires for funds that belong to Top-3 fund groups: Invesco, BlackRock and Fidelity. The bottom figure plots funds' flows against distance. In both figures each line represents the fitted linear regression for funds *within* the same Fund Group.

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References

Akey, Pat (2015) "Valuing Changes in Political Networks: Evidence from Campaign Contributions to Close Congressional Elections," The Review of Financial Studies, Vol. 28, pp. 3188–3223.

Asonuma, Tamon, Dirk Niepelt, and Romain Rancire (2017) "Sovereign Bond Prices, Haircuts and Maturity," NBER Working Paper 23864.

Becker Bo and Victoria Ivashina. (2015) "Reaching for yield in the bond market," The Journal of Finance, Vol. 70, pp. 1863-1902.

Bolton, Patrick and Olivier Jeanne (2007) "Structuring and Restructuring Sovereign Debt: The Role of A Bankruptcy Regime," Journal of Political Economy, Vol. 115, pp. 901-924.

Brogaard, Jonathan, Matthew Denes and Ran Duchin (2020) "Political Influence and the Renegotiation of Government Contracts", The Review of Financial Studies (forthcoming)

Bronstein, Hugh and Sarah Marsh (2016) 'Argentina returns to global debt markets after 15-years', Reuters.com, Retrieved from:

https://www.reuters.com/article/us-argentina-bonds-bids-id USKCN0XG2W0

Campbell, John and Roman Sigalov (2021) "Portfolio Choice with Sustainable Spending: A Model of Reaching for Yield," Working Paper.

Chen, Qi, Itay Goldstein, and Wei Jiang. (2010) "Payoff complementarities and financial fragility: evidence from mutual fund outflows," Journal of Financial Economics Vol. 97, pp. 239-262.

Chodorow-Reich, Gabriel (2014) "The Employment Effects of Credit Market Disruptions: Firm-level Evidence from the 2008-09 Financial Crisis," The Quarterly Journal of Economics, Vol. 129, pp. 1-59.

Choi, Jaewon and Mathias Kronlund (2018) "Reaching for Yield in Corporate Bond Mutual Funds," The Review of Financial Studies, Vol. 31, pp. 1930–1965.

Coval, Joshua and Tobias J. Moskowitz (1999) "Home Bias at Home: Local Equity Preference in Domestic Portfolios," Journal of Finance, Vol. 54, pp. 2045–73.

Coval Joshua and Tobias J. Moskowitz (2001) "The Geography of Investment: Informed Trading and Asset Prices," Journal of Political Economy, Vol. 109, pp. 811-841.

Cruces, Juan J. and Tim R. Samples (2016) "Settling Sovereign Debt's Trial of the Century", Emory International Law Review, Vol. 31, pp. 5-47.

Cruces, Juan J. and Christoph Trebesch (2013) "Sovereign Defaults: The Price of Haircuts," American Economic Journal: Macroeconomics, Vol. 5, pp. 85-117.

Di Maggio, Marco., and Marcin Kacperczyk. (2017) "The unintended consequences of the zero lower bound policy," Journal of Financial Economics Vol. 123, pp. 59-80.

Engelen, Christian and Johann G. Lambsdor (2009) "Hares and Stags in Argentinean Debt Restructuring," Journal of International Economics, Vol. 78, pp. 141-148.

Fang Chuck, Julian Schumacher and Christoh Trebesch (2020) "Restructuring sovereign bonds: holdouts, haircuts and the effectiveness of CACs," ECB Working Paper 2366.

Gillespie, Patrick , Jorgelina, Do Rosario and Carolina Millan (2019) "Macri's Shock Setback in Argentina Deals Blow to Re-Election Bid", Bloomberg.com, Retrieved from:

https://www.bloomberg.com/news/articles/2019-08-11/argentines-vote-in-primary-elections-seen-as-referendum-on-macri

Goldstein Itay, Hao Jiang and David Ng (2017) "Investor flows and fragility in corporate bond funds," Vol. 126, pp. 592-613.

Hau, Harald and Helene Rey (2008) "Home Bias at the Fund Level," American Economic Review, Vol. 98, pp. 333-338.

Hau, Harald, Massimo Massa and Joel Peress (2010) "Do Demand Curves for Currencies Slope Down? Evidence from the MSCI Global Index Change," The Review of Financial Studies, Vol. 23, pp. 1681-1717.

Meredith, Sam (2019) 'Argentina's election surprise triggers historic stock market and currency crash', CNBC.com, Retrieved from:

https://www.cnbc.com/2019/08/12/argentina-election-macri
-suffers-setback-as-analysts-warn-of-peso-depreciation.h
tml

Millan, Carolina and Jorgelina do Rosario (2020) 'She Is BlackRock's New Star After Sealing Argentina's Debt Deal', Bloomberg.com, Retrieved from:

https://www.bloombergquint.com/business/she-is-blackrock
-s-new-star-after-sealing-argentina-s-debt-deal

Pitchford, Rohan and Mark L. J. Wright (2012) "Holdouts in Sovereign Debt Restructurings: A Theory of Negotiations in A Weak Contractual Environment," Review of Economic Studies, Vol. 79, pp. 1-26.

Portes, Richard, and Helene Rey (2005) "The determinants of cross-border equity flows," Journal of international Economics 65, pp. 269-296.

Shek, Jimmy, Ilhyock Shim, and Hyun Song Shin (2018) "Investor Redemptions and Fund Manager Sales of Emerging Market Bonds: How Are They Related?" Review of Finance, Vol, 22, pp. 207-241.

Sturzenegger, Federico and Jeromin Zettelmeyer (2006) Debt Defaults and Lessons from a Decade of Crises: Cambridge, *MIT Press.*

Sturzenegger, Federico and Jeromin Zettelmeyer (2008) "Haircuts: Estimating Investor Losses in Sovereign Debt Restructurings, 1998-2005," Journal International Money and Finance, Vol. 27, pp. 780-805.

Weidemaier, Mark C. and Anna Gelpern (2014) "Injunctions in Sovereign Debt Litigation," Yale Journal on Regulation, Vol. 31, pp. 189-218.

Zhou, Zhenkun and Hernan Makse (2019) "Artificial intelligence for elections: the case of 2019 Argentina primary and presidential election", arXiv:1910.11227.

Используя неожиданный результат первичных президентских выборов Аргентины в августе 2019 г., который привел к суверенному дефолту страны, мы исследуем, как подверженность международных облигационных фондов аргентинским суверенным облигациям повлияла на дискреционные продажи облигаций управляющими фондами и потоки конечных инвесторов, учитывая ликвидность фондов и структуру сроков погашения. Мы обнаружили, что более ликвидные фонды с более длительным сроком погашения менее чувствительны к рискам преддефолтных фондов с точки зрения роста объемов владения облигациями. Наш второй вывод касается асимметричной информации между фондами относительно реструктуризации облигаций после дефолта и различных затрат на пересмотр условий. Эти затраты аппроксимируются на основе комбинации предыдущего опыта фондов по удержанию дефолтного долга Аргентины и удаленности фонда от Буэнос-Айреса. Мы подтверждаем нашу гипотезу о том, что опытные североамериканские фонды с наименьшими затратами на изменение условий договора сохранили больше своих аргентинских облигаций, чем все другие группы.

Владимир Соколов, Международный институт экономики и финансов Национального исследовательского университета «Высшая школа экономики» (Российская Федерация); E-mail: vsokolov@hse.ru

Хайрутдинов Амир, Международный институт экономики и финансов Национального исследовательского университета «Высшая школа экономики» (Российская Федерация); E-mail: amir_khairutdinov@mail.ru

Соколов Владимир, Хайрутдинов Амир

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(*на английском языке*)