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Unintended Consequences: Israel's Pension Reform and the Dollar-Shekel Exchange Rate

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Unintended Consequences: Israel's Pension Reform and the Dollar-Shekel Exchange Rate*

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Abstract

We argue that the pension reform in Israel, implemented during the 2000s, has had unintended consequences for the exchange rate between the US Dollar and the Israeli Shekel. This reform resulted in a significant concentration of wealth managed by a small number of institutional investors (IIs). As the local capital market became relatively small compared to their assets under management, these investors increased their holdings of foreign assets. When institutional investors observe excess returns on their foreign assets, they rebalance their portfolios by reducing their holdings of foreign assets and increasing their investments in domestic assets. This capital flow leads to an appreciation of the domestic currency. By using the S&P 500 as an instrument for the purchase or sale of US dollars (USD) by IIs, we find that a purchase of 1 billion USD results in a depreciation of the Shekel by approximately 2-2.5%. Importantly, this relationship has only emerged in recent years as the wealth managed by institutional investors has grown substantially.

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1 Introduction

Capital flows resulting from portfolio rebalancing play a significant role in driving currency exchange rates in the short to medium term (Hau and Rey, 2004, 2006). Intuitively, if a foreign stock market yields excess returns, there is an incentive to rebalance portfolios away from the foreign assets towards domestic assets, with the capital flows yielding an appreciation of the domestic currency. In this article, we show that this mechanism characterizes the dollar-shekel exchange rate: an increase in the S&P 500 yields an appreciation of the shekel against the dollar due to institutional investors (IIs), such as pension companies, rebalancing their portfolios towards shekel-denominated assets. However, this was not always the case: when portfolios of IIs were relatively small, the mechanism linking the S&P 500 with the exchange rate was weak. We argue that the increased relationship between the S&P 500 and the dollar/shekel exchange rate was an unintended consequences of changes to Israel's pension reforms, which mandated large deposits in IIs.

The pension reforms comprised two steps. The first step was a transition from a defined benefit system to a defined contribution one in the public sector. Up until the early 2000s, the vast majority of public sector workers in Israel have had defined benefit pensions. Starting in 2002, new workers in the public sector have been switched to a defined contribution pension. The second step, which began in 2008, mandated all salaried workers, and their employers to begin contributing to a defined contribution pension system. It is important to note that unlike Individual Retirement Accounts or 401(k)s in the US, where savers have substantial control over how their funds are invested, the Israeli system requires that all contributions be made to mandatory savings funds managed by IIs, with very limited control for individuals to actively decide on the allocation of their funds.[1] Thus, the IIs have tremendous power to set the investment

[1] They are allowed to pick "paths", such as target date funds or a "stock path", but cannot pick which stocks or mutual funds are included in such funds.

decisions of ordinary Israelis.

Figures 1 and 2 show the relative importance of assets under management of IIs in Israel and the share of pension in their portfolios. Figure 1 shows that between 2008 and 2014, the total assets under management of IIs was somewhat lower than the total worth of assets listed in the Tel Aviv Stock Exchange (TASE). However, since 2014, total assets under management of Institutional Investors grew much faster, and by the end of our sample – mid 2022, the assets under their management were about 30% larger than the total value of assets listed in TASE. Additionally, it shows that total assets managed by IIs in foreign currency has increased ten-fold from roughly 78 billion USD in early 2008 to nearly 780 billion USD by mid 2022. Figure 2 shows the importance of Pension within the portfolio of IIs. It shows the share of pension in the total assets managed by IIs has increased from about 8.5% at the eve of the 2008 reform, to roughly 23.5% at the end of the sample.

The left panel of Figure 3 shows the connection between the dollar-shekel exchange rate and Israeli institutional investor dollar purchases. The figure shows that in the earlier periods, the magnitude of purchases was small, presumably due to the small size of investor portfolios and their low exposure to foreign assets. However, even then we can see some connection with the exchange rate. When IIs purchase (sell) dollars, the exchange rate tends to increase (decrease), representing a depreciation (appreciation) of the shekel. While always present, this effect is visually striking starting around 2015. The right panel of this figure shows the S&P 500 and the exchange rate over time. Even in the early period (pre-2015) there is a general negative correlation between these series: when the S&P 500 declines, the shekel tends to weaken. This is most clearly seen in 2009. However, after 2015, and especially after 2018, the two series become close to mirror-images of one another. In this paper we argue that the advent of the strong negative correlation between the S&P 500 and exchange rate is due to

the dramatic growth of IIs portfolios,their exposure to foreign assets, and their portfolio-rebalancing behavior.

To this end, we estimate the casual effect of IIs purchase (sell) of FX on the exchange rate, using the changes in the S&P500 as an instrument for IIs FX transactions. Specifically, we estimate two stage least square models in which the dependent variable is the percentage change in the exchange rate (positive value means depreciation of the shekel) and purchases of USD by IIs as the independent variable. Since these purchases are endogenous, We instrument for these purchases with the percentage change in the S&P500. Our sample covers the period 2008-2022. We use data at the monthly frequency because we are not interested in the immediate effect in the spot market, but rather on the effect of IIs' transactions on the exchange rate in a time horizon that is relevant for real activity and inflation in Israel. We find that a 1 billion dollar purchase by IIs leads to a depreciation of the shekel by about 2.5%. We further show that this effect is entirely driven by the later time period of our sample, namely from 2015.

Clearly, this is not the first paper that looks at the relation between portfolio decisions and the exchange rate. As mentioned above, Hau and Rey (2004, 2006) argued that capital flows resulting from portfolio rebalancing play a significant role in driving currency exchange rates in the short to medium term. Lilley et al. (2022) argue that while the USD exchange rate, versus the other G10 currencies, was uncorrelated with many macroeconomic variables prior to 2007, such correlation emerged in the aftermath of the financial crisis. Relevant to our paper they document that the USD depreciates when the S&P 500 increases. Krishnamurthy and Lustig (2019) argue that the demand for safe dollar assets are important drivers of variation in the dollar exchange rate. Our paper contributes to this literature by pointing to the effect of increase in foreign equity prices via the rebalancing of portfolio of large IIs.

There is also literature that looks at the ILS-USD exchange rate. Caspi et al. (2022) estimate the effect of the interventions by the Bank of Israel on the exchange rate. Using local projection regressions on data for the years 2009-17 at the daily frequency, they find that purchases by the Bank of Israel have led to a depreciation of the ILS with the effect dissipates within 40-60 days. More closely to our research, Ben Zeev and Nathan (2022) analyze the hedging behavior of IIs in Israel. They use daily data and local projection methods to study the short run effect on the exchange rate. They argue that because IIs hedge their investment the effect on the spot exchange rate is much smaller than the effect of the forward rate. We take a different approach (and different methodology) and focus on a longer time horizon that is relevant for the dynamics of inflation and hence to monetary policy, and real activity.

We proceed as follows. In Section 2 we present the data and discuss our empirical strategy. In Section 3 we present our results. Section 4 provides concluding remarks.

2 Data and Empirical Strategy

This section discusses the data and Empirical Strategy to identify the effect of IIs' purchases/sells of FX on the US dollar-Israeli Shekel exchange rate. An discussed in the Introduction, our analysis utilizes monthly data from January 2008 until June 2022. Our data comes from the Bank of Israel (BOI), FRED, and Investing.com, all of which are publicly available. Specifically, data on the US dollar-Israeli Shekel exchange rate was downloaded from the website of the Bank of Israel. Monthly flows in the FX market of the main actors, namely the IIs, the business sector in Israel, the finance sector in Israel, foreigners, and the Bank of Israel were collected from the Statistical Bulletins, published annually by the Information and Statistics Department at the BOI.[2] Data on the US dollar-

[2]Additionally, the Research Department at the Bank of Israel kindly provided us with the "interest rate spread", that is, the difference between the BOI interest rate and "the world inter-

Euro exchange rate was downloaded from FRED. Finally, data on the S&P500 was download from Investing.com.

Our objective is to study whether the IIs in Israel, through their portfolio's rebalancing and hedging activities casually affect the USD-ILS exchange rate. One could therefore run an OLS regression of the percent change of the exchange rate on purchases or sells of USD by the IIs. A main concern of such specification is omitted variable bias. For example, consider a negative macro shock to the Israeli economy. This should lead to both a depreciation of the ILS and a withdraw of funds from IIs that might lead IIs to sell foreign assets.[3] In such a case, even though the IIs' action should lead to an appreciation of the ILS, we could observe a depreciation of the ILS. To overcome such issues we estimate two stage least square models. We use the percent change in the S&P500 as an instrument for the purchases/sells of USD by IIs. We believe that this instrument satisfies the exclusion restrictions. Specifically, this suggests that the Israeli economy does not affect the price of US stocks, or that the Israeli economy is unaffected by the price of US equity. The first statement must hold. The latter might be an issue, given that in recent years, the Israeli economy's most growing sector is Hi-Tech, which depends both on raising funds from abroad and on demand from aborad for its output. Since we cannot rule out this possibility, in untabulated results, we used the percent change of the S&P500 which excludes IT companies and the results were practically identical. Our interest is to estimate β in Equation (1).

$$\hat{E}_t = \alpha + \beta IIs_t + \gamma_1 \widehat{EUR}_t + \gamma_2 month_t + \gamma_3 \Delta i_t + X_t'\delta + \epsilon_t \tag{1}$$

est rate". The later is a weighted average of interest rates of the Fed, the ECB, the Bank of Japan, and the Central Bank of the People's Republic of China.

[3]Recall the IIs manage both pension funds and other assets that are more liquid. In "bad" times, households may decide to use their savings to smooth consumption, leading to withdraws from IIs.

Here $\hat{E}_t$ is the % change in the USD-ILS exchange rate, where a positive value implies a depreciation of the ILS, and IIs_t is purchases of USD by Israeli IIs, measured in billions of USD. $\widehat{EUR}_t$ is the % change in the USD-Euro exchange rate, where a positive value implies a depreciation of the Euro, Δi_t is the interest rate spread between the ILS and the world interest rate and X_t is a vector containing the purchases/sells of the other players in the FX market, including the Bank of Israel, the Business Sector in Israel, the Financial Sector in Israel, and the Foreign Sector. Finally, ϵ_t is an error term.

As discussed above, estimating (1) using OLS would likely yield biased estimate for β. Hence we estimate (1) using two-state-least-squares procedure. Our first stage regression is given by:

$$IIs_t = \phi + \varphi\widehat{S\&P}_t + \omega_1\widehat{Euro}_t + \omega_2 month_t + \omega_3\Delta i_t + X'\pi + \nu_t \tag{2}$$

where $\widehat{S\&P}_t$ is the % change in the S&P 500 Index. The reduced form equation is given by:

$$\hat{E}_t = \mu + \sigma\widehat{S\&P}_t + \theta_1\widehat{Euro}_t + \theta_2 month_t + \theta_3\Delta i_t + X'\lambda + \varepsilon_t \tag{3}$$

Before moving to the results, we provide graphical illustration of the data. Figures 4 and 5 present scatter plots for the first stage and the reduced form, respectively, for the entire period, 2008-2022, without any controls. Figure 4 shows a clear negative relationship between the percent change in the S&P500 and purchases of USD by IIs. The figure also reveals two months which are outliers: October 2008 and March 2020. In both months, the S&P500 fell by 20% and 19%, respectively. Note the very different reaction by IIs: in October 2008, IIs' assets under management were substantially lower than they are now, and the fraction of foreign assets in total assets was lower. As a result, despite the crash of the US stock market, IIs purchased negligible amount of USD. In contrast, in

March 2020, when the amount of assets managed by IIs was substantially higher and consequently their exposure to the US stock market was much larger, IIs purchased more than 11 billion USD. This is nearly twice as large as the second highest purchase per month which occurred in January 2022. In our empirical analysis we pay extra care for these two outlier observations, especially for March 2020.

Figure 5 shows the reduced form relationship between the percent change in the S&P 500 and the percent change in the USD-ILS exchange rate. The figure shows a very strong negative relationship: when the S&P 500 increases, the ILS appreciates vis-a-vis the USD.

3 Results

Tables 1-3 present the main results. The tables present, respectively, the results of the first stage regressions, the reduced form regressions, and the two stage least square estimation, respectively. In each table, columns (1)-(3) use the entire sample, column (4) focuses on the earlier period, namely 2008-2014, and column (5) focuses on the later period, namely 2015-2022. Column (6) repeats column (5) but excludes the observation for March 2020. In each table, Column (1) presents the results without any controls. The first stage is very strong (Column 1 Table 1), as is the reduced form (Column (1) Table 2). The resulting 2SLS estimate, which is the ratio between the reduced form estimate and the first stage estimate is equal to 0.012 (Column (1) of Table 3). This means that a purchase of 1 billion USD by IIs leads to a depreciation of the ILS vis-a-vis the USD by 1.2%. Column (2) adds the percent change in the USD-EUR, a linear time trend, and the interest rate spread. The reduced form regression (Column (2) in Table 2) shows that part of the relationship between the ILS and the USD is explained by the strength of the USD: when the USD appreciates vis-a-vis the Euro the USD appreciates vis-a-vis the ILS as well. Nevertheless, the point estimate in Table 3 is only somewhat smaller, implying that a 1 billion USD pur-

chase by IIs leads to a depreciation of the ILS vis-a-vis the USD by 0.9%. In column (3) we add all major players in the FX market. This is clearly very important, mostly because the Bank of Israel used to offset large transactions in the FX market during periods in which the ILS appreciated (Caspi et al., 2022). Indeed, purchases of USD by other large players seems to weaken the ILS, as expected. Importantly, the point estimate on IIs increases quite substantially to 0.025, suggesting a depreciation of the ILS by 2.5% in response to a one billion USD purchase by institutional investors.

Column (4) takes the specification from Column (3) but estimates it on the earlier period of the sample, namely 2008-2014. As is clear from Table 1, there is no first stage: when controlling for all the covariates listed in Equation (2), the point estimate is positive, very small and insignificant. Likewise, Column (4) in Table 2, shows that the partial correlation between the percent change in the S&P 500 and the percent change in the USD-ILS exchange rate is very close to 0 and statistically insignificant.

Column (5) takes the specification from Column (3) but estimates it on the later period of the sample, namely 2015-2022. As is clear from Table 1 the first stage is strong: when controlling for all the covariates listed in Equation (2), the point estimate is negative, large (in absolute value) and highly statistically significant. Likewise, Column (5) in Table 2, shows that the partial correlation between the percent change in the S&P 500 and the percent change in the USD-ILS exchange rate is negative, large (in absolute value) and highly statistically significant. The ratio between the later and the former is shown in Column (5) of Table 3. It is statistically significant and implies that in the later period, the effect of a purchase of 1 billion USD by IIs led to a depreciation of the ILS vis-a-vis the USD of 2%. Finally, Column (6) repeats Column (5), but excludes the observation for March 2020. We find that qualitatively our estimate is unaffected by this outlier. Quantitatively, however, the effect becomes larger: a purchase of 1 billion USD

by IIs led to a depreciation of the ILS vis-a-vis the USD of 3.1%.

Given the very different results between the former and later period of the sample, we also estimate the relationship in a rolling window of 60 months. Figures 6, 7, and 8 show the first stage estimates, the reduced form estimates, and the two stage least square estimates, respectively. As can be clearly seen from the figures, the two stage least square estimates are close to 0 until the window that ends in mid 2019, or equivalently, the window that begins in mid 2014. Since then it is roughly constant at about 0.02. That is, a purchase of 1 billion USD by IIs leads to depreciation of the ILS by 2%. Note however, that this estimate becomes statistically significant only from the window that ends in May 2021 (or equivalently, the window that begins in mid 2016). This evidence corroborates our conclusion that the effect of IIs on the exchange rate is a relatively recent phenomenon and is related to their increase dominance in the FX market.

4 Concluding Remarks

In this paper, we argued that the pension reform in Israel, implemented during the 2000s, has had unintended consequences for the exchange rate between the US Dollar and the Israeli Shekel. This reform resulted in a significant concentration of wealth managed by a small number of institutional investors (IIs). As the local capital market became relatively small compared to their assets under management, these investors increased their holdings of foreign assets. When institutional investors observe excess returns on their foreign assets, they rebalance their portfolios by reducing their holdings of foreign assets and increasing their investments in domestic assets. This capital flow leads to an appreciation of the domestic currency. By using the S&P 500 as an instrument for the purchase or sale of US dollars (USD) by IIs, we find that a purchase of 1 billion USD results in a depreciation of the Shekel by approximately 2-2.5%. Importantly, this relationship has only emerged in recent years as the wealth managed by institutional investors has grown substantially.

Our results may have implications for the conduct of monetary policy in small open economies like Israel. When the US economy is overheated and the Fed hikes its policy rate, asset prices usually fall. This leads II's to increase their demand for the USD, and consequently to a depreciation of the ILS, which spurs inflation in Israel. To the extent that the Israeli business cycle is positively correlated with the US business cycle, tightening of the monetary policy in the USD has inflationary effect in Israel, and as a result, the Bank of Israel has to tighten its monetary policy by more, due to the unintended consequences of the pension reform of the 2000s. Using our results we argue that this channel is quantitatively important. Our estimates suggest that if the S&P500 declines by 20% during a tightening cycle, IIs purchase about 1.25 Billions USD, which in turn leads to a depreciation of 4%. The Bank of Israel uses an elasticity of 0.2, that is, a 10 percent depreciation is translated into 2 percentage point increase in inflation. Hence the contribution to inflation is 0.8 percentage points to inflation. We leave a more thorough analysis of the transmission of asset prices in the US into inflation in Israel via the channel analyzed in this paper for future research.

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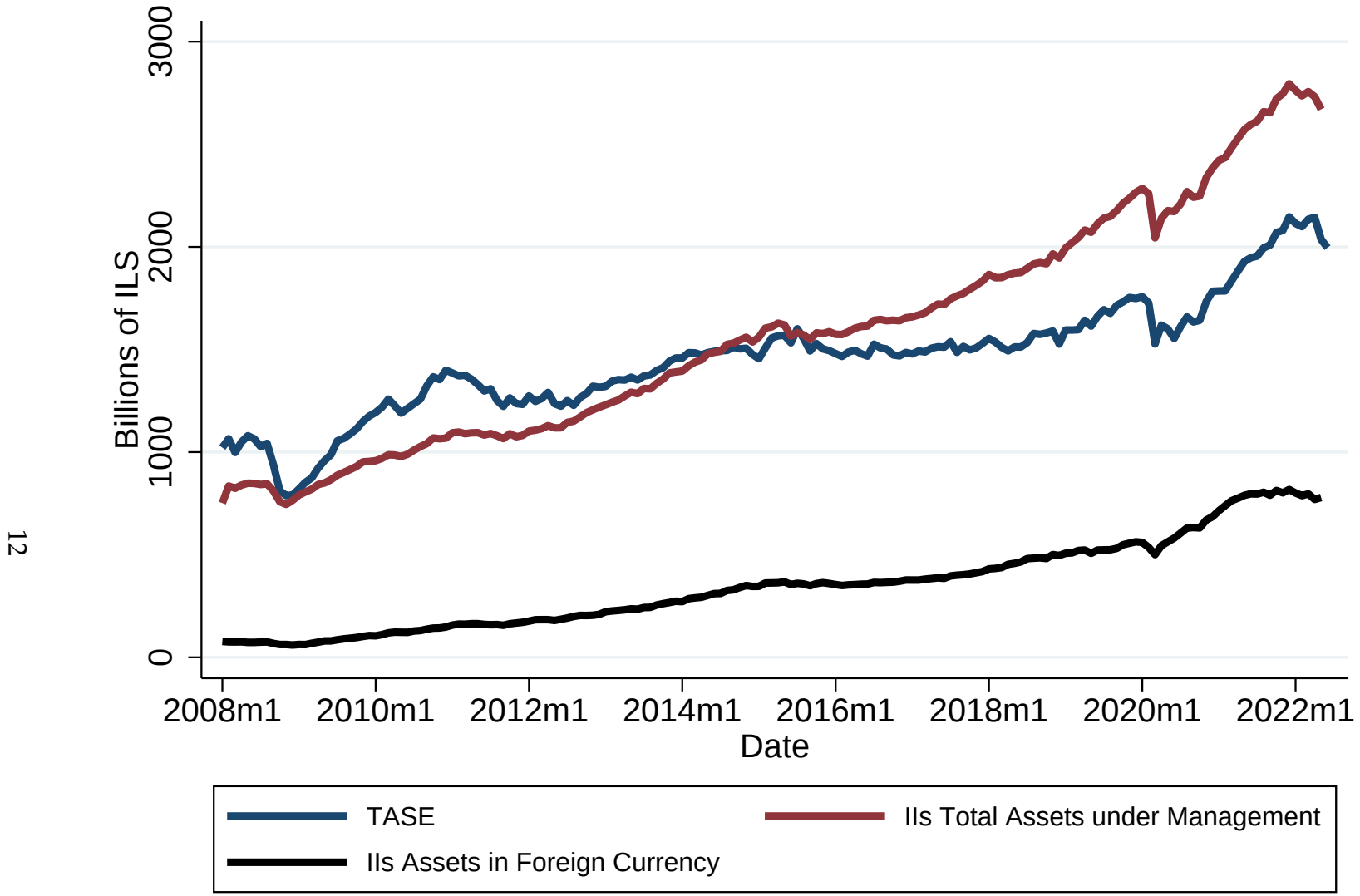

Figure 1: Total Assets under management of Institutional Investors (II Assets under Management), Foreign Assets under management of Institutional Investors (II Assets in Foreign Currency), and the total worth of assets listed in the Tel Aviv Stock Exchange (TASE) in billions of Shekels.

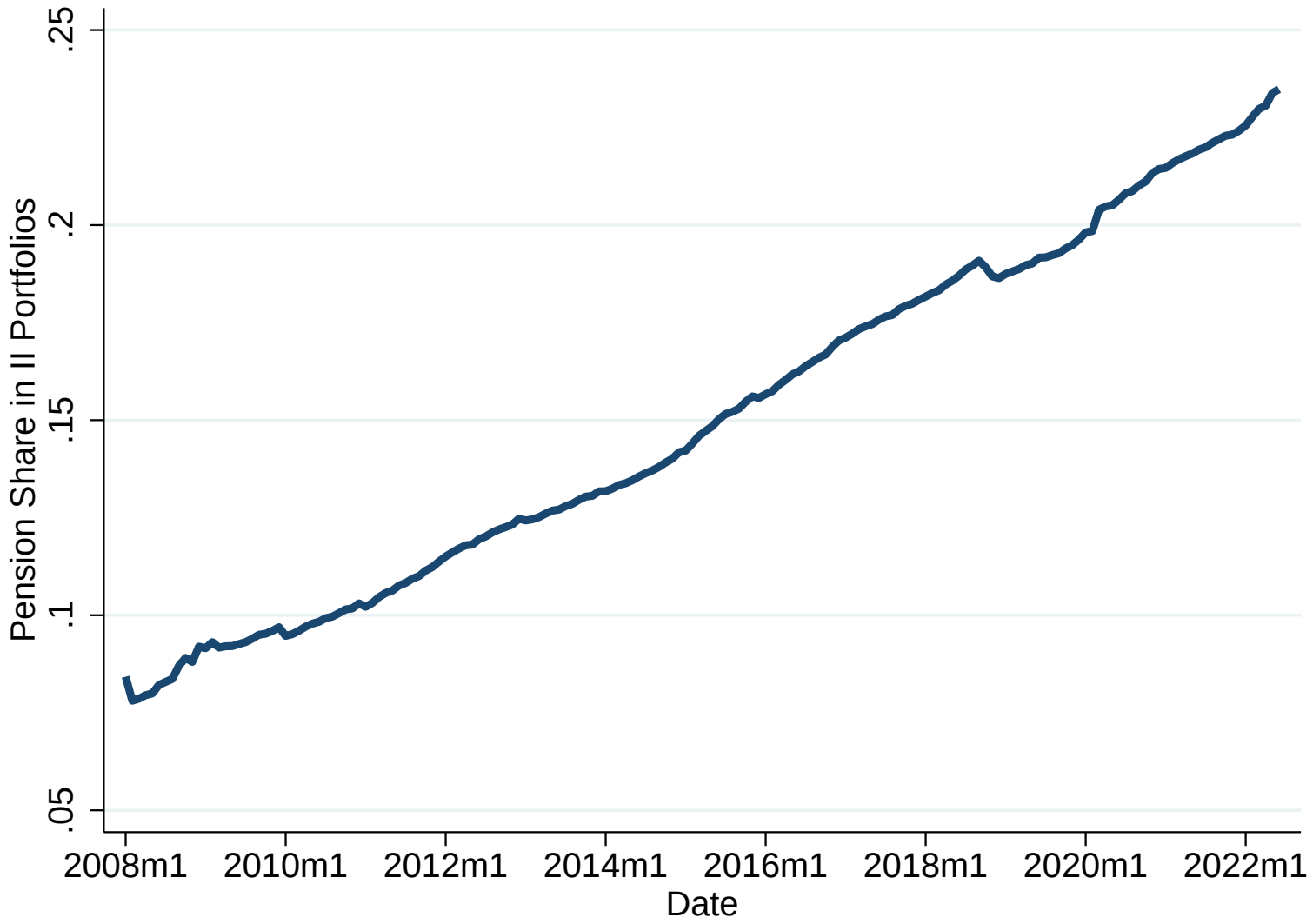

Figure 2: The share of pension in assets under management of Institutional Investors

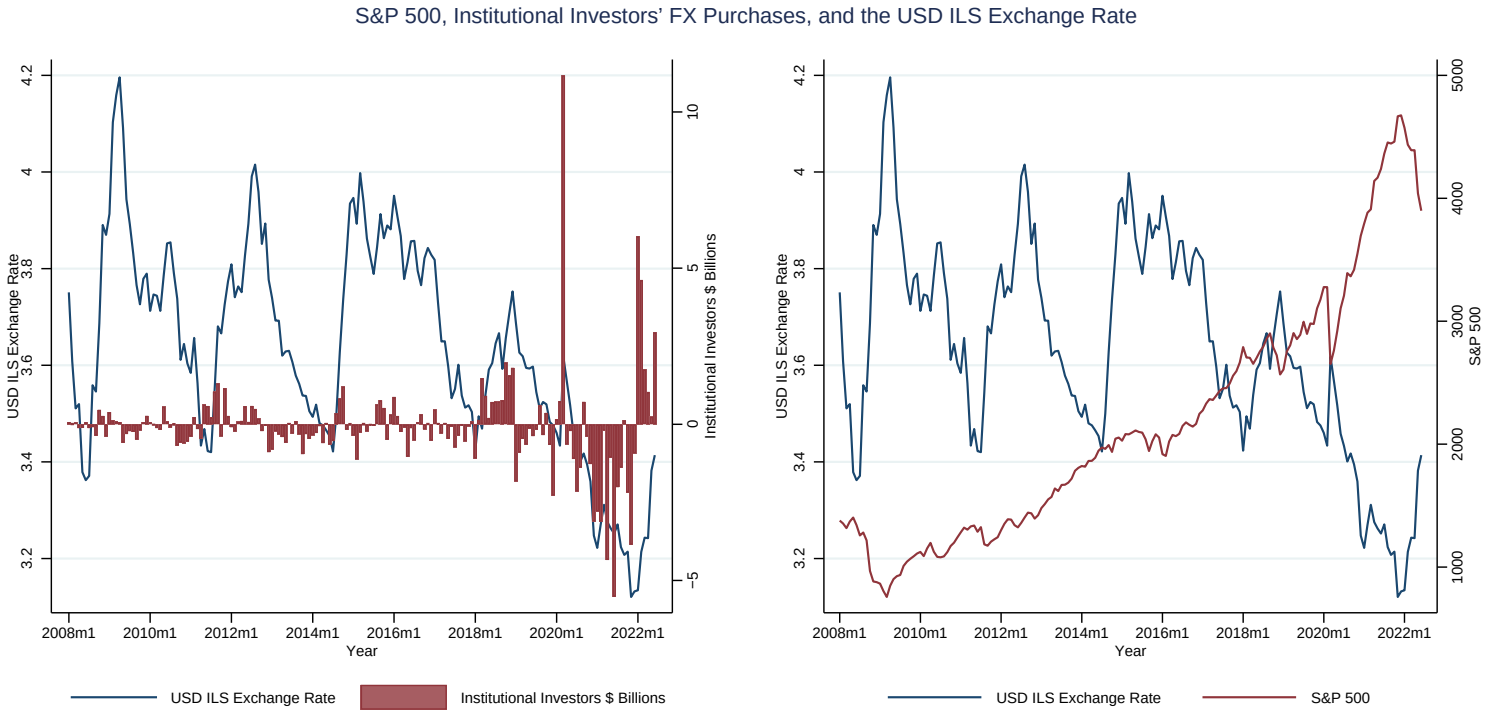

Figure 3: The USD – Israeli Shekel Exchange Rate and FX purchases by Institutional Investors (left), and the The USD – Israeli Shekel Exchange Rate and the S&P500 (right)

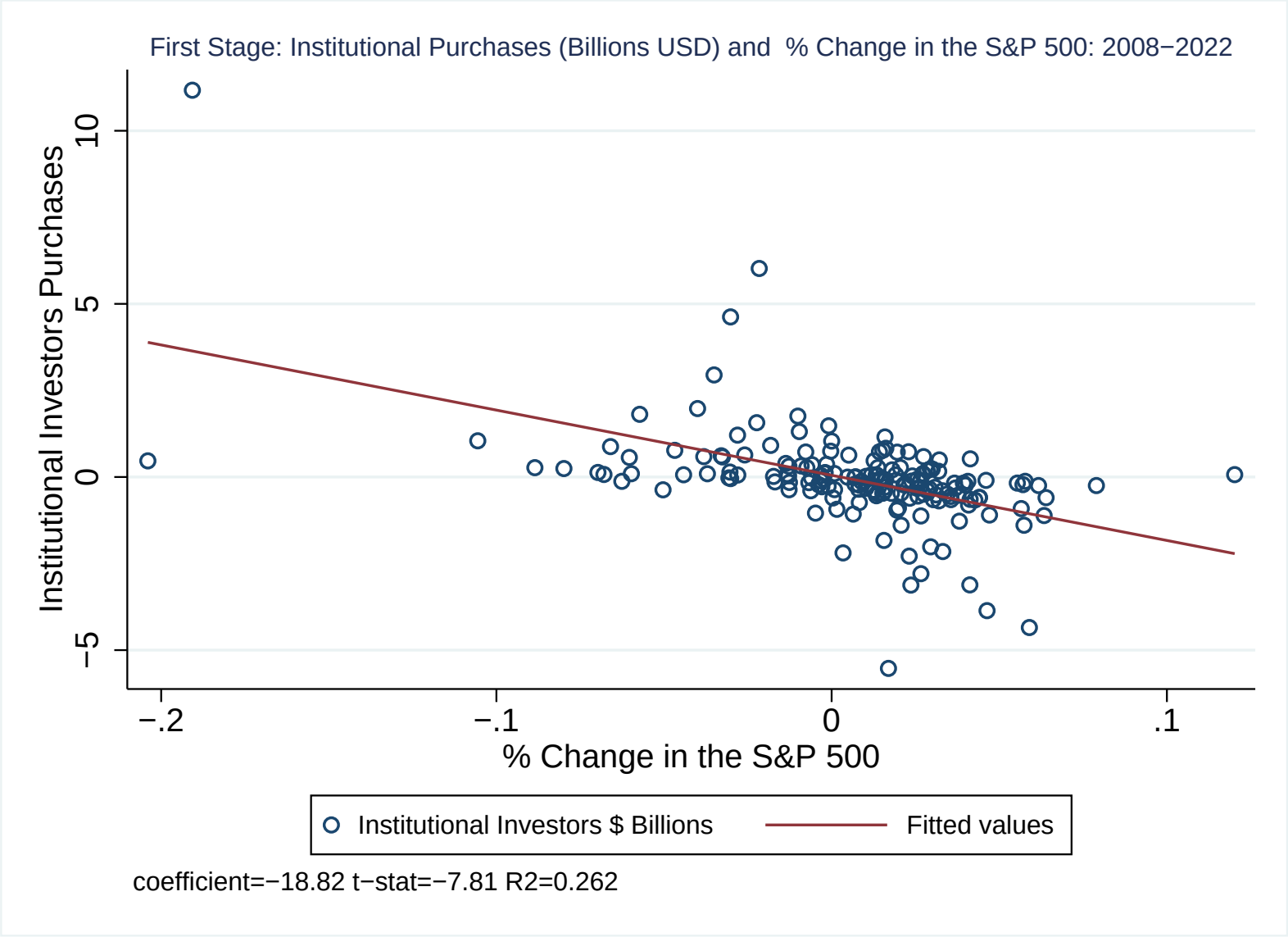

Figure 4: First Stage: Institutional Investors Purchases and the Percent Change in the S&P500: 2008-2022

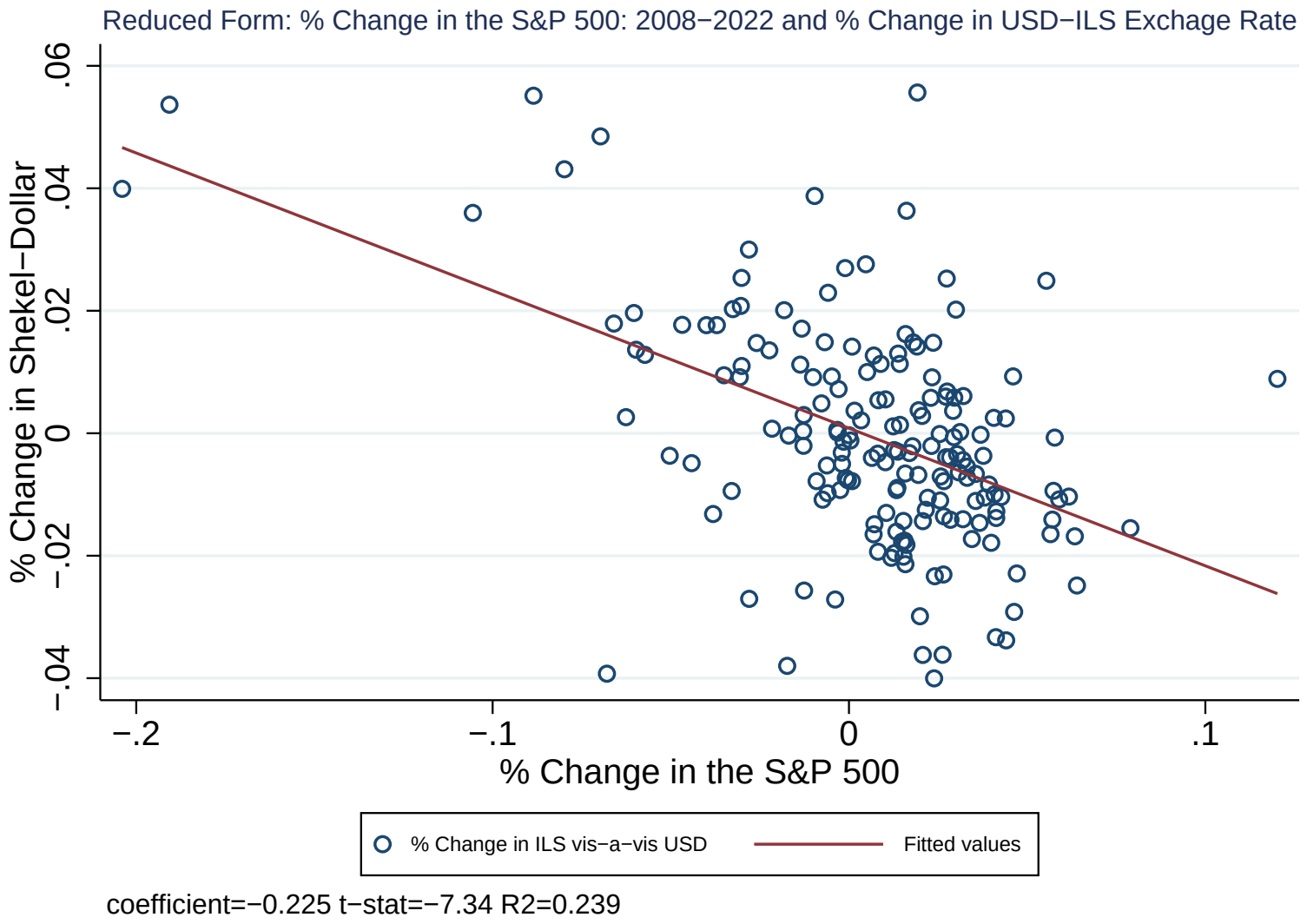

Figure 5: Reduced Form: Percent Change in the S&P500 and the Percent Change in the USD-ILS Exchange Rate: 2008-2022

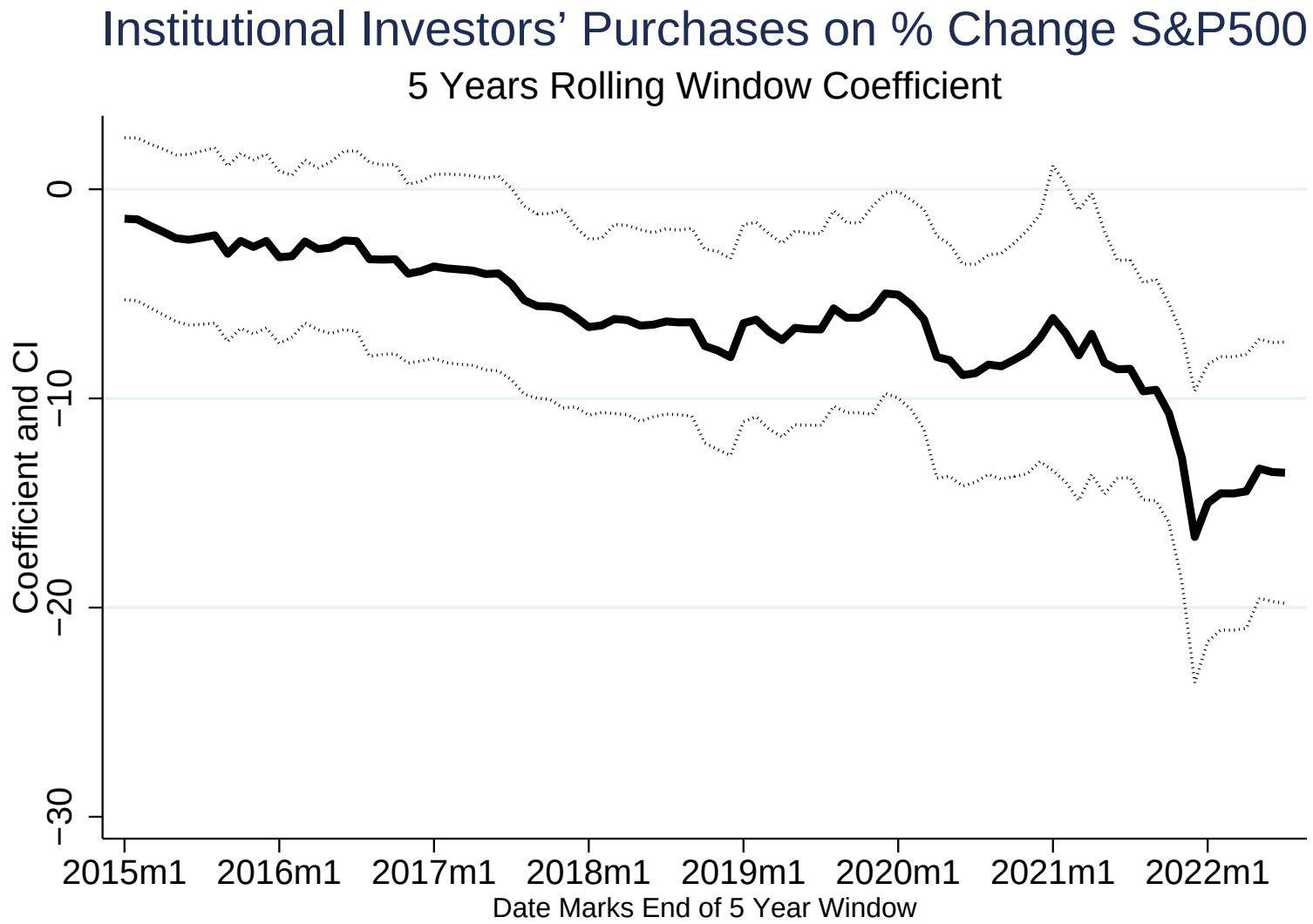

Figure 6: First Stage: Institutional Investors Purchases and the Percent Change in the S&P500. 60 Months Rolling Window. The period on the horizontal axis represents the end of the window.

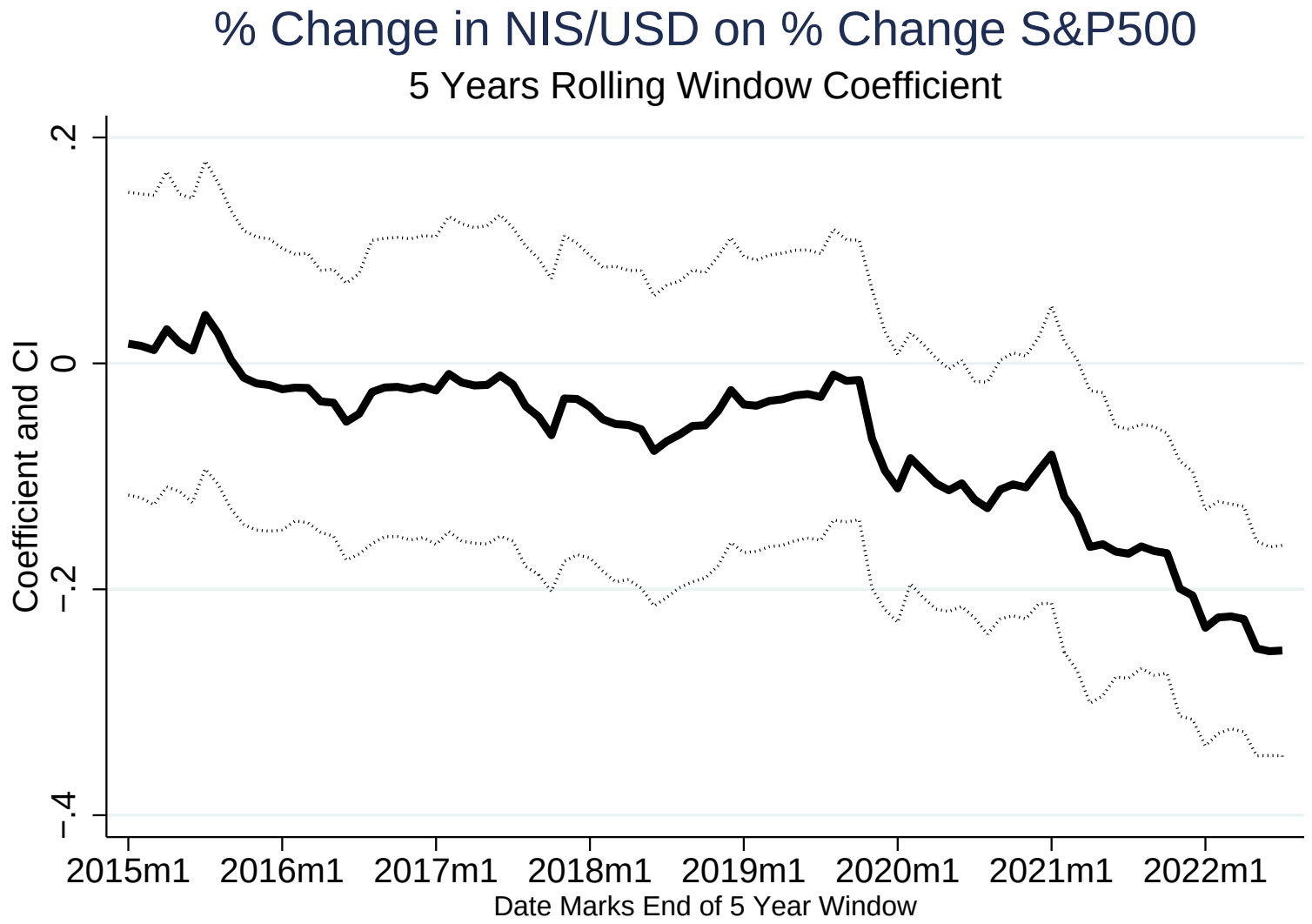

Figure 7: Reduced Form: Percent Change in the S&P500 and the Percent Change in the USD-ILS Exchange Rate. 60 Months Rolling Window. The period on the horizontal axis represents the end of the window.

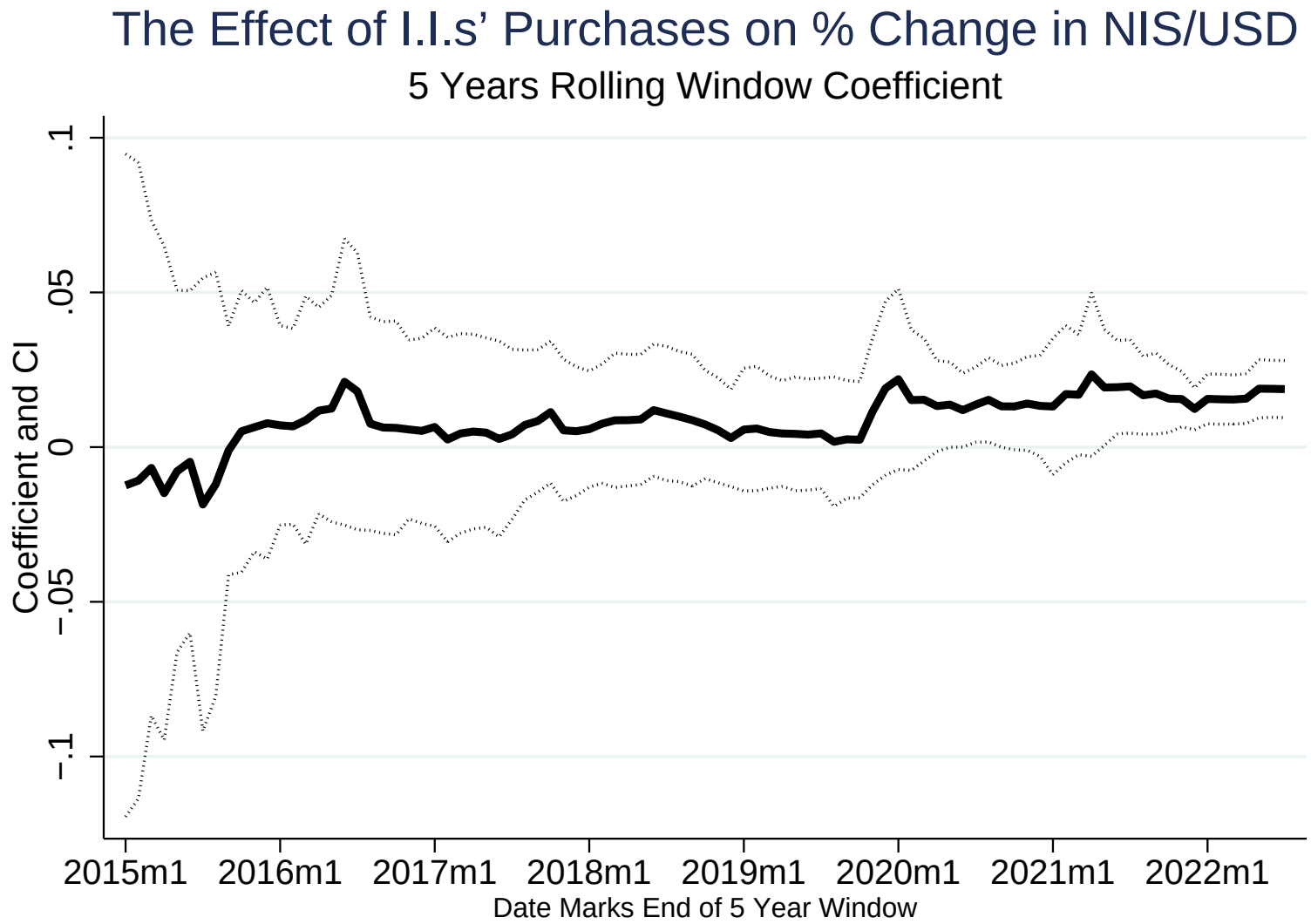

Figure 8: The Effect of 1 billion USD purchased by Institutional on the Percent Change in the USD-ILS Exchange Rate. 60 Months Rolling Window. The period on the horizontal axis represents the end of the window.

Table 1: First-Stage Regressions

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.	Institutional Investors					
		2008-2022		2008-2014	2015-2022	2015-2022†
%Δ S&P 500	-18.821***	-19.471***	-3.201**	0.060	-11.214***	-6.309**
	(2.409)	(2.518)	(1.262)	(0.955)	(2.460)	(2.712)
%Δ USD EUR		-4.288	-3.051	1.457	-3.357	-2.302
		(4.609)	(1.927)	(1.515)	(3.481)	(3.282)
Time		0.000	-0.004***	-0.005***	-0.006**	-0.006**
		(0.002)	(0.001)	(0.002)	(0.003)	(0.002)
Interest Rate Spread		-0.013	-0.117**	0.064	-0.432**	-0.424**
		(0.136)	(0.056)	(0.048)	(0.199)	(0.187)
Bank of Israel			-0.937***	-0.486***	-0.859***	-0.858***
			(0.042)	(0.073)	(0.058)	(0.055)
Business Sector			-1.121***	-0.632***	-1.031***	-1.002***
			(0.051)	(0.088)	(0.074)	(0.070)
Financial Sector			-0.637***	-0.085	-0.669***	-0.493***
			(0.104)	(0.127)	(0.130)	(0.133)
Foreigner Sector			-0.876***	-0.400***	-0.886***	-0.802***
			(0.040)	(0.070)	(0.050)	(0.053)
N	174	174	174	84	90	89
F statistic	61.02	59.78	6.43	0.00	20.78	5.41

Notes. Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. "F statistic" is the Cragg-Donald Wald F statistic for weak identification. The dependent variable, Institutional Investors, is the monthly purchases of USD by Institutional Investors, measured in Billions of US Dollars. %Δ S&P 500 is the monthly percent-change in the S&P 500 Index. %Δ USD EUR is the monthly percent-change in the USD-EUR exchange rate. A positive value implies that the Euro is depreciated. Time is a linear time trend. The interest rate spread is the difference between the BOI basic interest rate, and the "World" interest rate, measured as a weighted average of the interest rates of the Fed, the European Central Bank, the Bank of England and the Bank of Japan. Bank of Israel, the Business Sector in Israel, the Financial Sector in Israel, and the Foreigner Sector, measure the monthly purchases of USD by those sectors, respectively, in Billions of US Dollars. For 2022 we use data until June. Column (6) excludes March 2020.

Table 2: Reduced Form Regressions

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.	%Δ in the USD ILS Exchange Rate					
	2008-2022			2008-2014	2015-2022	2015-2022†
%Δ S&P 500	-0.225***	-0.177***	-0.079**	-0.001	-0.226***	-0.194***
	(0.031)	(0.028)	(0.031)	(0.045)	(0.040)	(0.047)
%Δ USD EUR		0.361***	0.337***	0.357***	0.217***	0.224***
		(0.051)	(0.047)	(0.072)	(0.056)	(0.056)
Time		0.000	0.000	0.000	0.000	0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Interest Rate Spread		0.001	0.001	-0.000	-0.002	-0.002
		(0.002)	(0.001)	(0.002)	(0.003)	(0.003)
Bank of Israel			-0.002*	-0.007*	-0.001	-0.001
			(0.001)	(0.003)	(0.001)	(0.001)
Business Sector			-0.006***	-0.016***	-0.002**	-0.002*
			(0.001)	(0.004)	(0.001)	(0.001)
Financial Sector			-0.001	0.002	-0.002	-0.001
			(0.003)	(0.006)	(0.002)	(0.002)
Foreigner Sector			0.001	-0.006*	0.002**	0.003***
			(0.001)	(0.003)	(0.001)	(0.001)
N	174	174	174	84	90	89

Notes. Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The dependent variable, %Δ in the USD-ILS Exchange Rate, is the monthly percent-change in the USD-ILS exchange rate. A positive value implies that the Israeli Shekel is depreciated. %Δ S&P 500 is the monthly percent-change in the S&P 500 Index. %Δ USD EUR is the monthly percent-change in the USD-EUR exchange rate. A positive value implies that the Euro is depreciated. Time is a linear time trend. The interest rate spread is the difference between the BOI basic interest rate, and the "World" interest rate, measured as a weighted average of the interest rates of the Fed, the European Central Bank, the Bank of England and the Bank of Japan. Bank of Israel, the Business Sector in Israel, the Financial Sector in Israel, and the Foreigner Sector, measure the monthly purchases of USD by those sectors, respectively, in Billions of US Dollars. For 2022 we use data until June. Column (6) excludes March 2020.

Table 3: The Effect of Institutional Investors' FX Purchases on the Shekel-Dollar Exchange Rate - 2SLS Models

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.	%Δ in the USD ILS Exchange Rate					
	2008-2022			2008-2014	2015-2022	2015-2022†
Institutional Investors	0.012***	0.009***	0.025**	-0.022	0.020***	0.031**
	(0.002)	(0.002)	(0.012)	(0.858)	(0.005)	(0.013)
%Δ USD EUR		0.400***	0.413***	0.389	0.285***	0.295***
		(0.056)	(0.064)	(1.237)	(0.079)	(0.105)
Time		0.000	0.000*	-0.000	0.000**	0.000**
		(0.000)	(0.000)	(0.004)	(0.000)	(0.000)
Interest Rate Spread		0.001	0.004*	0.001	0.007	0.011
		(0.002)	(0.002)	(0.055)	(0.005)	(0.008)
Bank of Israel			0.021*	-0.017	0.017***	0.026**
			(0.012)	(0.416)	(0.005)	(0.012)
Business Sector			0.021	-0.030	0.018***	0.028*
			(0.015)	(0.540)	(0.006)	(0.015)
Financial Sector			0.015*	0.000	0.011**	0.014*
			(0.009)	(0.073)	(0.005)	(0.008)
Foreign Sector			0.022**	-0.015	0.020***	0.027**
			(0.011)	(0.342)	(0.005)	(0.011)
N	174	174	174	84	90	89

Notes. Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The dependent variable, %Δ in the USD-ILS Exchange Rate, is the monthly percent-change in the USD-ILS exchange rate. A positive value implies that the Israeli Shekel is depreciated. Institutional Investors is the monthly purchases of USD by Institutional Investors, measured in Billions of US Dollars. %Δ USD EUR is the monthly percent-change in the USD-EUR exchange rate. A positive value implies that the Euro is depreciated. Time is a linear time trend. The interest rate spread is the difference between the BOI basic interest rate, and the "World" interest rate, measured as a weighted average of the interest rates of the Fed, the European Central Bank, the Bank of England and the Bank of Japan. Bank of Israel, the Business Sector in Israel, the Financial Sector in Israel, and the Foreigner Sector, measure the monthly purchases of USD by those sectors, respectively, in Billions of US Dollars. For 2022 we use data until June. Column (6) excludes March 2020.