The Macroeconomic Effects of Official Debt Restructuring: Evidence from the Paris Club

This paper finds that official-sector creditors face policy trade-offs for debt relief provision between growth, fiscal prudence and market access

Gong Cheng
European Stability Mechanism

Javier Diaz-Cassou
Inter-American Development Bank

Aitor Erce
European Stability Mechanism

European Stability Mechanism

esm

The Macroeconomic Effects of Official Debt Restructuring: Evidence from the Paris Club

Gong Cheng[1] European Stability Mechanism

Javier Diaz-Cassou[2] Inter-American Development Bank

Aitor Erce[3] European Stability Mechanism

Abstract

This paper presents new empirical results on the macroeconomic impact of sovereign debt restructurings with official-sector creditors. Using a novel dataset on Paris Club restructurings and Local Projection methods, we find that Paris Club treatments can have a significant impact on economic growth -- 2% higher GDP growth two years after the restructuring -- when a nominal haircut is provided. At the same time, the countries that had received nominal debt relief tend to be less prudent in conducting their fiscal policy than those benefiting from a restructuring in NPV terms. Furthermore, as regards the external sector adjustment after debt restructuring, we observe an improvement in the net foreign asset position, due to the combination of less external debt and higher foreign reserves. Our study suggests that the official sector faces some short-term trade-offs between the objectives of stimulating economic growth, promoting fiscal prudence and improving a country's position in international capital markets when designing a debt restructuring.

1 Email: g.cheng@esm.europa.eu

2 Email: jdiaz@iadb.org

3 Email: a.erce@esm.europa.eu

Disclaimer

The Macroeconomic Effects of Official Debt Restructuring: Evidence from the Paris Club[*]

Gong Cheng[1], Javier Diaz-Cassou[2], and Aitor Erce[†1]

[1]*European Stability Mechanism*
[2]*Inter-American Development Bank*

December 29, 2016

Abstract

This paper presents new empirical results on the macroeconomic impact of sovereign debt restructurings with official-sector creditors. Using a novel dataset on Paris Club restructurings and Local Projection methods, we find that Paris Club treatments can have a significant impact on economic growth — 2% higher GDP growth two years after the restructuring — when a nominal haircut is provided. At the same time, the countries that had received nominal debt relief tend to be less prudent in conducting their fiscal policy than those benefiting from a restructuring in NPV terms. Furthermore, as regards the external sector adjustment after debt restructuring, we observe an improvement in the net foreign asset position, due to the combination of less external debt and higher foreign reserves. Our study suggests that the official sector faces some short-term trade-offs between the objectives of stimulating economic growth, promoting fiscal prudence and improving a country's position in international capital markets when designing a debt restructuring.

Keywords: Official Creditors; Sovereign Debt Restructurings; Growth; Fiscal Stance; External Sector Adjustment; Local Projections

JEL codes: C53; F33; F34; H62; H63

1 Introduction

Although there is extensive literature on sovereign debt restructurings, most attention has been paid to episodes involving private creditors. By contrast, little systematic evidence has been produced on the characteristics and implications of debt restructurings involving official creditors. This is most peculiar, given that official creditors have historically played a fundamental role in the resolution of sovereign debt crises, as highlighted by IMF (2013) and Trebesch et al. (2012), and visually described in Figure 1 below. In fact, one only needs to consider the recent events in Argentina, Ukraine or Greece to understand the ongoing relevance of this statement.

[Figure 1 — *All figures and tables are presented in the annex on p. 13*]

In this paper we shed new light on this issue. We use the dataset on Paris Club debt restructuring deals presented in Cheng et al. (2016), which contains all agreements concluded since 1956 to 2015, and the local projections method (Jordà 2005), to deepen our knowledge on the macroeconomic effects of official sector debt restructurings. Our analysis contributes to the still narrow, but growing, literature on official sector debt relief.[1] Easterly (2002) finds that, paradoxically, debt relief to Highly Indebted Poor Countries (HIPC) often resulted in increased indebtedness. Using a gravity model, Rose (2005) documents the negative effect of official debt restructurings on trade.[2] Arteta and Hale (2008) find that official debt restructurings are more damaging for the country's access to capital markets than restructurings involving private

---

[1]From a private sector perspective the literature is ample. Gelos et al. (2011) and Wright and Tomz (2005) focus on the effect of sovereign defaults on the conditions of market access. Borensztein and Panizza (2009) present a widely cited compilation on the costs of sovereign default. Borensztein and Panizza (2009) look at the effect on reputation. Cruces and Trebesch (2013) study sovereign market access after a private-sector involvement (PSI) using a database on haircuts. They find that larger haircuts predict harder market access. In turn, Asonuma and Trebesch (2016) study the different dynamics created by pre-preemptive and post-default restructurings. There are also two very recent papers dealing with the costs of debt restructurings: Asonuma et al. (2016) and Kuvshinov and Zimmermann (2016).

[2]He finds that following debt restructurings, trade falls by 8 percent of GDP.

2

creditors. Trebesch et al. (2012) present evidence of serial defaulting, showing that official sector debt restructurings have been widespread both in time and across countries. Reinhart and Trebesch (2016) study the effects of debt relief by comparing episodes during the 1930s (official relief for European nations) and the 1990s (private relief for Latin American countries via the Brady Plan). Using a difference-in-difference approach to study the effects of the Brady Plan, Reinhart and Trebesch (2016) conclude that debt restructurings are more beneficial for growth when they provide nominal haircuts than when relief is in Net Present Value (NPV) terms (through maturity extensions or interest rate reductions). Finally, our paper is also closely related to Forni et al. (2016), who also study the impact of Paris Club agreements on growth. These authors observe that debt relief has the largest growth impact for countries that exit restructurings with relatively low debt levels.[3] As highlighted by Cruces and Trebesch (2013) in the context of debt restructuring of privately held sovereign debt, a limitation in Forni et al. (2016) is the absence of information regarding the features of the Paris Club treatment. Forni et al. (2016) mainly focus on the restructuring of privately-held claims (PSI); Paris Club agreements are represented by a simple dummy variable. Our characterisation of Paris Club treatments is significantly richer, including information on NPV losses for creditors and on the extent of provision of nominal debt relief, allowing us to go further in the analysis of the effects of official debt restructurings on the receiving economy.

Our results extend the intuition presented in Reinhart and Trebesch (2016) to the restructuring of official claims. We show that Paris Club treatments can have a significant impact on economic growth. We find, however, that this result holds only for the debt treatment involving a nominal haircut. Remarkably, such agreements lead, on average, to 2 percent higher GDP after two years. By contrast, Paris Club treatments carrying only NPV relief have no impact on growth. Moreover, our findings show that the difference

---

[3]From a technical perspective, they tackle endogeneity concerns regarding the effects of PSI using a diff-in-diff IV strategy. In addition, similar to Kuvshinov and Zimmermann (2016) and Jordà and Taylor (2016), to reduce selection biases, they use a matching estimator.

in growth patterns between restructurings carrying nominal debt reductions and those relying only on NPV measures is statistically different whenever the level of NPV relief is relatively low. In addition, along the findings in Easterly (2002), we document the flip-side of this growth story. Our results show that countries not receiving nominal debt relief turn out to be more likely to pursue a prudent fiscal policy after the restructuring than those receiving a nominal haircut. Moreover, as regards the external sector adjustment after debt restructuring, we observe an improvement in a country's net foreign asset position, due to the combination of less external debt and higher foreign reserves. From a policy perspective, our results provide additional evidence to support the idea that when designing a solution to a debt overhang, the official sector faces a trade-off between the objectives of stimulating economic growth and of promoting fiscal prudence.

The rest of the paper is structured as follows. Section II introduces the dataset and presents a few stylised facts. Section III outlines the methodology used for the empirical analysis. Section IV presents the empirical results to unveil the causal impact of Paris Club restructurings on the economic performance of debtors. Finally, section V concludes.

2 Data

2.1 The Paris Club

As detailed in Cheng et al. (2016) and Trebesch et al. (2012), the Paris Club is an informal forum, hosted by the French Treasury in Paris, where, since 1956, creditor governments have conducted debt-rescheduling negotiations with sovereign debtors in a coordinated manner.

In order to carry on our analysis, we use the dataset of Cheng et al. (2016) on official debt restructurings conducted through the Paris Club. It contains information about 429 treatments with 79 debtors.[4] For each agreement, we use the following information: the signing country, the date of the agreement,

---

[4]As detailed in Cheng et al. (2016), this database was hand-collected from the Paris Club website by agreement.

the total amount of debt treated, the nominal relief provided (if any), and the terms of the agreement. As described in Cheng et al. (2016) and summarised in Table 1, each of these terms of agreement implies a different degree of nominal and/or NPV debt relief.

[Table 1]

2.2 Other data

We complemented our dataset with information on the income level, the lending category and a number of macroeconomic and fiscal variables, of each of the countries included in our sample, that past literature on debt defaults has paid attention to. The variables included are: nominal GDP, real GDP growth, total public debt, debt service (interest and principal payments), fiscal revenues, fiscal expenses and balance-of-payments. They were extracted from the World Bank's World Development Indicators and the IMF's International Financial Statistics, and cover the period 1960-2015. Given that our dataset on Paris Club events is quarterly while the macroeconomic and fiscal variables that we use are only available yearly, we resort to a linear interpolation in order to transform them into a quarterly frequency.

3 Methodology: Local Projections

As amply discussed in the literature, understanding the macroeconomic effects of sovereign defaults is not an easy task. This is so because defaults are endogenous to countries economic circumstances, thus complicating the task of extracting the structural effects that debt-restructuring events may have. One way to overcome this technical difficulty is to look only at default events that can be regarded as exogenously determined. For instance, Reinhart and Trebesch (2016) look at collectively orchestrated restructurings, such as war debt restructurings in the 1930s for advanced economies, or the Brady plan in the 1980s for Latin American countries. Forni et al. (2016) use the same approach and consider private restructurings after a Paris Club event

5

as exogenous. Kuvshinov and Zimmermann (2016) present an alternative approach to measure the effects of PSI by estimating impulse-response functions (IRFs). They argue that this modeling technique is suitable because it explicitly controls for the endogenous feedbacks inherent to the dynamic relation between defaults and the macroeconomic context in which they occur.

We follow this latter approach and study the impact of Paris Club restructurings on economic outcomes by estimating IRFs that control for dynamic feedback effects, using "local projections" (Jordà 2005). This methodology, which provides a flexible alternative to VAR approaches, allows us to directly project the behavior of our variables of interest to the signing of a treatment with the Paris Club, by computing estimates of the h-step ahead cumulative average treatment effect on the variable under study. In practice, local projections are regression-adjusted difference-in-difference estimates that collapse the time series information in a pre- and a post-period for each step ahead.[5]

In our basic linear specification, the responses of our variables of interest to a debt restructuring at horizon h is obtained from the following equation:

$$\triangle Y_{i,t+h} = \alpha_{i,h} + \beta_h PC_{i,t} + \Phi_h(L) \triangle Y_{i,t-1} + \Psi_h \triangle X_{i,t-1} + \sigma_{t,h} + \mu_{i,t,h}$$

where $\triangle Y_{i,t+h} = Y_{i,t+h} - Y_{i,t+h-1}$ for $h \geq 0$, and $\triangle Y_{i,t+h}$ represents the accumulated change in the variable under scrutiny at time $t + h$. The lag polynomial $\Phi_h(L)$ represent four lags. $PC_{i,t}$ represents a dummy for the signing of an Paris Club treatment and $X_{i,t-1}$ covers the following set of lagged controls: GDP growth, government debt, inflation, fiscal deficit, world GDP growth, and the US 10-year rate. Finally, we include country and year dummies.

Every equation, for each h, is estimated using a standard ordinary least

---

[5]Comparing Local Projections, a standard structural VAR and a dynamic simulation, Owyang et al. (2013) find that the results are similar for the first 16 periods. For longer horizons, Local Projections tends to produce statistically significant oscillations. Since, in this study, we focus on the short- to medium-horizon effects of official debt restructurings, we can safely disregard this drawback.

squares approach. We use robust Driscoll and Kraay (1998) standard errors to correct for potential heteroskedasticity, autocorrelation in the lags and error correlation across panels.

Agreement-specific features and macroeconomic outcomes

Similar to what has been observed for restructurings involving privately-held sovereign debt (Asonuma and Trebesch 2016), Paris Club treatments are likely to have different macroeconomic effects, depending on the specific features of the agreement reached and the underlying circumstances of the country requesting the treatment.

To study this possibility and capture these potential differences, we follow Jordà and Taylor (2016) and Kuvshinov and Zimmermann (2016) and study the heterogeneous effects of different Paris Club debt treatments by assigning them into one of a set of mutually excluding restructuring strategies (bins). The assignment of the episodes to specific bins is done on the basis of the features of the agreements whose effect we want to study. Following this approach, we test the effects of Paris Club treatments in two dimensions: (i) included nominal debt reduction, and (ii) the size of the NPV relief provided.

Separating restructurings between those with and without nominal debt reductions is immediate with our dataset. In turn, we separate Paris Club treatments in high and low NPV by using the median value of the haircuts within the sample as a threshold. When the NPV granted by the Paris Club, as reported in our dataset, is above the median, we consider that restructuring episode to be one with a large NPV.

To calculate these non-linear effects, we upgrade our original model to include interaction terms, through which we can separately estimate the effects of each restructuring approach (as represented by the corresponding bin). Thus, our new estimation strategy is based on the following equation:

$$\triangle Y_{i,t+h} = \alpha_{i,h} + \sum_{k=1}^{K} \beta_h^k (PC_{i,t} \cdot D_{i,t}^k) + \Phi_h(L) \triangle Y_{i,t-1} + \Psi_h \triangle X_{i,t-1} + \mu_{i,t,h}$$

7

where $D_{i,t}^k$ is each one of the K mutually exclusive groups of Paris Club treatments. $D_{i,t}^k$ takes a value one if the restructuring experienced by country i and time t featured the characteristic of interest K. As before, $PC_{i,t}$ represents our Paris Club dummy. $X_{i,t-1}$ covers the same set of controls we included in the previous estimation.

We build the IRFs from the β_h^k coefficients (where we assume $D_{i,t}^k = 1$). Finally, we test the statistical significance of the differences between the two restructuring approaches by comparing the statistical significance of the pair-wise differences of these coefficients, $\beta_h^i - \beta_{k,h}^j$.

4 Empirical analysis

4.1 Growth perspective

First, we look at the overall real GDP growth after a restructuring event, as it is shown in Figure 2. It is increasing from a slightly negative territory to reach 0.5 percentage point higher in two years and a half.

[Figure 2]

Figure 3 shows there is a significant difference between restructuring with a nominal haircut and those without. The real GDP growth rate is significantly positive and increasing at the 95% confidence level with restructurings delivering nominal debt reduction. On the contrary, the events associated with debt reduction in NPV terms do not generate significant post-restructuring growth.

[Figure 3]

Does the size of NPV relief matter? We tested the statistical difference between a nominal haircut on the one hand and high or low NPV relief respectively on the other. High NPV relief is defined as a NPV relief superior to 50% of the total debt treated. The results of these statistical tests are

shown in Table 2. We find that a nominal haircut generates much stronger real GDP growth than a restructuring having only low NPV relief. This result is statistically significant with a confidence interval of at least 90%. However, the difference in terms of real GDP growth between a nominal haircut and high NPV relief is not statistically significant. This is an important policy result as we will see below that a nominal haircut and high NPV relief have different implications on fiscal variables as well.

[Table 2]

4.2   Debt trajectory

We are also interested in uncovering how public debt behaves after a restructuring event with the Paris Club. Figure 4 shows that the government debt in the full sample significantly decreases with a 90% confidence interval only 8 quarters after the restructuring.

[Figure 4]

Once we disentangle nominal restructuring from restructurings without nominal debt reduction, we observe in Figure 5 that government debt decreases even one quarter after the restructuring at the 95% confidence interval. In comparison, there is no statistically significant debt deduction with the restructuring events involving only NPV relief.

[Figure 5]

As before, we examine if the size of the NPV relief matters. Table 3 shows that a nominal haircut unambiguously generates a lower debt level after restructuring than both high and low NPV relief. However, this difference presents a stronger statistical significance with lower NPV relief than with higher NPV relief.

[Table 3]

As regards the debt-servicing burden, Figure 6 and 7 show that debt amortisation and interest payment both decrease with nominal debt reduction, while they both increase significantly after a restructuring without a nominal haircut. The results remain unchanged even if we control for the size of the NPV relief (results available upon request).

[Figure 6 and 7]

4.3   Fiscal performance

Once we understand the implications for GDP growth and for the dynamics of the debt stock and debt servicing, we turn to examine how fiscal variables behave following a debt treatment by the Paris Club restructuring.

The full sample in Figure 8 shows a continuous improvement of the fiscal deficit (a negative number corresponds to a fiscal surplus), which is statistically significant up to four quarters after the restructuring.

[Figure 8]

However, the fiscal deficit behaves very differently depending on the restructuring approach offered. According to Figure 9, the fiscal deficit seems to increase three quarters after a nominal haircut, although the result is not statistically significant. However, the fiscal deficit decreases significantly following a restructuring offering NPV relief only. Once we control for the size of the NPV relief, this result becomes even more pronounced. The fiscal deficit rises six quarters after a nominal haircut with the 90% confidence interval while high NPV relief is associated with strong fiscal surplus (see Figure 10). Table 4 also reports the differences in the size of the fiscal deficit between a nominal haircut and high NPV relief on the one hand and between a nominal haircut and low NPV relief on the other. It is clear that there are some costs in terms of fiscal behaviour associated with a nominal haircut that

counterbalance the growth benefits. Although the growth perspective is less promising after a debt relief in NPV terms, the fiscal deficit associated with a bigger-than-50% NPV relief decreases significantly with a 95% confidence interval.

[Figure 9 and 10]

[Table 4]

One can speculate about why the fiscal deficit increases with a nominal haircut while it decreases with NPV restructurings. One reason would be that with a lower debt burden, a country is able to use expansionary fiscal policy measures to stimulate economic growth. Figure 11 shows non-debt fiscal expenditure does increase significantly after a nominal haircut while it decreases with other types of restructurings.

[Figure 11]

4.4 External sector adjustment

Finally, we also examine the trajectory of countries' trade balance, capital account balance and foreign reserves, which the three main components of countries' balance-of-payments. The trajectories of these three variables are shown in Figure 12, 13 and 14.

[Figure 12, 13 and 14]

The first observation to highlight is that for restructurings with a nominal haircut, the trajectory of the trade balance is not significantly different from zero, while the trade balance associated with non-nominal debt restructurings is slightly positive and significant. This result sheds further light on the conclusion of Rose (2005), who argues that sovereign default may harm international trade either because creditors want to deter default by debtors,
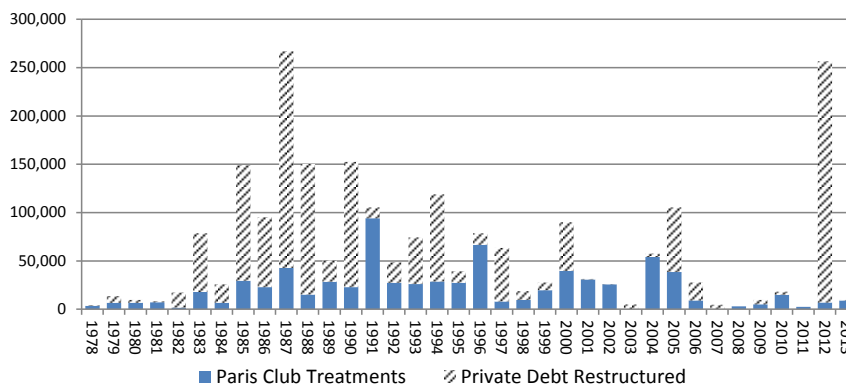
11

or because trade finance dries up after a default. It seems that the harm comes from debt restructuring exercises featuring a nominal debt reduction. Finally, considering the trajectory of capital account balance and of the stock of foreign reserves, it seems that the countries that had received a debt haircut are more able to secure foreign capital inflows and their governments are able use new financial income to build up their stock of reserves rather than to pay down foreign debt. This result could suggest that investors have a rather short memory on debt relief (see Gelos et al. 2011) and are rather dubious about the debt sustainability of a country that did not receive nominal debt reduction. Our finding finds a parallel in Asonuma (2016), which documents exchange rate depreciation around private debt restructurings.

5 Conclusion

What are the economic implications of reaching a debt restructuring agreement with the official sector? In this paper we answer this question using data for the Paris Club. We find that Paris Club treatments can have a significant impact on economic growth. According to our estimates, only those restructurings that carry a nominal haircut seem to unambiguously raise the economic prospects of debtors: remarkably, such agreements lead, on average, to 2 percent higher GDP growth after two years. By contrast, Paris Club treatments carrying only NPV relief have no positive impact on growth. However, the countries that receive these restructuring conditions turn out to be more likely to pursue a prudent fiscal policy after the event than those receiving a nominal haircut. Our results show that when lack of fiscal discipline is the underlying problem, nominal haircuts are not a solution. Finally, when looking at the external side dynamics, we observe an improvement in the net foreign asset position via lower external debt and increased foreign reserves. However, how the market — especially foreign investors — react to debt restructurings need to be more thoroughly explored and constitute the next step of our study.

A Figures and tables

Figure 1: Evolution of sovereign debt restructurings: Paris Club treatments vs. Private sector involvement

Source: Paris Club, Cruces and Trebesch (2014)

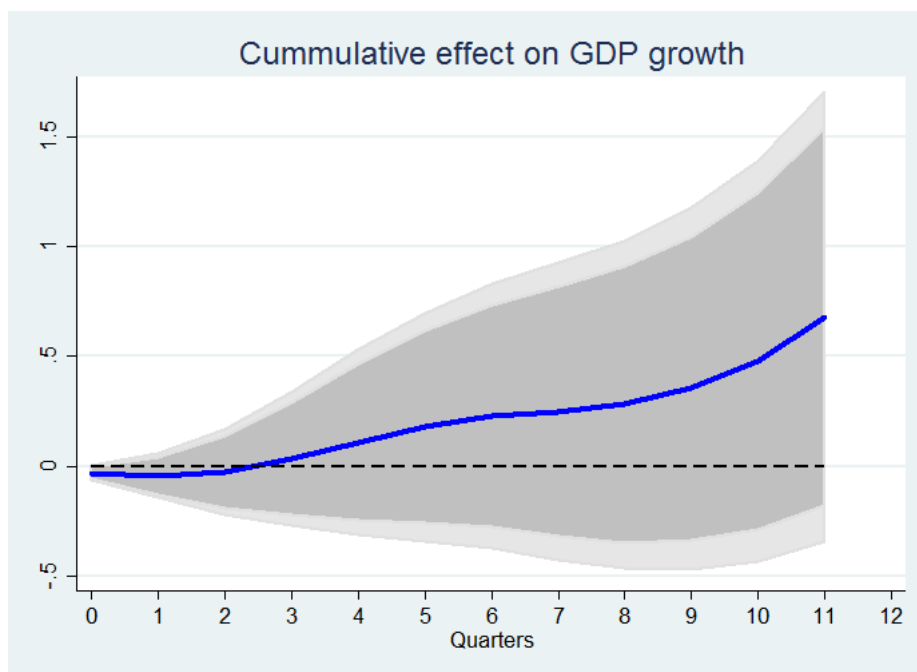Figure 2: Real GDP growth after a restructuring

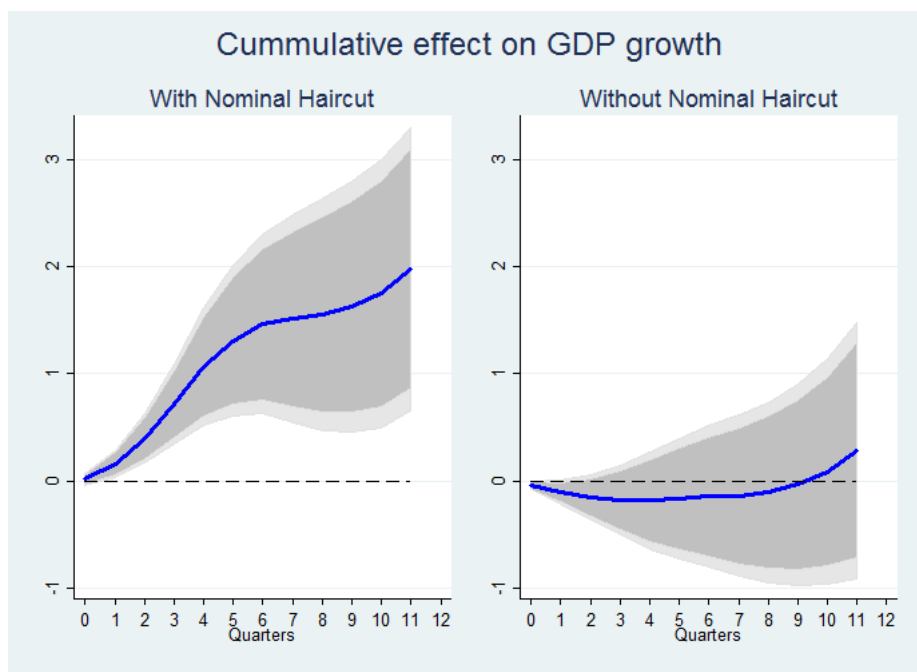Figure 3: Nominal vs. non-nominal: real GDP growth after a restructuring

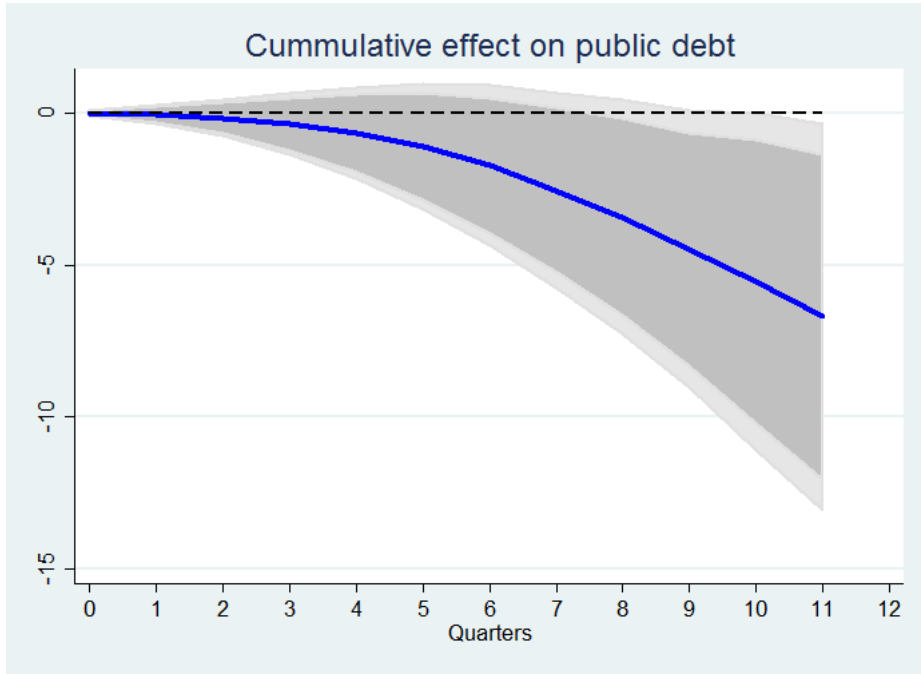Figure 4: Debt to nominal GDP ratio after a restructuring

Figure 5: Nominal vs. non-nominal: Debt to nominal GDP ratio after a restructuring
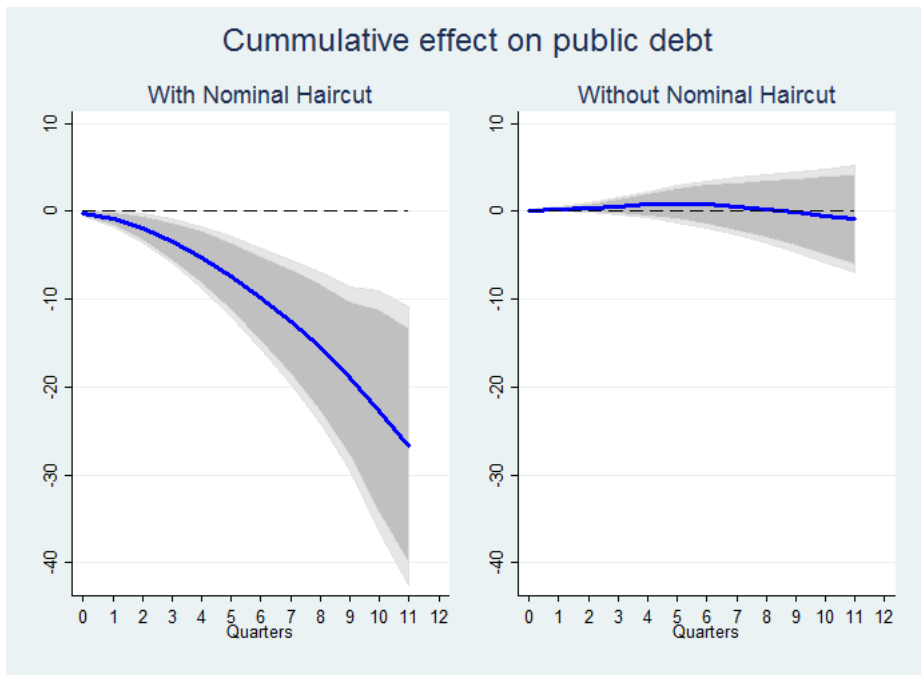
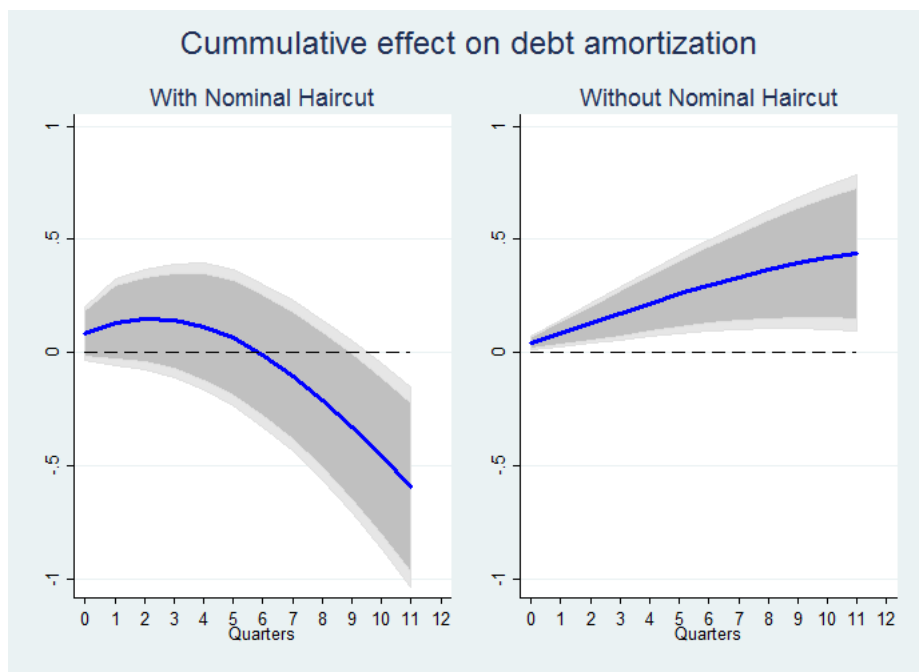Figure 6: Nominal vs. non-nominal: Debt amortisation (% GDP) after a restructuring

Figure 7: Nominal vs. non-nominal: Debt interest payment (% GDP) after a restructuring
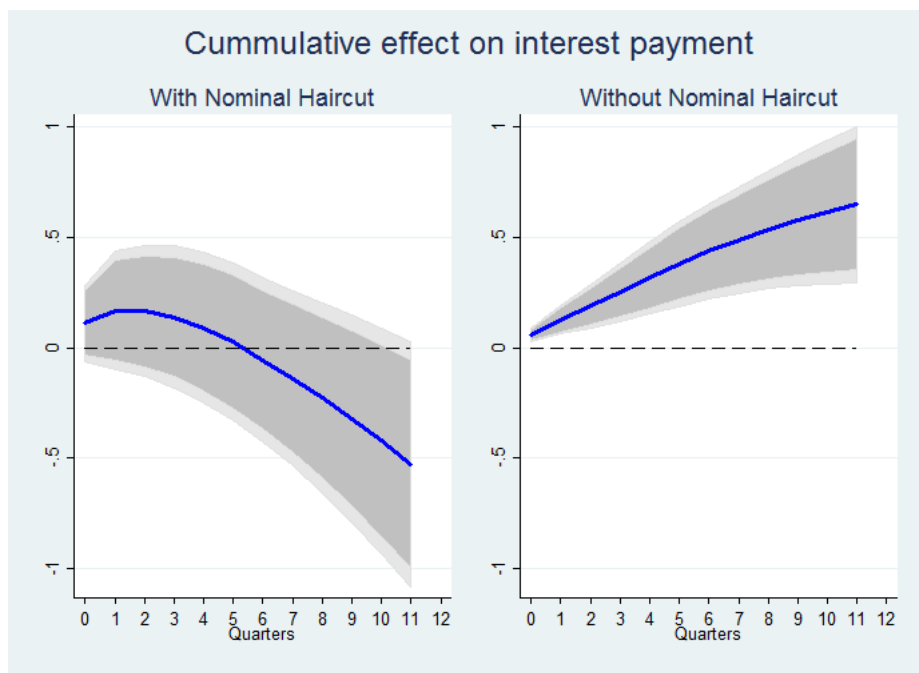
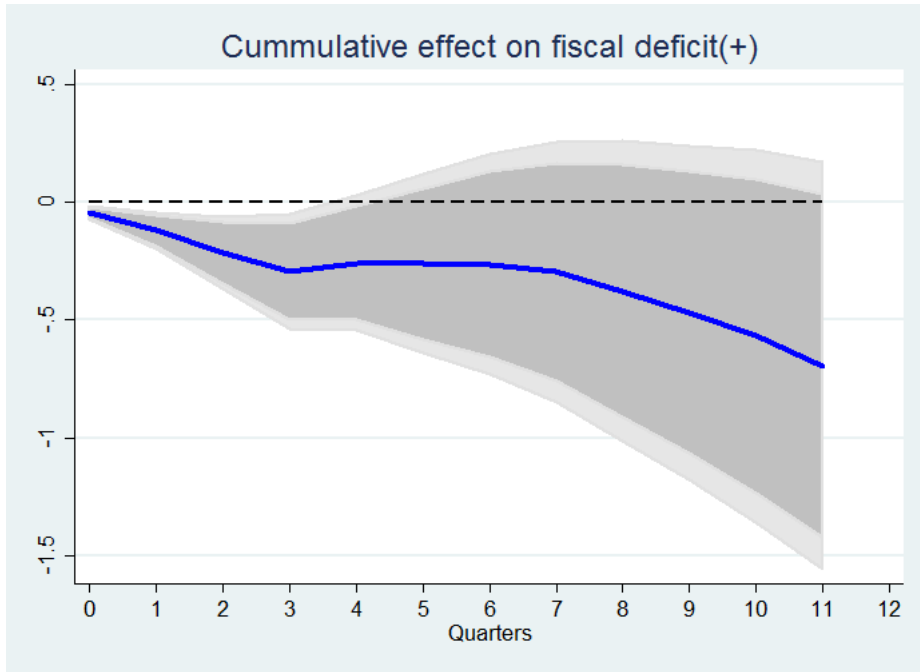

16

Figure 8: Fiscal deficit after a restructuring

Figure 9: Nominal vs. non-nominal: Fiscal deficit after a restructuring
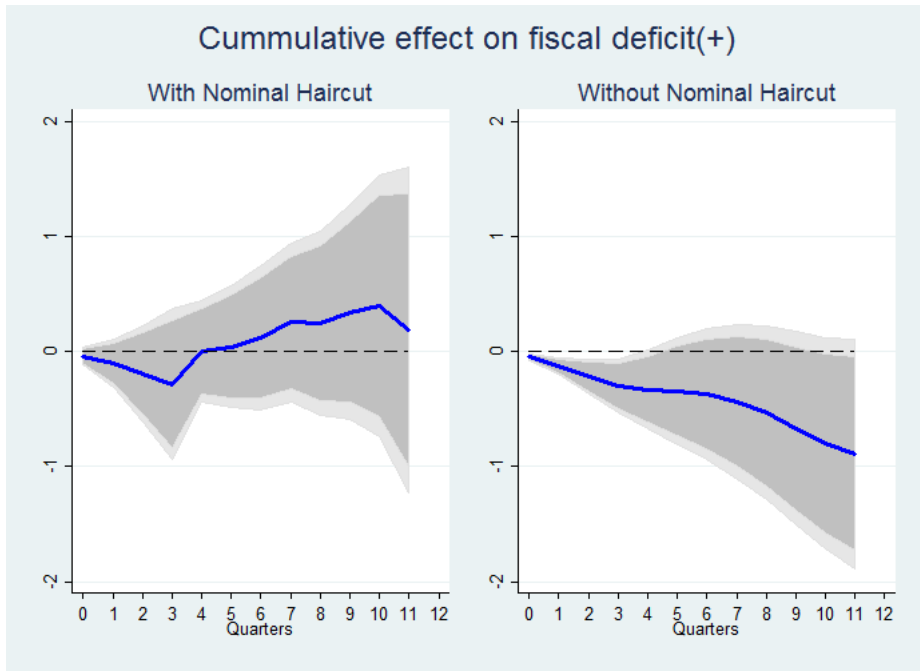
Figure 10: Nominal vs. high/low NPV relief: Fiscal deficit after a restructuring

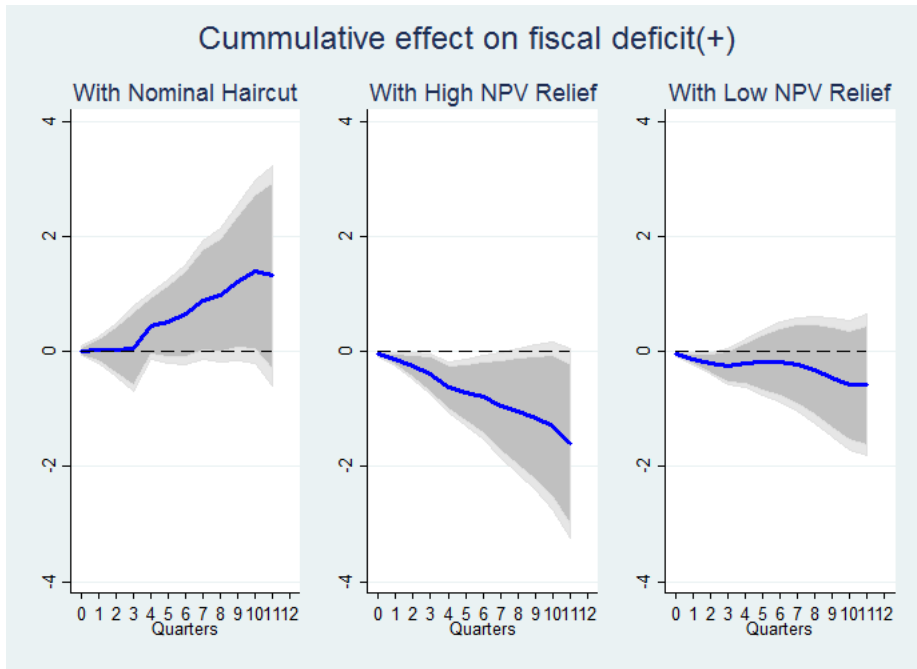Figure 11: Nominal vs. non-nominal: Non-debt related fiscal expenditure (% GDP) after a restructuring

Figure 12: Nominal vs. non-nominal: trade balance (% GDP) after a restructuring

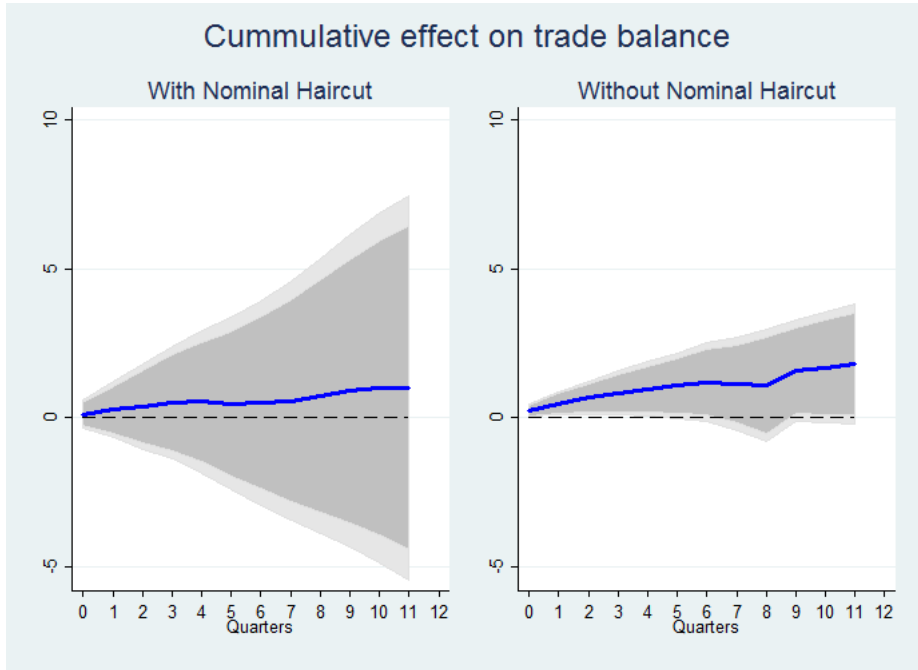Cummulative effect on trade balance

Figure 13: Nominal vs. non-nominal: capital account balance (% GDP) after a restructuring
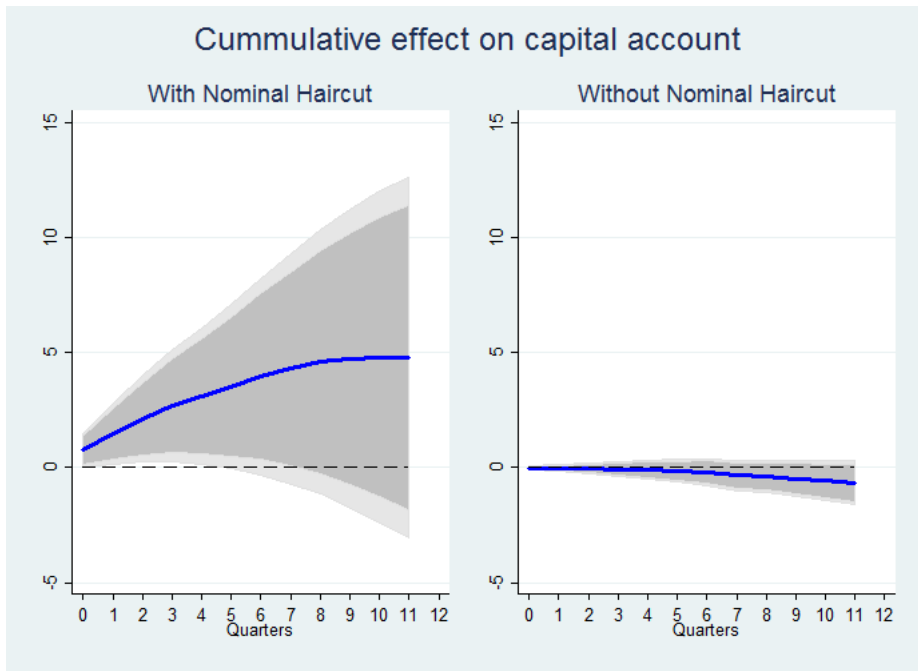

Cummulative effect on capital account

Figure 14: Nominal vs. non-nominal: Foreign reserves (% GDP) after a restructuring
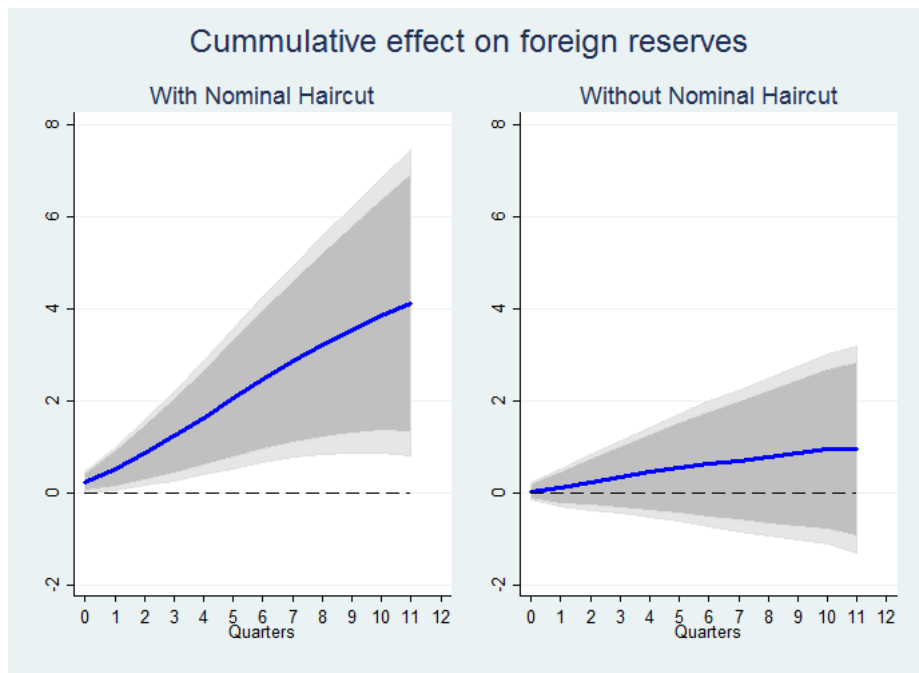
Table 1: Evolution of the terms of treatment with the Paris Club

	Number of Agreements	Countries	Amount Treated (billion US$)	Nominal Relief (billion US$)	Nominal relief % Amount Treated	NPV Relief	Agreements per Country
Ad Hoc	33	25	238.9	53.5	22.4	-	1.3
Classic	165	58	153.9	0.0	0.0	0.0	2.8
Toronto	28	20	6.1	0.0	0.0	0.3	1.4
Houston	35	21	72.0	0.0	0.0	0.0	1.7
London	26	23	8.6	0.0	0.0	0.5	1.1
Naples	47	33	31.6	8.4	26.7	0.7	1.4
Naples 50Lyon	7	5	6.0	0.9	15.1	0.8	1.4
Cologne	39	32	24.2	6.0	24.9	0.9	1.2
HIPC Exit	36	36	36.8	24.0	65.3	-	1.0
Total	422	86	581.2	93.1	16.0		4.9

Table 2: Differences in real GDP growth: high vs. low NPV relief relative to nominal haircut [*t-statistic* in parentheses]

	(1) t	(2) t+1	(3) t+2	(4) t+3	(5) t+4	(6) t+5	(7) t+6	(8) t+7
Nominal - High NPV	0.092	0.265	0.468	0.708	0.970	1.162	1.358	1.486
	(1.406)	(1.627)	(1.484)	(1.375)	(1.291)	(1.205)	(1.202)	(1.167)
Nominal - Low NPV	0.104**	0.374***	0.726***	1.105***	1.468***	1.679***	1.786**	1.817**
	(2.188)	(3.101)	(3.267)	(3.146)	(2.944)	(2.643)	(2.376)	(2.107)
Observations	8218	8218	8218	8218	8218	8218	8218	8218

Table 3: Differences in debt level (% GDP): high vs. low NPV relief relative to nominal haircut [*t-statistic* in parentheses]

	(1) t	(2) t+1	(3) t+2	(4) t+3	(5) t+4	(6) t+5	(7) t+6	(8) t+7
Nominal - High NPV	−0.518*	−1.713**	−3.099**	−5.086**	−7.271**	−9.558**	−11.913**	−14.227*
	(−1.895)	(−2.302)	(−2.168)	(−2.194)	(−2.170)	(−2.103)	(−2.033)	(−1.929)
Nominal - Low NPV	−0.376**	−1.366***	−2.641***	−4.500***	−6.679***	−9.061***	−11.408***	−13.725***
	(−2.175)	(−2.686)	(−2.635)	(−2.792)	(−2.843)	(−2.845)	(−2.800)	(−2.713)
Observations	8216	8214	8212	8210	8208	8206	8204	8202

Table 4: Differences in fiscal deficit (% GDP): high vs. low NPV relief relative to nominal haircut [*t-statistic* in parentheses]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	t	t+1	t+2	t+3	t+4	t+5	t+6	t+7
Nominal - High NPV	0.046	0.155	0.282	0.439	1.059**	1.231**	1.445**	1.832**
	(0.834)	(0.956)	(0.871)	(0.867)	(2.358)	(2.129)	(2.006)	(2.073)
Nominal - Low NPV	0.054	0.151	0.239	0.306	0.650	0.710	0.837	1.115
	(1.230)	(1.237)	(0.956)	(0.765)	(1.482)	(1.239)	(1.208)	(1.344)
Observations	8135	8052	7969	7886	7803	7720	7637	7554

References

Arteta, C. and Hale, G. (2008). Sovereign debt crises and credit to the private sector. *Journal of International Economics*, 74(1):53 – 69.

Asonuma, T. (2016). Sovereign Defaults, External Debt, and Real Exchange Rate Dynamics. IMF Working Papers WP/16/37, International Monetary Fund.

Asonuma, T., Chamon, M., and Sasahara, A. (2016). Trade Costs of Sovereign Debt Restructurings: Does a Market-Friendly Approach Improve the Outcome? IMF Working Paper WP/16/222, International Monetary Fund.

Asonuma, T. and Trebesch, C. (2016). Sovereign Debt Restructurings: Pre-emptive or Post-default. *Journal of the European Economic Association*, 14(1):175–214.

Borensztein, E. and Panizza, U. (2009). The Costs of Sovereign Default. *IMF Staff Papers*, 56(4):683–741.

Cheng, G., Diaz-Cassou, J., and Erce, A. (2016). From Debt Collection to Relief Provision: 60 Years of Official Debt Restructurings through the Paris Club. ESM Working Papers 20, European Stability Mechanism.

Cruces, J. J. and Trebesch, C. (2013). Sovereign Defaults: The Price of Haircuts. *American Economic Journal: Macroeconomics*, 5(3):85–117.

Driscoll, J. and Kraay, A. (1998). Consistent Covariance Matrix Estimation With Spatially Dependent Panel Data. *The Review of Economics and Statistics*, 80(4):549–560.

Easterly, W. (2002). How Did Heavily Indebted Poor Countries Become Heavily Indebted? Reviewing Two Decades of Debt Relief. *World Development*, 30(10):1677–1696.

Forni, L., Palomba, G., Pereira, J., and Richmond, C. (2016). Sovereign Debt Restructuring and Growth. IMF Working Paper WP/16/147, International Monetary Fund.

Gelos, R. G., Sahay, R., and Sandleris, G. (2011). Sovereign borrowing by developing countries: What determines market access? *Journal of International Economics*, 83(2):243–254.

IMF (2013). Sovereign Debt Restructuring - Recent Developments and Implications for the Fund's legal and policy framework. Policy papers, Interantional Monetary Fund.

Jordà, O. (2005). Estimation and Inference of Impulse Responses by Local Projections. *American Economic Review*, 95(1):161–182.

Jordà, O. and Taylor, A. M. (2016). The Time for Austerity: Estimating the Average Treatment Effect of Fiscal Policy. *Economic Journal*, 126(590):219–255.

Kuvshinov, D. and Zimmermann, K. (2016). Sovereigns going bust: estimating the cost of default. Bonn econ discussion papers, University of Bonn, Germany.

Owyang, M. T., Ramey, V. A., and Zubairy, S. (2013). Are Government Spending Multipliers Greater During Periods of Slack? Evidence from 20th Century Historical Data. NBER Working Papers 18769, National Bureau of Economic Research, Inc.

Reinhart, C. M. and Trebesch, C. (2016). Sovereign Debt Relief And Its Aftermath. *Journal of the European Economic Association*, 14(1):215–251.

Rose, A. K. (2005). One reason countries pay their debts: renegotiation and international trade. *Journal of Development Economics*, 77(1):189–206.

Trebesch, C., Papaioannou, M. G., and Das, U. S. (2012). Sovereign Debt Restructurings 1950-2010; Literature Survey, Data, and Stylized Facts. IMF Working Papers 12/203, International Monetary Fund.

Wright, M. and Tomz, M. (2005). Guano Happens: Two Centuries of Sovereign Debt and Default. 2005 Meeting Papers 58, Society for Economic Dynamics.