

**Original Sin Mystery Trinity
and Unequal Blessings**

Deniz Arınsay

Undersecretariat of the Turkish Treasury
Ankara 06510, Turkey
deniz.arinsay@hazine.gov.tr

Erdal Özmen

Department of Economics
Middle East Technical University
Ankara 06531 Turkey
ozmen@metu.edu.tr

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Deniz Arinsoy

Undersecretariat of the Turkish Treasury
06510, Ankara, Turkey
E-mail: deniz.arinsoy@hazine.gov.tr

and

Erdal Özmen

(Corresponding Author)
Middle East Technical University
Department of Economics, 06531, Ankara, Turkey
E-mail: ozmen@metu.edu.tr

ABSTRACT

We investigate whether the fact that most countries cannot borrow internationally in their own currencies, referred to as “original sin” by Eichengreen and Hausmann (1999), may remain as a “mystery” when an alternative variable set and estimation procedure are taken into account. Our results suggest that flexible exchange rates and strong macroeconomic policy stance with sound institutions are necessary but not sufficient for redemption from original sin. Original sin appears to be persistent and determined also by the variables which are beyond the sole control of individual countries. Consequently, redemption from it and satisfying the blessed trinity of international currency, flexible exchange rates and sound institutions requires a new international financial system allowing complete markets for all currencies meeting the necessary conditions.

Keywords: Currency mismatches, Exchange rate regimes, International financial architecture, Original sin, Rule of law

JEL Classification: F33, F34, F41, G15

I. INTRODUCTION

The fact that most countries are unable to borrow internationally in their own currencies is referred to as “original sin” of international finance by Eichengreen and Hausmann (1999) and Eichengreen, Hausmann and Panizza (2003a,b). The inability of many countries to borrow in domestic currency at long maturities and fixed rates even at home constitutes the domestic dimension of the original sin. The international dimension of the original sin appears to be persistent¹ and often invariant to prevailing policy regimes whilst the domestic original sin can potentially be solved by sound macroeconomic policies.

The prevailing international financial system allows the bulk of countries to borrow only mainly in the so called strong currencies. This has crucially important theory and policy implications. International money and finance literature often maintains that markets are complete and efficient for all convertible currencies and the relative demands for them are basically determined by country specific macroeconomic conditions and institutional structures. The lack of an international market for many countries to borrow in their own currencies can thus make, for example, conventional monetary models of exchange rate determination based on symmetric substitutionability of currencies misleading. As Eichengreen *et al.* (2003a,b) convincingly argue original sin can be a source of financial fragility through creating currency/maturity balance sheet mismatches and can lead to greater output and capital flow volatility, lower credit ratings, and limited ability to implement an independent monetary policy. According to Obstfeld (2004, p.14) original sin “leads to a harsher macroeconomic adjustment process, slower growth and additional inflationary expropriations”. The presence of original sin may justify fear of floating (McKinnon and Schnabl, 2004) and create an exposure to exchange risk potentially causing self-fulfilling currency crises (Wyplosz, 2004).

Eichengreen and Hausmann (1999), Eichengreen *et al.* (2003a,b,c) and Hausmann and Panizza (2003), EHP hereafter, consider a wide range of hypotheses to explain original sin. Their results do not lend a strong support to the hypotheses that original sin is correlated with the level of development, institutional quality, monetary credibility or fiscal solvency². Original sin appears to be robustly correlated only with the size of the economies. These results and the fact that many countries with strong policies and institutions also suffer from original sin suggest that the elimination or a considerable decrease in the degree of original sin is beyond the control of an individual country and requires a new international financial architecture.

¹ According to Wyplosz (2004, p. 4) “by end 2003, just five currencies (US dollar, yen, euro, sterling and Swiss franc) accounted for 97% of all international bond and note issues, two of which (the US dollar and the euro) account for 84% of the total” Consistent with Eichengreen *et al.* (2003a,b), Wyplosz (2004, p. 4) shows that “over the last ten years the situation has changed little; in fact, the concentration has increased”.

² Hausmann and Panizza (2003) consider also the domestic dimension of the original sin and finds that the ability of a country to borrow domestically in domestic currency at a long maturity is positively correlated with monetary credibility and the presence of capital controls.

Recently, De la Torre, Levy Yeyati and Schmukler (2002) introduces the concept of the “blessed trinity” (international currency, flexible exchange rate regime and sound institutions), as a benchmark defining the conditions for a successful international financial integration. Only a small handful of countries with strong currencies appear to satisfy the “blessed trinity”. De la Torre *et al.* (2002) argue that developing countries generally exhibit the “unblessed trinity” (weak currency, fear of floating and weak institutions). The empirical results by EHP, on the other hand, lead us to introduce the concept of “original sin mystery trinity” of original sin, flexible exchange rates and sound institutions.

Our paper aims to provide a shed of light on the mystery of the original sin. To this end we investigate whether the results by EHP are robust to an alternative variable set and estimation procedure. The paper aims also empirically investigate the cross country evolutions of “unblessed” and “original sin mystery” trinities. Following the “debt intolerance” argument of Reinhart, Rogoff and Savastano (2003), we consider also country’s default history as a potential determinant of original sin. The plan for the rest of the paper is as follows. The following section is devoted to a brief discussion of the “unblessed” and “original sin mystery” trinities and alternative variables postulated to explain them. Section III presents the empirical results and Section IV concludes.

II. ORIGINAL SIN AND BLESSING TRINITIES

We consider the following measure of original sin (OSIN) for country *i* developed by Eichengreen *et al.* (2003a,b) based on the Bank for International Settlements (BIS) data on the stock of international debt securities³:

$$OSIN_i = \max \left(1 - \frac{\text{Securities in currency } i}{\text{Securities issued by country } i}, 0 \right)$$

For country *i*, $OSIN_i$ is zero if all the securities are issued in its own currency and 1 if they are issued in foreign currency.

Consistent with the concept of the “blessed trinity”, redemption from original sin may be argued to require a flexible exchange rate regime and sound institutions. Figure 1 plots the 1999-2001 averages of OSIN along with the *de facto* exchange rate regimes (ERR) classification by Reinhart and Rogoff (2004) and the 2000 values of the rule of law (RL) index compiled by Kaufmann, Kraay and Mastruzzi (2003). Reinhart and Rogoff (2004) classify *de facto* exchange rate regimes on a 1—14 scale, with higher values denoting more flexible exchange arrangements. The RL index ranges from around -2.5 to around 2.5 with higher or positive value indicate greater rule of law and better governance. From the figure we observe that all the countries (except the Euroland) with OSIN lower than 0.70 have also

³ This is the preferred measure of EHP (OSIN3). Eichengreen, Hausmann and Panizza (2003a,b) provide and discuss some other alternative measures of original sin. The empirical results by EHP appear to be invariant to the alternative measures of the original sin.

relatively more flexible *de facto* exchange rate regimes. Considering the fact that the European Central Bank (ECB) does not follow a fixed exchange rate regime, we can infer that the first pair of the blessed trinity, international currency and flexible exchange rate regime, appears to be satisfied. The observation that most of the countries with OSIN between 0.70-0.99 have a flexible exchange rate regime lends a further support to this interpretation. No country with OSIN below 0.95 has a negative rule of law (RL) value⁴. Countries achieving redemption from original sin thus generally appear to have a flexible exchange rate regime and a plausible level of good governance and sound institutions.

[INSERT FIGURE 1 AND TABLE1 ABOUT HERE]

The preliminary double-censored Tobit estimation results presented in the first column of Table 1 also appear to be consistent with the blessed trinity interpretation. In the equation EURO is a dummy variable defining Euroland countries to capture the effects of Euro and their classification as fixed exchange rate regimes by Reinhart and Rogoff (2004). The empirical evidence strongly suggests that OSIN decreases both by exchange rate flexibility and better governance. However, this does not necessarily imply that exchange rate flexibility and better governance are sufficient conditions for escaping from original sin and exhibiting the blessed trinity. Some countries, such as Chile, Iceland, Hungary and Israel, appear to suffering from “original sin mystery trinity” as satisfying a plausible level of good governance and implementing a flexible exchange rate regime but not being able to reducing OSIN below around unity. The following section empirically investigates whether some macroeconomic policy stance variables provide any further explanation for the original sin mystery.

III. THE MYSTERY OF ORIGINAL SIN AND BLESSING TRINITIES: EMPIRICAL RESULTS

The results by EHP for the 1993-98 averages of OSIN ($OSIN_{93-98}$) suggest that $OSIN_{93-98}$ is robustly correlated only with the size of the economies but not with institutional quality, the level of development or macroeconomic policy stance variables like monetary credibility and fiscal solvency. In this section, we consider 1999-2001 averages of OSIN and investigate whether the results by EHP are robust to an alternative variable set and estimation procedure. Following EHP we consider the Rule of Law index (RL) compiled by Kaufmann *et al.* (2003), the highest level (in logs) of inflation after 1980 to proxy monetary credibility (LMINF), budget deficit as a share of GDP to proxy fiscal fundamentals (FISCAL), domestic credit to the private sector as a share of GDP to proxy level of financial development (FINDEV), total foreign trade as a share of GDP to proxy the level of openness (OPEN), FINCENT and EURO dummy variables for the major

⁴ Note that the countries with the lowest RL values escaping from original sin to a certain extent are all indeed developing countries such as Czech Republic, Poland and South Africa. As noted by EHP, foreign investors not the countries themselves are the main issuers of debt issued in local currencies of developing countries causing a lower original sin.

financial centers (USA, UK, Japan, and Switzerland) and the Euroland countries, respectively. EHP considers the *de facto* exchange rate classification by Levy-Yeyati and Sturzenegger (2003). As already noted, we consider the “fine grid” classification by Reinhart and Rogoff (2004)⁵. Real exchange rate misalignments and government incentives to manipulate exchange rates may be among the plausible reasons for the lack of international markets for the domestic currencies of many countries. In this context, we consider the highest level (in logs) of real US Dollar exchange rate change (deviation from the purchasing power parity condition) after 1980 (LMRER) as a proxy for exchange rate misalignment. EHP uses the principal component of logs of GDP, total trade and domestic credit as a measure of the size of the countries. Alternatively, we use the log of the IMF quota as a proxy for each country’s economic SIZE. As noted by IMF (2003, p.1) “a member’s quota is broadly determined by its economic position relative to other members” and “a variety of economic factors is considered in determining changes in quotas, including GDP, current account transactions, and official reserves”.

According to Reinhart, Rogoff and Savastano (2003), many developing countries are also subject to “debt intolerance” in the sense that they are unable to manage external debts that are manageable for advanced industrial countries. Reinhart *et al.* (2003) argue that the degree of “debt intolerance” depends on a country’s default and inflation history and debt-intolerant countries tend to have weak fiscal structures and weak financial systems. As noted by Eichengreen *et al.* (2003c, p.1) “The debt-intolerance school traces the problem to institutional weaknesses of emerging-market economies that lead to weak and unreliable policies, while the original-sin school traces the problem instead to the structure of global portfolios and international financial markets”. As the countries with weaker institutions, vulnerable macroeconomic conditions and stronger debt intolerance can plausibly expected not to be able to issue debt in their own currencies, the reasons causing “original sin” and “debt intolerance” may not be mutually exclusive. In this context, we consider also DH dummy variable taking unity if the country defaulted⁶ on foreign currency debt after 1975.

Table 1 reports the results of double-censored Tobit (As OSIN is bounded between zero and one) simple regressions of OSIN on the basic

⁵ We considered also the classification by Levy-Yeyati and Sturzenegger (2003), LYS. When the LYS instead of ERR is used, we obtained $OSIN = 0.33(3.95) - 0.28(2.98)EURO + 0.06(2.39)LYS$, $R^2 = 0.59$, t-ratios in parentheses. As the LYS increases with exchange rate rigidity, the equation has the expected sign and is indeed essentially the same with the one reported in the first column of Table 1. The use of LYS instead of ERR reduces the full sample from 84 to 72 countries. Therefore, we prefer to consider ERR although most of the main results with LYS do not substantially differ from those reported in this paper.

⁶ We follow the Standard & Poor’s definition of sovereign default as the failure to meet a principal or interest payment on the due date (or within the specified period) contained in the original terms of the debt issue. A debt restructuring with the new debt containing less favorable terms than the original is also considered as default. See Beers and Chambers (2003) for the Standard & Poor’s classification and debt default data.

policy variables⁷. Following EHP, we consider the persistence of OSIN resulting an extremely limited time variation and focus on it's cross-country variations. In the equations, OSIN, ERR, OPEN and FINDEV are measured as 1999-2001 averages⁸. We consider the 2000 values of RL and the highest levels of LMINF and LMRER during 1980-2001. All the data except OSIN, RL, DH and ERR are from the World Bank-World Development Indicators data base.

The results reported in Table 1 suggest that all the variables except OPEN have the expected signs and significant in explaining OSIN. According to 1.2, DH and OSIN are correlated. This correlation, however, does not necessarily imply a uni-directional causation from DH to OSIN⁹. As Eichengreen *et al.* (2003c) note, the presence of original sin can lead to debt defaults as it can create financial vulnerability through currency/maturity mismatches and severely limit the effectiveness of developing country policies in the case of sudden capital stops. We will address the simultaneity issue later and show that the basic results by Tobit regressions remain valid also for Generalised Instrumental Variable Estimation (GIVE) method. OSIN appears to decrease with the level of financial development (FINDEV) as suggested by (1.3). According to (1.4), openness (OPEN) and OSIN are not correlated significantly. Real exchange rate misalignments proxied by LMRER, on the other hand, significantly increases OSIN (1.5). Less credible monetary regimes with higher inflation histories (LMINF) have higher OSIN values according to the results by (1.6).

The first column of Table 2 reports the results of the baseline equation with all the variables included. The results suggest that OSIN can be explained by RL, ERR, SIZE, and the country grouping dummies EURO and FINCENT. Consistent with the preliminary results reported earlier, better governance and more flexible exchange rates significantly decreases OSIN. This result is different from EHP in the sense that neither the rule of law nor the exchange rate regime variables is found to be robustly significant in their equations containing country grouping dummies and the macroeconomic policy stance variables. Our results, however, strongly support EHP that SIZE, being a member of the Euroland and being a financial center, the variables which are not under the sole control of most of the countries, determine the presence of the original sin.

[INSERT TABLE 2 ABOUT HERE]

The statistical significance of DH, FINDEV, LMRER and LMINF in the simple regressions reported in Table 1 disappears when all the variables are considered jointly as in (2.1). The countries with strong macroeconomic policy stance are often the countries with stronger institutions and

⁷ EHP reports double-censored weighted (by the share of securities in total foreign debt) Tobit results and notes that the results are robust to dropping weights and to alternative estimation procedures including Probit, count regression and weighted OLS.

⁸ Since the FISCAL variable is available only around a half of the countries, we exclude it from the regressions for the 1999-2001 sample.

⁹ Note that, the Tobit regression of DH on OSIN yields $DH = -0.57(-3.47) + 0.64(3.28)$, t-ratios in parentheses.

governance and flexible exchange rates (Obstfeld, 2004). Furthermore, the countries belonging to the Euro area and financial centres along with the countries with a relatively larger size can be argued to satisfy also the “blessed trinity” concept¹⁰. Consequently, the additional policy stance variables add nothing significantly to the blessed trinity-cum-size and Euroland framework as suggested by (2.1). This is consistent with the interpretation that the variables in (2.2), the country grouping dummies, SIZE, ERR and RL, may be representing also the joint effect of some of the insignificant variables in (2.1). The economic and statistical significance of DH, FINDEV and LMINF in (2.3) supports this interpretation. Original sin appears to be persistent as suggested by the significance of the “past” (1993-1998 averages, OSIN₉₃₋₉₈) values in (2.4). Consistent with this result, the variables mainly representing the inherited characteristics of the countries, SIZE and FINCENT, become insignificant in (2.4) when we control also the persistence of original sin.

The results for the estimation of the baseline equation for the 1993-98 sample are reported by (2.5) and (2.6) in Table 2. In (2.5) and (2.6), OSIN, ERR, OPEN, FINDEV and FISCAL are 1993-1998 averages, RL is the average of the 1996 and 1998 values and LMINF and LMRER are the highest levels during 1980-1998. Due to the data limitations for FISCAL, the number of countries reduces to 78. The results are essentially same with the 1999-2001 sample albeit the significance levels of ERR and RL considerably decrease. For the 1993-98 sample, FINDEV and FISCAL both appear to be also economically and statistically relevant for the explanation of original sin.

It may plausibly be argued that the results presented by Tables 1 and 2 are subject to simultaneity bias due to the endogeneity of the policy stance variables with respect to original sin. Original sin itself can be a cause of rigid exchange rate regimes and fear of floating as it creates currency mismatches (McKinnon and Schnabl, 2004). The financial fragilities caused by original sin may further be argued amongst the reasons of debt defaults, lower monetary credibility, vulnerable fiscal stance and greater real exchange rate misalignment. We address the simultaneity issue by estimating the basic equations by Generalized Instrumental Variable Estimation (GIVE) method. Table 3 reports the GIVE results with the instrument set containing EURO, FINCENT, SIZE, ERR₉₃₋₉₈, FINDEV₉₃₋₉₈, OPEN₉₃₋₉₈, LGDP₉₃₋₉₈, RER₉₃₋₉₈, LINF₈₀₋₉₈ and RL₉₆₋₉₈ where the subscripts denote the sample period averages of the corresponding variables. The Sargan tests for all the equations support the validity of the instrument set. The RESET and WHITE

¹⁰ As Rodrik (2004, p. 1) notes, “Rich countries are those where investors feel secure about their property rights, the rule of law prevails, private incentives are aligned with social objectives, monetary and fiscal policies are grounded in solid macroeconomic institutions, idiosyncratic risks are appropriately mediated through social insurance, and citizens have recourse to civil liberties and political representation. Poor countries are those where these arrangements are absent or ill-formed”. Note that, the blessed trinity concept can be interpreted as to contain also a strong macroeconomic policy stance since the international stature of a currency “is underpinned by credible macroeconomic policies and, in particular, by a sustainable fiscal process that ensures the solvency of the currency issuer” (De la Torre, Levy Yeyati and Schmukler, 2002, p.339).

tests suggest the lack of equation misspecification and heteroscedasticity, respectively.

[INSERT TABLE 3 ABOUT HERE]

The results by GIVE are essentially the same with those obtained by Tobit earlier. In (3.1) OSIN is explained by EURO, FINCENT, RL and SIZE. The GIVE estimation of the general specification (2.1) is not feasible due to the limited number of instruments. Therefore, we follow a stepwise approach and test whether each of the policy stance variables add significantly to the explanation of original sin over the model given by (3.1). Exchange rate regime appears to be quite relevant as reported by (3.2). However, DH (3.3), FINDEV (3.4), OPEN (3.5), LMRER (3.6) and LMINF (3.7) are all individually insignificant when added to (3.1). The invariance of the basic findings to the use of Tobit and GIVE methods is consistent with the argument that the Tobit coefficients are not attenuated by a simultaneity bias.

IV. CONCLUDING REMARKS

The fact that the bulk of countries cannot borrow (and lend) in their own currencies, the original sin as termed by Eichengreen and Hausmann (1999), has crucial theory and policy implications. Convertible currencies can be substitutionable symmetrically in the same financial assets domain only if there is a complete market for them. Original sin, in this context, can be interpreted as the sin of international financial architecture if it provides no complete market for every currency satisfying the basic necessary conditions. Consistent with the “blessed trinity” concept, the necessary conditions can be defined to contain strong policy stance and institutions along with a flexible exchange rate regime. The results of this paper, however, suggest that these conditions are necessary but not sufficient for redemption from original sin.

Consistent with the findings of EHP, our empirical results suggest that original sin is persistent and robustly determined by SIZE, being a member of the Euroland and being a financial center. As neither of these variables can be controllable solely by most of the countries, the blame for the missing markets can be put also on the prevailing international financial system. However, this does not necessarily imply that original sin is invariant to macroeconomic policy stance and institutional structures of the individual countries. Our results are different from those by EHP that, original sin is also robustly determined by exchange rate regime and governance. Accordingly, original sin decreases significantly with better governance and stronger institutions along with more flexible exchange rate regimes. Default history, monetary credibility, financial development level and real exchange rate misalignment are all found to be significant in explaining original sin when we do not control for country groupings, rule of law and exchange rate regimes. Consistent with the plausible interdependence of these two sets of variables, the additional policy stance variables does not offer any further significant explanation over the one already provided by the blessed trinity-cum-size and Euroland framework.

The findings of this paper support the main conclusion by EHP that original sin is not solely a problem of country policies and institutions *per se*, but also a part of the international financial system. Consequently, redemption from it requires a new international financial system allowing complete markets for currencies of countries with sound institutions and macroeconomic conditions. This will make many countries to satisfy the “blessed trinity” and decrease the costs of international financial integration by reducing vulnerabilities incurred by currency mismatches.

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Table 1. Original Sin, Blessed Trinity and Policy Variables

	(1.1) OSIN	(1.2) OSIN	(1.3) OSIN	(1.4) OSIN	(1.5) OSIN	(1.6) OSIN
Constant	0.758** (8.46)	0.319** (9.00)	0.492** (11.72)	0.421** (7.01)	0.175* (1.82)	0.126 (1.51)
EURO	-0.410** (-4.24)					
RL	-0.126** (-4.36)					
ERR	-0.029** (-3.77)					
DH		0.236** (3.35)				
FINDEV			-0.096** (-2.43)			
OPEN				-0.021 (-0.33)		
LMRER					0.150** (2.51)	
LMINF						0.174** (3.55)
N	84	84	84	84	84	84
Log L	-43.8	-66.9	-69.7	-72.5	-69.0	-65.8
R ²	0.56	0.51	0.42	0.20	0.48	0.52
M	0.25	0.21	0.21	0.21	0.21	0.21
S	0.36	0.31	0.35	0.35	0.35	0.35

Notes: (**) and (*) denote statistical significance at the 5 and 10 % levels, respectively. N is the number of observations, Log L is the log likelihood function, R² is a decomposition based fit measure, μ is the conditional mean at sample point and s is the scale factor for marginal effects (Greene, 1999).

Table 2. The Determinants of Original Sin: Tobit Estimation Results

	(2.1) OSIN	(2.2) OSIN	(2.3) OSIN	(2.4) OSIN	(2.5) OSIN ₉₃₋₉₈	(2.6) OSIN ₉₃₋₉₈
Constant	1.054** (5.14)	1.030** (6.80)	0.253** (2.67)	0.371** (2.44)	0.809** (3.72)	0.957** (5.98)
EURO	-0.337** (-3.24)	-0.332** (-3.32)		-0.196** (-2.35)	-0.236** (-2.81)	-0.217** (-2.74)
FINCENT	-0.254** (-1.85)	-0.254** (-1.88)		0.040 (0.40)	-0.210* (-1.62)	-0.216* (-1.68)
RL	-0.089** (-2.66)	-0.090** (-3.31)		-0.061** (-2.71)	-0.037 (-1.15)	-0.047* (-1.69)
ERR	-0.018** (-2.28)	-0.018** (-2.45)		-0.014** (-2.14)	-0.012 (-1.50)	-0.011 (-1.48)
SIZE	-0.135** (-2.56)	-0.120** (-2.54)		-0.063 (-1.56)	-0.096** (-1.99)	-0.109** (-2.51)
DH	-0.013 (-0.20)		0.140* (1.78)		0.010 (0.16)	
FINDEV	0.007 (0.22)		-0.069* (-1.82)		-0.120* (-1.75)	-0.116** (-1.96)
OPEN	-0.024 (-0.47)				0.052 (0.87)	
LMRER	0.060 (0.94)				0.025 (0.49)	
LMINF	-0.038 (-0.83)		0.102* (1.86)		0.011 (0.23)	
OSIN ₉₃₋₉₈				0.590** (4.95)		
FISCAL					0.017* (1.79)	0.011* (1.66)
N	84	84	84	84	78	78
Log L	-34.2	-35.0	-62.7	-18.3	-27.3	-27.8
R ²	0.57	0.57	0.54	0.60	0.56	0.56
M	0.28	0.29	0.22	0.43	0.28	0.27
S	0.39	0.40	0.36	0.54	0.37	0.36

Notes: (**) and (*) denote statistical significance at the 5 and 10 % levels, respectively. N is the number of observations, Log L is the log likelihood function, R² is a decomposition based fit measure, μ is the conditional mean at sample point and s is the scale factor for marginal effects (Greene, 1999).

Table 3. The Determinants of Original Sin: GIVE Results

	(3.1) OSIN	(3.2) OSIN	(3.3) OSIN	(3.4) OSIN	(3.5) OSIN	(3.6) OSIN	(3.7) OSIN
Constant	1.271** (9.82)	1.320** (10.06)	1.28** (9.57)	1.270** (9.44)	1.300** (8.11)	1.329** (8.37)	1.274** (8.46)
EURO	-0.375** (-4.48)	-0.581** (-4.49)	-0.396** (-4.07)	-0.372** (-4.29)	-0.373** (-4.43)	-0.367** (-4.29)	-0.375** (-4.45)
FINCENT	-0.552** (-4.04)	-0.542** (-3.97)	-0.575** (-3.88)	-0.500** (-3.28)	-0.557** (-4.02)	-0.554** (-4.00)	-0.552** (-4.01)
RL	-0.075** (-2.51)	-0.071** (-2.38)	-0.096* (-1.73)	-0.070** (-2.06)	-0.071** (-2.23)	-0.087** (-2.46)	-0.076** (-2.17)
SIZE	-0.122** (-2.63)	-0.069 (-1.33)	-0.011** (-1.96)	-0.102** (-1.94)	-0.127** (-2.55)	-0.122** (-2.60)	-0.122** (-2.61)
ERR		-0.024** (-2.07)					
DH			-0.082 (-0.46)				
FINDEV				-0.074 (-0.92)			
OPEN					-0.017 (-0.31)		
LMRER						-0.033 (-0.65)	
LMINF							-0.001 (-0.03)
N	84	84	84	84	84	84	84
R ²	0.611	0.632	0.612	0.616	0.612	0.613	0.611
DW	1.98	1.94	2.04	2.08	1.98	2.02	1.98
Sargan	5.60 [0.46]	1.33 [0.93]	5.20 [0.39]	4.33 [0.50]	5.45 [0.36]	5.04 [0.41]	5.53 [0.35]
RESET	0.08 [0.78]	1.25 [0.26]	0.11 [0.74]	0.63 [0.43]	0.06 [0.81]	0.04 [0.84]	0.07 [0.79]
WHITE	0.74 [0.39]	2.12 [0.15]	0.83 [0.36]	0.56 [0.45]	0.74 [0.39]	0.87 [0.35]	0.74 [0.40]

Notes: (**) and (*) denote statistical significance at the 5 and 10 % levels, respectively. Values in brackets are the p-values. N is the number of observations, DW, SARGAN, RESET and WHITE are the tests for the null of no serial correlation, no equation misspecification, instrument set validity and homoscedasticity, respectively. See, Pesaran and Pesaran (1997) for GIVE and the test statistics.

Figure 1. Original Sin, Exchange Rate Regimes and Rule of Law



