IMF Conditionality and the Local Ownership of Reforms

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Abstract

The shifting emphasis on performance evaluation and accountability in the context of external conditionality programs has brought to the fore the question of local ownership of reforms. On the demand side of conditionality, a standard argument in the literature is that contracting governments often resort to external assistance in order to deflect the political costs of painful liberalization reforms and also to restore the country's international image and credibility. On the supply side, the design of conditionality programs is either dictated by the foreign policy interests of the major donor countries (especially the US) or the policy agenda of international bureaucrats. However, the scope of conditionality, both with respect to the level of specificity, pace, and sequence of required reforms, conveys an informational content to the target government and thus influences the level of local ownership. In this paper, we apply a principal-agent signaling game that gives rise to a "crowding-out" hypothesis whereby conditionality undermines ownership. We first propose an empirical operationalization of the concept of ownership and then test this argument against current databases on the design of IMF conditionality and aggregate measures of structural reforms using the synthetic control method (SCM).

Keywords: IMF; conditionality; ownership; reforms; synthetic control method

1 Introduction

> "*Success requires ownership of the reform agenda programme by the Greek authorities. The Government therefore stands ready to take any measures that may become appropriate for this purpose as circumstances change. The Government commits to consult and agree with the European Commission, the European Central Bank and the International Monetary Fund on all actions relevant for the achievement of the objectives of the Memorandum of Understanding before these are finalized and legally adopted.*" (Greece Memorandum of Understanding for a three-year ESM programme)

> "*The Euro Summit stresses the crucial need to rebuild trust with the Greek authorities as a pre-requisite for a possible future agreement on a new ESM programme. In this context, the ownership by the Greek authorities is key, and successful implementation should follow policy commitments.*" (Euro Summit Statement Brussels, 12 July 2015)

Following a tumultuous period of brinkmanship negotiations between the Troika triumvirate – consisting of the European Commission (EC), the European Central Bank (ECB), and the International Monetary Fund (IMF) – and the Greek government of the left populist party of SYRIZA fighting for austerity reversal, the latter was forced to cave in and sign a front-loaded and austerity-laden third bailout program in July 2015.[1] The populist firebrand Greek Prime Minister Alexis Tsipras later assumed responsibility for signing a text he did not believe in but that he was obliged to implement (The Guardian, 2015). In fact, although this third Greek bailout program was ratified by parliament with the widest level of legislative support (garnering a total of 222 votes – out of 300 – from government backbenchers and moderate pro-European opposition MPs), it had *prima facie* the lowest level of political ownership compared to the previous two. In light of the tempestuous concatenation of events of the early part of 2015, trust in the incumbent's willingness to comply and reform was a major issue in the relationship between Greece and its creditors; and yet, how would the Greek government attempt to rebuild trust in the context of a liquidity-dripping cash-for-reforms

[1] This most recent instalment of the Greek debt crisis started with the election of the SYRIZA government in January 2015 and ended in the third Greek bailout agreement on July 12 following a dramatic concatenation of events including the closure of banks, the imposition of capital controls, and the resounding victory of No in a dubious and ill-timed referendum on a draft proposal by the European Commission (Walter et al., 2018).

program whose hard conditionality barely left any room for the agent to credibly signal that it had become a reliable and trustworthy partner for the future?

In effect, the two quotes stated in the preamble with reference to the Greek Troika-sponsored bailout and structural adjustment program capture an interesting paradox in the relationship between International Financial Institutions (IFIs), such as the International Monetary Fund (IMF), and member states and the corresponding political economy of reforms. While these supranational institutions have shifted their emphasis onto issues of "ownership" and "trust", at the same time they seek to introduce a heavy and explicit set of conditions and contractual obligations in their formal arrangements with target countries. Arguably, the whole rationale for the use of explicit conditionality in such arrangements is predicated on the lack of program ownership on the part of the petitioning government ("agent") and the lack of trust by the lending IFI ("principal") in the government's willingness and/or ability to implement those reforms necessary for the program to be successfully completed, debt sustainability to be restored, and for the borrower's credibility in international capital markets to be regained.

On one hand, we view the design of IFI arrangements in general and conditionality in particular through the contract-theoretic lens of an incentive scheme (Dixit, 2000). More specifically, we think of them as so-called incomplete contracts (Hart and Holmström, 1987) whose design depends on several factors such as (i) the observability of reforms at different stages of implementation, (ii) the possibility for hidden action and moral hazard, (iii) differential monitoring costs, and (iv) the uncertainty over the effects of country default. Over the past couple of decades, there has been a lot of thinking on the optimal design of such incentive schemes on the part of IMF scholars and practitioners in terms of maximizing the probability of successful implementation of the program (Ivanova et al., 2001; Ivanova, 2006), tailoring it to local conditions and local knowledge (Marchesi, Sabani and Dreher, 2009), and enhancing the degree of government (or country) ownership of the program itself (Drazen, 2002; Drazen and Isard, 2004; Bird and Willett, 2004). As a result, the IMF has become much more attuned to political economy factors such as political feasibility constraints, the domestic level of polarization, and the strength of domestic anti-reform groups.

This shift in policy is clearly reflected in a 2001 IMF report where ownership is defined as "a willing assumption of responsibility for an agreed program of policies, by officials in a borrowing country who have the responsibility to formulate and carry out those policies, based on an understanding that the pro-

gram is achievable and is in the country's own interest" (International Monetary Fund, 2001, p. 6). This definition, however, begged the following conundrum: if a country (or government) is assumed to take full responsibility for a program it thinks is in its own interest, then why make loan disbursements explicitly conditional on the required (and avowedly desired) set of reforms (Drazen, 2002)? This theoretical puzzle sparked a burgeoning literature on the relationship between IMF conditionality and ownership, primarily predicated on political economy models of special interests, common agency, and heterogeneity in actor preferences (Khan and Sharma, 2003; Mayer and Mourmouras, 2004; Paloni and Zanardi, 2006; Mayer and Mourmouras, 2008). Most of these papers concurred that under certain circumstances conditionality may enhance the government's or the lending IFI's bargaining leverage vis-à-vis recalcitrant special interests that are opposed to specific adjustment measures and structural reforms. It can also provide cover to reform-minded governments that seek to avoid the short-term political costs of reforms by scapegoating external actors (Vreeland, 1999).

Yet, the verdict is still not out on the relationship between conditionality and ownership. On one hand, there is still a lot of ambiguity around the concept of ownership, which remains conceptually elusive and inadequately operationalized. To address that gap in the literature, we stipulate that ownership occurs in a situation in which the policy content of a program is similar to what the country would have organically chosen itself in the absence of an extrinsic incentive scheme (Drazen, 2002; Bird and Willett, 2004). Based on this counterfactual conceptualization of ownership, we proceed to use tools of causal inference to measure ownership as a function of a treatment effect on the treated with one-sided imperfect compliance. According to this view, ownership can only be defined for a specific situation of externally imposed and contracted reforms. In other words, ownership is not an exogenous concept but one that arises endogenously within the contractual relationship of a supranational institution (principal) and a country or government (agent). Note that in the absence of external policy constraints the level of ownership of some domestic reform program cannot be defined as the concept becomes tautological and essentially vacuous.

On the other hand, program design seems to remain very much in line with the IMF view that there should be no conflict of interest between the IMF and the borrower country in a world of perfect and complete information assuming that "the country shares with the IMF both the objectives of the program and an understanding of the appropriate economic model linking those objectives to economic policy." (Khan

and Sharma, 2003, p. 235) Yet, the fact that IMF official documents keep making ample references to the element of trust implies that the determining factor of program success is not commonly known preference heterogeneity between the IFI and the contracting government but rather asymmetric information over the costs and benefits of reforms. If it were simply the case of an IMF negotiating a balance-of-payments adjustment program with an ideologically opposed government for the sake of preventing regional contagion, then we would be simply talking about "good will". Trust (or the lack thereof) refers to some set of beliefs on the part of IFI officials about whether the target government really feels invested in the program and believes that the required reforms are indeed in the country's own best interests.

In a globalized world, the process of institutional reform is heavily conditioned by the external environment, which in turn generates a certain (positive or negative) "institutional balance". Some countries seem to reform in an organic, piece-meal manner in response to societal pressures and external trends, acting in the process as innovators and pioneers of global benchmarking standards (Kayser and Peress, 2012) ; others take on a more adaptive approach by emulating diffuse policy standards and institutions, internalizing them, and tailoring them to the local environment ; and yet others simply import and implement such governance rules and regulations in unquestioning fashion and oftentimes in conformity with externally imposed conditions. The former then are like the "top students" of their class who earn critical praise for their perspicacity and original thinking while the latter are like the "unmotivated students" who do just enough by way of memorizing and regurgitating the material in order to pass the class.

In this paper, we extend this "learning" analogy to account for the differential impact of external material incentives and international benchmarking on the domestic political economy of reforms. More specifically, we provide a theoretical analysis of the informational content inherent in *high*- (and *low*-) powered supranational mechanisms of accession (and membership) conditionality and policy compliance and how that affects *short*- and *long*- term institutional quality and performance. We show that under certain circumstances extrinsic incentives created by conditionality agreements "crowd out" the target country's intrinsic motivations for reform. Where that effect is important enough, conditionality programs "shoot themselves in the foot". To show how this "crowding-out" effect may occur, we develop an informational theory of international incentive schemes that focuses on the signaling value of program characteristics. Our theoretical analysis helps motivate the hypothesis that – *pace* the sanguine view of the IMF literature in the 2000s –

conditionality and ownership are indeed incompatible.

We then proceed to apply our counterfactual measure of ownership to the European debt crisis and the Troika-sponsored economic adjustment programs in Cyprus, Greece, Ireland, and Portugal as illustrative evidence of the negative relationship between conditionality and ownership. In the context of the Eurozone debt crisis, bailout conditionality was introduced in the form of multidimensional reform programs (Memoranda of Understanding) attached to bailout agreements mandating both fiscal adjustment measures and structural reforms. For reasons explained below, we choose to focus on the effects of programs on fiscal outcomes such as primary balances (Nooruddin and Simmons, 2006).

Yet, the question remains why some conditionality programs work better than others (Killick, 1997; Barro and Lee, 2005). In that regard, we also argue that our conception of ownership acts as a "bridge" variable that mediates between program design and (un)successful program implementation. Experimental evidence by Dal Bó, Foster and Putterman (2010) has shown that home-grown policies and institutions will be more effective at improving behavior or performance than transplanted reforms from outside. Therefore, ill-designed and excessive levels of conditionality may undermine ownership and thus lead to poor long-term *de facto* outcomes even if medium-term *de jure* targets have been implemented.

In what follows, we start by discussing IMF conditionality and providing a theoretical conceptualization and empirical operationalization of ownership. We then present a sketch of a signaling model that motivates the hypothesis that conditionality and ownership are incompatible. Finally, we provide some probing small-N evidence drawn from the recent cases of European economic adjustment programs by applying the synthetic control method (Abadie, Diamond and Hainmueller, 2010, 2015; Abadie and Gardeazabal, 2003).

2 IMF Conditionality and Ownership

IMF conditionality refers to a set of conditions attached to the granting of financial assistance in the form of a (concessional or non-concessional) loan in pursuit of goals deemed desirable by the Fund itself and/or the target country. Those conditions may comprise broad macroeconomic adjustment measures (e.g., fiscal consolidation, inflation targets, debt) or more specific microeconomic structural reforms in the direction of market liberalization (e.g. trade liberalization, privatization, deregulation). In one form or another, conditionality has officially existed at least since 1952 when the IMF first attached conditions to its loans. The

attractiveness of conditionality as a tool to gain leverage over target countries' policies (or, on the flip side of the same relation, as a risk-sharing insurance mechanism that allows the target country to receive the benefits it seeks) is such that most major countries or organizations active in international policies now design such programs (Stone, 2002). For example, over the past decade, an average of forty countries participated in IMF conditional debt relief programs. Similarly, the EU has created conditionality programs both for existent member states and, more obviously, for applicant countries and countries targeted by the European Neighbourhood Policy (ENP) (Schimmelfennig and Sedelmeier, 2005).

Nevertheless, the attractiveness of conditionality policies is not so clear to all. Among many positive and normative objections, for example, critics argue that IMF conditionality undermines domestic democratic institutions, sets unattainable standards of austerity, hampers economic development and social justice, and leads to poverty especially among those already poor (Stiglitz, 2004; Vreeland, 2006*b*; Kentikelenis, Stubbs and King, 2016). They also point out that conditionality programs are unduly influenced by financial interests (Gould, 2003), or major donor countries' geopolitical agendas (Stone, 2008; Copelovitch, 2010*b*; Dreher, Sturm and Vreeland, 2015). Alternatively, they are negotiated by domestic leaders who may thereby gain additional leverage over domestic opponents and special interests (Mayer and Mourmouras, 2008; Dreher, 2009). Finally, quantitative evidence has shown that IMF conditions may also actually reduce foreign direct investment in target countries (Jensen, 2004). On the other hand, a number of scholars have found these criticisms exaggerated. Recent research shows that citizens' economic interests do influence conditionality (Caraway, Rickard and Anner, 2012) and stresses the fact that IMF programs act as screening devices that enable creditors to discriminate between "good" and "bad" debtor countries (Marchesi and Thomas, 1999).

A few works deal with the preliminary question of whether conditionality will be granted or not. Authors have theorized the conditions under which conditionality may be granted by the IMF and demonstrates that these obey a geopolitical logic as much as an economic or developmental one (Vreeland, 2006*b*; Copelovitch, 2010*a*). The literature focusing on the implementation and effects of conditionality conceptualizes the designing organization as the principal and the target country as its agent. The granting of conditionality may lead either to high levels of compliance or to a process of shirking, target slippage, and re-design. By and large, the literature on the IMF depicts a predominantly pessimistic story according to

which conditions are usually not met (Killick, 1997; Vreeland, 2006*a*). Among the reasons why this failure occurs one finds the role of powerful countries such as the US that support their developing country allies by rendering the threats of conditionality less credible (Thacker, 1999; Stone, 2008). Alternatively, failure may be due to the inherent tension engendered by conditionality policies in terms of the asymmetric burden of risks, the high economic and political costs associated with reform measures in the short term, and the high monitoring and enforcement costs (Martin, 2006; Reinsberg, Stubbs and Kentikelenis, 2019). This strand of the literature on IMF conditionality is important for the proposed research because it (a) demonstrates the utility of principal-agent analyses of conditionality, (b) establishes the case that conditionality may not work, and above all (c) establishes that this may not be solely due to an indolent agent but to factors endogenous to the conditionality process.

The politics of conditionality have also been linked to the concept of ownership of reforms. In the context of IMF conditionality, Khan and Sharma (2003, p. 235) refer to ownership as "a situation in which the policy content of the program is similar to what the country would have chosen in the absence of IMF involvement". In other words, a financial assistance program is characterized by higher levels of local ownership when it is tailored to the country-specific economic environment and political system as opposed to an extraneous package of "one-size-fits-all" neoliberal IMF-sponsored reforms. Ownership may be counterfactually defined with respect to the desirability of the conditional macrostructural reforms, the optimal mix of actions to achieve target outcomes, as well as the timing and sequencing of implementation. While program ownership may refer to the overall negotiated design of the program as such, reform ownership refers to the more standard counterfactual definition with respect to specific prior actions, quantitative macroeconomic targets, and structural benchmarks. Our counterfactual definition is more germane to the latter as we assume that mandated conditionality reforms are take-it-or-leave-it types of offers by the IFI (pertaining to the "one-size-fits-all" principle of liberalization) without any room for negotiation.

On the whole, there have been two approaches to the relationship between ownership of reforms and external conditionality arrangements insofar as the impact of all conditionality policies (including the most successful ones) is conditional on domestic politics (domestic political costs of reform and/or veto players), administrative capabilities, and timing effects.[2] Preference-based models argue that the need for condi-

[2]In the context of this literature, people often make the distinction between country and government ownership thus drawing a clear distinction between the perceived aggregate welfare benefits of liberalization reforms and the short-term political costs that

tionality is highest when there are stark discrepancies between the objectives of creditors and debtors. In other words, creditors mete out conditional financial assistance in order to impose certain policy reforms against the will of the government, either due to the latter's ideological bias or due to strong domestic political constraints and resistance by "vested interests" (Paloni and Zanardi, 2006; Mayer and Mourmouras, 2008). Otherwise, the absence of any conflict of interest – and hence a maximum level of ownership – would negate the need for explicit conditionality. Moreover, conditionality may help a reform-minded government to overcome domestic veto players by scapegoating (or passing the blame onto) external creditors and IFIs (Vreeland, 1999; Bird and Willett, 2004). On the other hand, capacity-based approaches define ownership with respect to the technical, bureaucratic, and state capacity to implement certain reforms. The key question then becomes how the technical design of conditionality can enhance bureaucratic capacity and program effectiveness.[3]

In this paper we introduce a novel information-based approach to conditionality and ownership by assessing how the design of such a contractual arrangement may affect the debtor's intrinsic belief in the effectiveness and necessity of imposed reforms. Here we assume that the agent (in this case the target government) has imperfect information over the long-term benefits of policy adjustments, while it is fully aware of the short-term political costs and those special interests that are negatively affected by such reforms. Moreover, although the principal (in this case, the creditor IFI) is fully aware of the economic effects of policy reforms on the debtor country's external competitiveness as well as the economic and political constraints that it faces, yet it remains uncertain about the agent's self-perception of the usefulness and desirability of those reforms. As shown in the theoretical analysis to follow, making financial assistance conditional on the implementation of certain reforms ends up undermining the target government's political ownership of such a policy package and hence its long-term effectiveness and sustainability.

3 An Informational Model of IMF Conditionality

Principal-agent models tend to assume that extrinsic incentives automatically induce effort and performance (Laffont and Martimort, 2002). Where externally imposed conditionality agreements have not been the main

affect the government's intrinsic political will for such reforms.

[3] See Reinsberg et al. (2019) for a pessimistic view.

drivers of change, they are nevertheless depicted as "positive reinforcers". Where they fail, their failure is attributed to lower-powered incentives, credibility issues, or factors that undermine their contractibility. This contrasts with a behavioral literature in cognitive psychology (Deci, Koestner and Ryan, 1999) and economics (Kreps, 1997; Bénabou and Tirole, 2003), which emphasizes the counter-productive effects of extrinsic incentives when the agent is intrinsically motivated. More specifically, these works signify a departure from simple neo-classical assumptions regarding the shape of supply curves. Whereas neo-classical economists thought that extrinsic incentives always induced additional effort and performance, Deci, Koestner and Ryan (1999) and Bénabou and Tirole (2003) show that this need not necessarily be so. Like children who play games of their liking, agents who are intrinsically motivated to perform a task will initially react positively to external payment. But eventually, as payments keep flowing in, they are bound to process the informational content of the signal entailed in those inducements. If financial assistance keeps flowing in with strings attached, the agent will infer that either the required task is tougher than expected or that the (s)he is less capable than originally thought. In equilibrium, this crowds out the agent's intrinsic incentives to continue performing the task. We now proceed to apply this logic to the case of IFI/IMF conditionality and show that conditionality and ownership are substitutes, not complements.

On that basis, we propose a novel game-theoretic account of sovereign bailout conditionality in the IMF context. We consider such IMF programs as club membership contracts because successful IMF program completion bestows reputational benefits of fiscal rectitude and financial stability to borrowing country (Vreeland, 2006*b*). Conditionality becomes a useful tool to gain leverage over the policies of target countries as well as a commitment device for the transfer of benefits to these countries (Stone, 2002). IMF club membership can also be linked to membership in other major IOs. For example, in the case of the recent bailout agreements of the European "South" (i.e., Greece, Portugal, Ireland, Cyprus, and to some extent Spain) in the context of the Eurozone debt crisis – where continued Eurozone membership was at stake for some countries (see case of "Grexit") –, the offer of a financial bailout ("carrot") was conditional on the implementation of fiscal adjustment, market liberalization, and structural reforms ("stick") as stipulated in the various Memoranda of Understanding. Although outright expulsion from the union was not possible under existing treaties, the Eurogroup representing the interests of the surplus "North" could choose between offering a bailout to the government of the indebted country as an inducement for continued membership or

forcing it into disorderly debt default and eventual exit from the Economic and Monetary Union (EMU) and even the EU as a whole.

In what follows, we set out to model the strategic relationship between a supranational principal (p), such as the IMF or the "Troika" (consisting of the European Commission, the European Central Bank, and the International Monetary Fund) in the context of the Eurozone crisis, and the government of a target (indebted) country i (henceforth the agent), focusing on two issues: (1) the effect of bailout conditionality on the target government's intrinsic motivation for reform and (2) the role of incentives in the design of conditionality contracts. We propose an informational mechanism of conditionality whereby the agent receives and interprets an informative signal by the principal with respect to the true desirability and feasibility of politically costly reforms (e.g. fiscal adjustment, liberalization of labor markets, etc.). The better-informed principal (e.g., the IMF, the European Commission, and/or the ECB) and the agent play a Bayesian signaling game of conditionality whereby the former offers the latter a conditional bailout contract. Creditors design loans based on country-specific macroeconomic indicators that determine a borrower's financing needs and the amount of policy adjustment necessary to ensure its long-term debt sustainability. The principal offers the agent certain extrinsic incentives (e.g., in the form of an outright bailout, debt reprofiling, subsidized lending, and/or liquidity infusion measures) to reform or risk the reputational damage of a default or possibly the exit from a supranational union. Of course, the agent does not just take these incentives for granted; given that the overall package may differ from one type to another, the agent will also interpret them as signals with respect to the nature of the task at hand or the agent's ability to perform that task.

In light of the above, bailout conditionality is viewed as an (in)complete contract[4] of non-concessional (concessional) lending in return for the full implementation of a policy target $N > 0$ $(C > 0; C < N)$ of common policies and benchmarks (as explicitly stipulated in intergovernmental treaties and agreements such as in our case the Growth and Stability Pact or implicitly propagated through normative paradigms such as the "Washington Consensus"). In other words, we assume a "one-size-fits-all" approach to economic development and adjustment. Thus, liberalization reform packages r_i by country i are captured as one-directional increments in the unidimensional scale of liberalization l_i. We proceed to show that in equilibrium the design

[4]Contractual incompleteness denotes the inability to anticipate all future contingencies and thus to arrive at a first-best efficient contractual arrangement. Transaction costs arise from (i) the difficulty of anticipating all possible eventualities, (ii) the costs of agreeing and deciding, (iii) the imprecision in describing all possible states of the world, and (iv) the costs of enforcement. For an economic elaboration of these concepts, see Hart and Holmström (1987).

of the bailout contract (A, t_i), where $A \in \{N, C\}$ and $t_i (\geq 0)$ denotes the size of the bailout or liquidity transfers,[5] signals an informational content to the agent with respect to its perception of the intrinsic long-term benefits of reforms (or, in other words, its true level of ownership of those reforms).

The supranational principal p has a direct positive interest in the success of the program, which could entail the repayment of external debts to creditors from the official and private sectors. Program success is essentially a function of the government's reform efforts at debt sustainability (r_i) as well as some random exogenous component.[6] In the context of the IMF, economic liberalization and macroeconomic adjustment help achieve financial stability; thus, the principal acts as the guardian of an existing set of economic norms, standards, and benchmarks. Furthermore, the principal derives some net non-pecuniary benefits (b_i) from the successful completion of a program by country i, which are a function of the country's geopolitical clout or systemic importance within the global financial system. On the flip side, the possibility of a sovereign default an/or program failure may entail significant costs for the principal – also depending on the economic size, political influence, and systemic risk of the targeted country – in the form of sovereign systemic risk and financial spillover effects. Thus, the principal's net benefit of program success amounts to $b_i - t_i$.

The target government (agent i) is subject to an array of reform-specific and membership-specific costs and benefits. On one hand, it enjoys aggregate economic benefits of reform $V(r_i; \cdot)$, conditioned by an exogenous competitiveness parameter α_i, net of variable political costs of reform $\kappa(r_i)$. Clearly, any government must consider the negative impact of fiscal adjustment and structural reforms on the entrenched interests of special groups and core constituencies. Thus, the government's intrinsic political will to pursue reforms is a function of the above political cost-benefit considerations $V(r_i; \alpha_i) - \kappa(r_i)$, or else its perceived level of ownership of given reforms. On the other hand, conditional on the successful implementation of the one-size-fits-all level of liberalization (N), it stands to gain non-concessional bailout (or liquidity) transfers t_i as well as non-pecuniary reputational benefits of successful program completion B_i, such as enhanced access to international capital markets, net of sovereignty losses s_i. Program failure entails considerable costs in terms of currency depreciation, debt default, and loss of real GDP. Hence, the latter components

[5] We should note here that we do not consider the possibility of negative sanctions conditional on missing policy reform targets, i.e., $t_i < 0$ when $l_i < A$ since the agent would never accept such a contract. Sanctions and fines may only become credible and enforceable within the context of an intergovernmental negotiation agreement with sufficient lock-in clauses.

[6] Since the focus of our analysis is on the contractual rather than the distributive aspects of conditionality, we assume that the principal is a unitary actor that acts in pursuit of either its own distinct agency interests or the overlapping interests of existing members of the union. In that sense, we abstract away from other geopolitical aspects of bailout negotiations (Copelovitch, 2010*b*).

$(B_i - s_i + t_i)$ denote the target government's extrinsic net incentive of accepting bailout conditionality.

In terms of the information structure, we assume that an exogenous random component of the competitiveness parameter (α_i) is perfectly known to the principal p but only indirectly observed by the agent i through a private noisy signal $\sigma_i)$. In other words, the principal is fully aware of the agent's true intrinsic motivation but uncertain about i's self-perception of the inherent desirability of the conditional reforms.[7] As a benchmark case, we assume that financial bailouts are strictly conditional on a minimum set of fully observable rules and, thus, we do not entertain the possibility of moral hazard in the form of an implementation drift on the part of the agent. The order of play in this game is as follows: first, the principal p makes a "take-it-or-leave-it" conditional bailout contract offer, which the agent i chooses to either accept or reject. If the agent accepts the contract, it then has to decide whether to see it through by implementing the necessary reforms. If not, it chooses to default on its external debt and to make the appropriate policy adjustments. Finally, the government of the target country implements a certain reform package subject to its information, beliefs, and contracts on offer. Note that in this simple version of the model we do not allow for renegotiation in the form of implementation waivers of hard conditions, such as prior actions (PAs), Quantitative performance criteria (QPCs), and structural benchmarks (SBs) in the case of the IMF (International Monetary Fund, 2019*b*).

In order to characterize the Perfect Bayesian Nash equilibrium of this game, we need to examine several possibilities. First, it is quite straightforward to rule out a perfectly separating equilibrium, whereby the principal p offers a different equilibrium contract to the agent i depending on the latter's true competitiveness type α_i. In such an equilibrium, the agent would disregard its own private signal σ_i altogether and, therefore, the principal would have an incentive to induce the highest level of liberalization possible by pooling on the highest competitiveness type. This obviously leads to a contradiction. Moreover, perfectly pooling on all possible types cannot be an equilibrium strategy for the principal since then the agent would not be receiving any additional information from the principal and thus would only form its estimate of the true benefits of liberalization on the basis of its own signal, which is a suboptimal outcome for both. In other words, a perfectly pooling equilibrium is ruled out by the principal's partial incentive to impart its private

[7] The justification of this information structure seems quite straightforward in the context of the IMF, a supranational actor endowed with the accumulated experience and necessary technical wherewithal to be able to anticipate the long-term profile of economic benefits of liberalization based on the target economy's competitive standing within the integrated economic space under its purview.

information to the agent and thereby induce the necessary reform efforts.

This implies that the Perfect Bayesian equilibrium of the game has to be semi-pooling. The principal p will offer uniform weakly decreasing levels of (bailout or liquidity) transfers to increasing intervals of competitiveness types. In equilibrium, the recalcitrant governments of countries on the brink of default (i.e., with $s_i > B_i$) will receive a semi-pooled conditional bailout contract (N, t_i^*) with positive net bailout receipts $(t_i^* \geq s_i - B_i > 0)$; similarly, the governments of countries willing to adjust regardless of sovereignty costs (i.e., with $s_i \leq B_i$) will receive a semi-pooled contract $(N, t_i^{*\prime})$ mandating necessary reforms in return for (liquidity) transfers $t_i^* \geq 0$.[8] Note that for the same competitiveness type the bailout package offered to the first group of countries on the brink of default (t_i^*) will obviously be higher than that for the latter group $(t_i^{*\prime})$ since it primarily aims at restoring the government's willingness to remain afloat in addition to inducing further liberalization reforms. Effectively, the creditor institution sends a signal about the true source of the country's balance-of-payments crisis.[9] Finally, there may also be cases of countries that have so much ground to cover in terms of converging to IMF liberalization requirements that the principal will find it too costly to offer non-concessional loans in the form of Stand-by Arrangements (SBAs) or Extended Fund Facilities (EFFs), choosing instead to offer a lower-powered concessional loan contract (C, t_i) inducing liberalization reforms up to level $C(< N)$ in exchange for aid $t_i^*(< s_i - B_i)$.[10]

The main results of the game-theoretic analysis we propose above may be summarized as follows: (i) Bailout assistance (especially when it also comes with additional non-pecuniary – reputational or even geopolitical – benefits) may act as a positive short-term "reinforcer" of adjustment reforms in the short term, allowing the country to remain solvent. (ii) However, higher levels of financial assistance and conditionality are essentially "bad news" about a country's long-term debt sustainability and competitiveness in a globalized economy. (iii) Thus, higher extrinsic (bailout) rewards and harder conditions crowd out intrinsic incentives (or level of ownership) for reforms in the long run. (iv) Moreover, as shown in several empirical studies, for any given level of competitiveness, systemically important countries (high b_i) will receive higher

[8] See for example the cases of Italy, Spain, and France and the ECB's monetary expansion programs of Emergency Liquidity Assistance (ELA), Securities Markets Program (SMP), and Outright Monetary Transactions (OMT).

[9] Note that there exists a truthful fixed-point equilibrium here whereby countries that are truly competitive enough to just implement the IFI's one-size-fits-all level of liberalization N will receive no conditions; this unconditional type of contract will then truthfully confirm the agent's self-perception about its true level of competitiveness (and hence intrinsic motivation).

[10] Thus, the model allows us to draw the distinction between *ex ante* selectivity (*adverse selection*) and *ex post* conditionality (*moral hazard*) in the design of IMF incentive schemes (Marchesi and Thomas, 1999; Dixit, 2000; Bas and Stone, 2014).

levels of bailout loans in equilibrium (i.e., high t_i^*). (v) Finally, "early reformers" i.e., countries with high initial levels of liberalization at the time of the balance-of-payments crisis, are *ex ante* more likely to accept the contract and achieve the policy target N. In light of these findings, we expect that (a) target governments' post-arrangement pace of reform will decline over time and (b) the crowding-out effect will be stronger for countries that have enjoyed higher levels of bailout transfers. Another counterfactual prediction coming out of this model is that were the target government to reject the offer and go into default, it would still not engage in any meaningful set of reforms with the aim of restabilizing its economy other than by devaluing its own currency.[11] All of the above are subhypotheses to the main hypothesis that conditionality undermines ownership.

The design of bailout conditionality could also take the form of a linear contract comprising both conditional short-term liquidity assistance and unconditional (or concessional) debt forgiveness or restructuring. This opens up the possibility of multiple signaling equilibria that determine the optimal shape of such a contract. In a simplified two-type version of the above model, there exists an appropriately refined semi-pooling equilibrium, whereby the high-competitiveness type will receive an unconditional debt haircut while the principal will mix between debt forgiveness and reform-contingent financial assistance for the low-competitiveness type.

Besides the informational asymmetries described above, IFI arrangements are incomplete contracts in terms of moral hazard due to the imperfect observability of *de facto* (as opposed to *de jure*) implementation outcomes. In our model, moral hazard can take the form of a bureaucratic drift from *de jure* policy transposition to *de facto* policy implementation. In other words, the agent i can take some hidden action (x_i) retracting observable reforms (r_i). Therefore, agents with low levels of ownership may indeed engage in extensive *de jure* reforms in the short run, but that will not be reflected in their overall level of *de facto* liberalization. If, then, the offer of a bailout remains conditional on observable level of liberalization, then in equilibrium the principal will pool on all possible competitiveness types. In other words, all agent types will receive the same contract offer and will liberalize only to the extent of their self-perceived intrinsic motivation. Of course, the extent of the moral hazard problem can be tempered by limits to the permissible size of implementation discretion, increased monitoring, and contract renegotiability.

[11] This is the case of the so-called "serial defaulters".

4 Ownership and Conditionality in the Eurozone Bailouts

In our empirical analysis, we first discuss our empirical operationalization of the concept of ownership and then provide some early illustrative evidence from the four IMF-sponsored bailout arrangements in Cyprus, Greece, Ireland, and Portugal of the negative relationship between conditionality and ownership. As per our counterfactual-based definition provided above, we identify ownership as a function of a treatment effect of IMF conditionality on a directly observable and verifiable set of macroeconomic adjustment measures and/or structural reforms. In other words, in order to measure program ownership, one needs to causally infer the path of post-crisis (macroeconomic and/or structural) adjustment of a "treated", i.e., IMF-program, country in the absence of that program. That amounts to identifying the treatment effect on the treated for each IMF-program country i, i.e., $Y_{i1} - Y_{i0}|W_i = 1$, where $W \in \{0,1\}$ denotes the binary (IMF program) treatment status, Y_{i1} reflects the actual observed outcome for the treated unit and Y_{i0} captures the counterfactual outcome for the same unit absent the treatment. The higher this treatment effect is found to be, the lower the estimated level of program ownership since we can infer that post-intervention adjustment and reform is primarily driven by the extrinsic incentives of the IMF program itself (both in terms of loan size and scope/degree of conditionality). In the absence of ownership, these countries would have adjusted much less. This type of causal inference relies on the so-called stable unit treatment value assumption (SUTVA) assumption, according to which the realized outcome for each particular unit depends only on the value of the treatment of that unit and not on the treatment or outcome values of other units (Athey and Imbens, 2017; Abadie and Cattaneo, 2018).[12]

Note, however, that up this point we are assuming perfect compliance with the treatment $(W_i = 1)$ for all assigned units $(Z_i = 1)$, i.e., $Pr(W = Z = 1) = 1$. When it comes to compliance with IMF arrangements, several studies have shown that this is not necessarily the case (Vreeland, 2006*a*; Reinsberg, Stubbs and Kentikelenis, 2019). Therefore, a more accurate measure of ownership needs to account for one-sided imperfect compliance, i.e., $Pr(W_i = 0|Z_i = 0) = 1$ but $0 < Pr(W_i = 1|Z_i = 1) < 1$.[13] In that case, we would have to identify the treatment effect on treated compliers, i.e., $Y_{i1} - Y_{i0}|W_i = Z_i = 1$. For the purposes of our empirical illustration, we will assume that all our treated units fully comply with the IMF program.

[12] Presumably, this is a strong assumption in the context of the Eurozone debt crisis and the generalized economic contagion effects.

[13] It is trivial to argue that countries not assigned to an IMF program treatment would never seek to implement it.

By way of illustration, we now proceed to apply the synthetic control method (SCM) for causal inference in comparative case studies as developed in Abadie and Gardeazabal (2003) and Abadie, Diamond and Hainmueller (2010, 2015) to the cases of the Eurozone IMF-sponsored bailouts of the early to mid 2010s, namely Cyprus (2013-4), Greece (2010-5),[14] Ireland (2010-3), and Portugal (2011-4). The SCM method estimates the effect of an intervention (treatment) at time T_{i0} by comparing the evolution of an aggregate outcome for a unit affected by the intervention to the evolution of the same aggregate outcome for a synthetic control group. The synthetic control group is constructed by an optimization algorithm that seeks to minimize some loss function between the weighted combination of control units and the unit affected by the intervention in terms of characteristics that are predictive of the outcome. The post-intervention evolution of the outcome for the resulting synthetic control group is used to identify the counterfactual of what would have been observed for the affected unit in the absence of the intervention, i.e., $Y_{i0}|W_i = 1$.

In this case, we focus on the lagged first difference (adjustment) in countries' primary fiscal balance (% GDP) as the outcome variable of interest. We choose to focus on this variable because much of the emphasis of these bailout packages – in terms of their scope of conditionality – was on fiscal consolidation. Moreover, the primary balance is a more accurate reflection of a government's spending and taxing policies and is less susceptible to exogenous random factors. The first difference more accurately captures the gradual and incremental nature of conditioned reforms subject to regular IMF Staff reviews. Finally, despite plentiful evidence of practices in "fiscal gimmickry" and "creative accounting" among some of these countries (Alt, Lassen and Wehner, 2014), primary balances are more easy to observe or measure from an accounting point of view. Yet, there remains substantial confounding heterogeneity, in terms of time-varying and country-specific unobservable factors (e.g., automatic stabilizers, country- or region- specific shocks, etc.). Unlike difference-in-difference and fixed-effect estimators, SCM can correct for the confounding effects of time-varying unobserved heterogeneity while estimating treatment effects on the treated unit throughout the post-intervention period. As such, it allows us to measure ownership as a dynamic concept that evolves throughout the duration of the IMF program (e.g., due to a change in government, sequencing effects, macroeconomic shocks, etc.).

[14] Note that the period in parenthesis comprises two separate economic adjustment programs for Greece as a well as a sovereign-debt-restructuring agreement in 2012. The second bailout package officially ended on 30 June 2015 and the IMF chose not to officially participate in the third bailout agreement sponsored by the European Stability Mechanism (ESM).

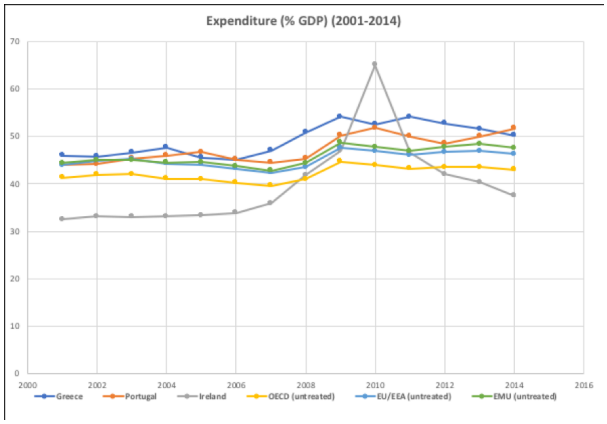
If the IMF program was signed during the first half of the year, then we denote the previous year as the treatment year, which allows us to estimate treatment effects in the post-intervention period until the end of the program, i.e., years $T_{i0}+1,\ldots,T_i$. Otherwise, if the IMF program was signed during the second half of the year, then we denote that year as the treatment year. Our "donor pool" of countries used to construct the synthetic control unit consists of all OECD members excluding the treated units, namely Cyprus, Greece, Ireland, and Portugal, and some other "contaminated" units, such as Hungary, Iceland, Latvia, Lithuania, and Turkey, which experienced idiosyncratic shocks or IMF program treatments throughout the pre-treatment period, i.e., from 2001 until year T_{i0}.[15] OECD countries are meant to be similar enough in terms of macroeconomic outcomes and political variables that we expect our treated units to fall within the convex hull of control units which would allow for the derivation of a unique and sparse set of synthetic control weights (Abadie and Cattaneo, 2018). Finally, in terms of predictors, we use a number of economic variables, such as current account balance (% GDP), gross debt (% GDP), GDP per capita (log), GDP growth rates, trade and financial openness, and political variables, mean district magnitude, time until end of electoral term, the executive's ideological orientation, an index of political constraints, and fiscal transparency. Table A.1 in the appendix lists all the variables and data sources.

Figure 1 depicts fiscal outcomes throughout our sample period (2001-2014) for Greece, Portugal, and Ireland, and a simple average of OECD control units, EU/EEA control units, and EMU control units. Surprisingly, the graph shows that both Greece and Portuguese fiscal trends seem to parallel those in other countries although Greece seems more like an outlier in terms of expenditures in the 2000s and revenues in the early 2010s. Ireland, on the other hand, is an overall outlier in terms of expenditures and primary fiscal balance due to its financial crisis and hefty bank bailout. This speaks to the disparate nature of the structural imbalances of each of our treated countries. For both Greece and Portugal, it seemed to be more a fiscal nature, i.e., government spending, while for Ireland it mostly afflicted its banking sector.

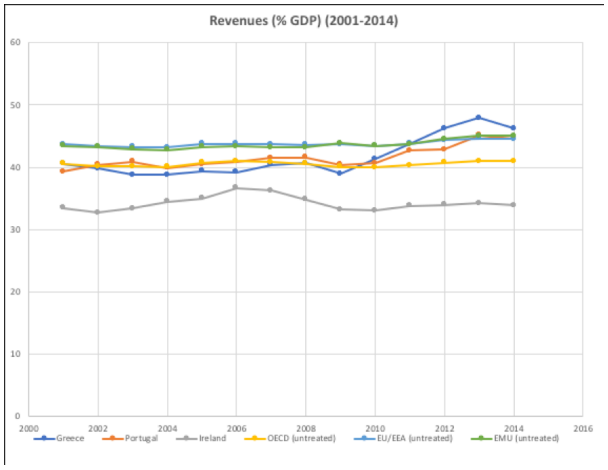
Therefore, running a SCM analysis on each of our treated units allows us to find a better approximation of our treated units with respect to a weighted combination of control units. Figure 2 illustrates the distribution of such weights for each treated country (including Cyprus) so that the pre-intervention, i.e., pre-IMF-program, mean squared prediction error (MSPE) between actual and synthetic unit outcomes is

[15] We also dropped South Korea from our donor pool sample due to missing data.

(a) Expenditures (% GDP)



(b) Revenues (% GDP)



(c) Primary fiscal balance (% GDP)

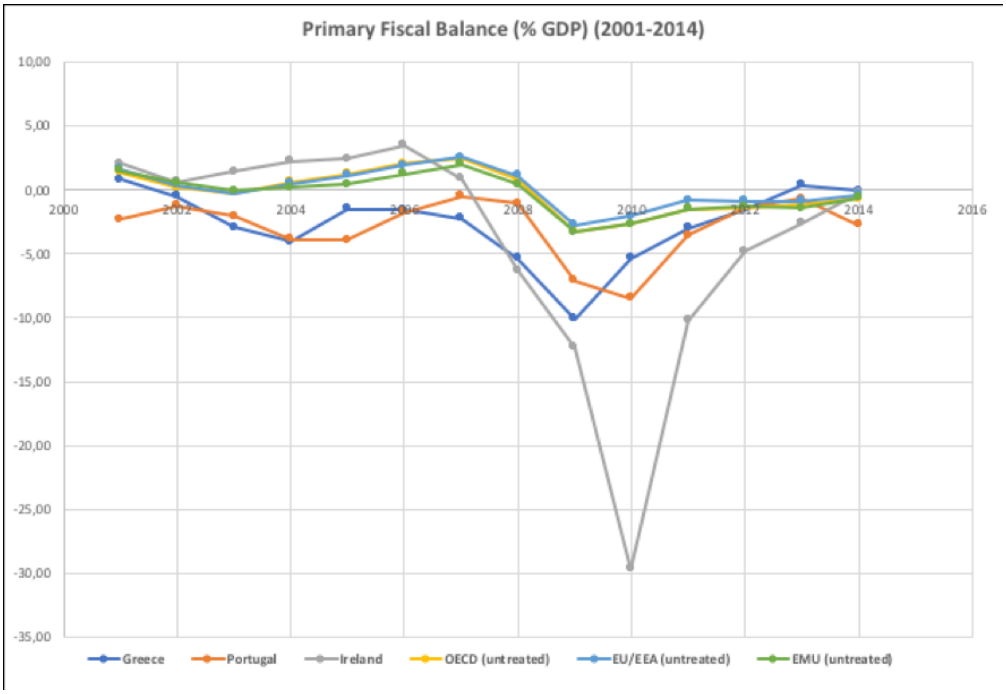


Figure 1: Fiscal outcome variables (expenditures, revenues, and primary balances) among OECD control units and treated units

minimized. Interesting enough, synthetic Greece puts a lot of weight on a couple of non-EU countries (Canada and the US) with which *prima facie* Greece has little in common. Moreover, note that Ireland seems to be best approximated by only one country, namely New Zealand at 100 %, which seems to imply that Ireland is a significant outlier as it lies outside of the convex hull of our control unit sample.

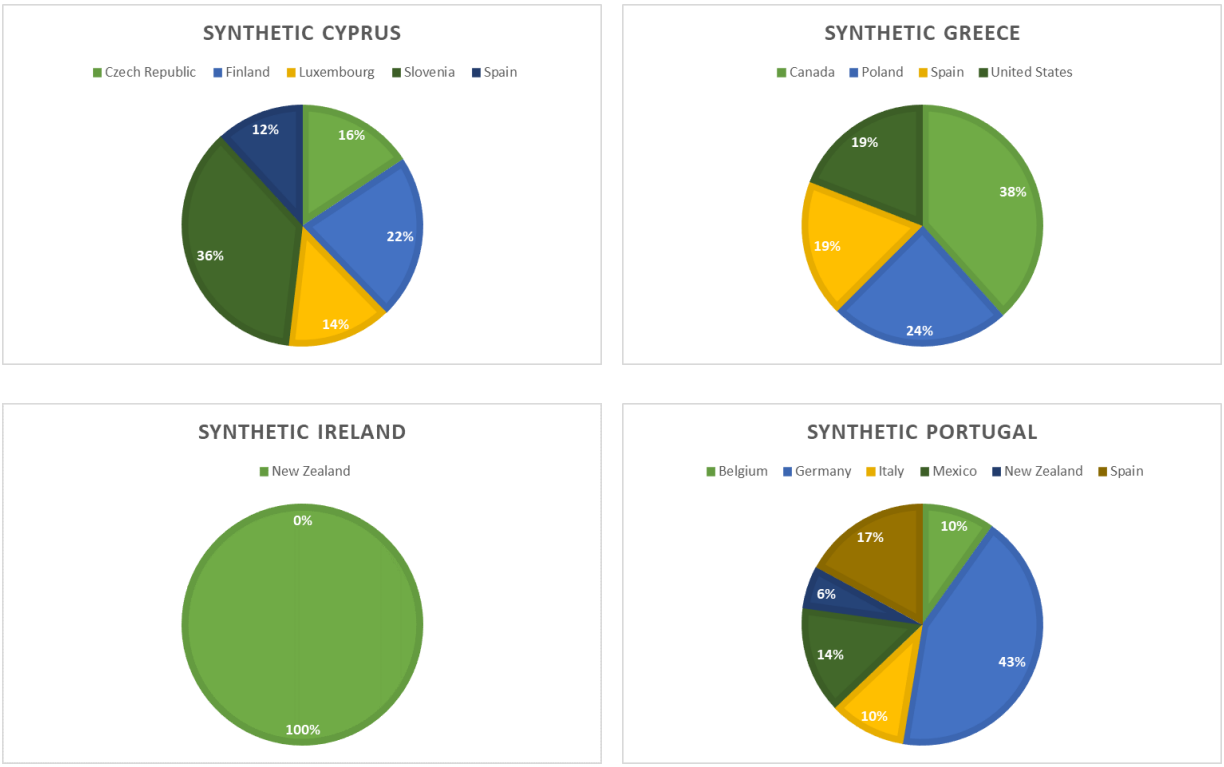


Figure 2: Relative weights of OECD control units on the synthetic (counterfactual) units of treated countries

We now proceed to juxtapose pre- and post- treatment trends in the fiscal outcomes of our actual and synthetic units. In line with our conception of ownership as described above, we think of program ownership as a negative function of the gaps and the fit between actual and synthetic post-intervention trends. The following figures depict such trends in primary fiscal balance adjustment (% GDP) for Cyprus and Greece (Figure 3) and Ireland and Portugal (Figure 4). Naturally, we should expect a positive treatment effect and an overall high level of fiscal adjustment during the post-crisis period. Admittedly, in all four cases the pre-intervention fit between actual and synthetic unit trends is not great although in all four cases the root mean squared prediction error (RMSPE), a indirect measure of fit between the two lines, is greater in the post-intervention period compared to the pre-intervention period. Surprisingly, Greece has the lowest pre-

intervention RMSPE (1.097) while Ireland has the highest (5.132), which constitutes further evidence that Ireland is a significant outlier in our sample.[16] Further analysis confirms the common wisdom that fiscal adjustment in Ireland during the Eurozone debt crisis took place mostly through expenditure cuts while the treatment effect of IMF fiscal conditionality on Greece and Portugal took the form of substantial increases in taxes and government revenues. According to Table 1 below, the overall IMF program effect in terms of net fiscal adjustment throughout the duration of the program (sum of gaps) was 5.440% in Cyprus, 5.075% in Greece, 22.871% in Ireland, and 2.844% in Portugal.

Moreover, in line with our hypothesis that conditionality undermines ownership, we should expect that the absolute post-treatment gap between actual and synthetic units should narrow as the number of conditions increases and that overall program ownership (measured as a negative function of the ratio between the post-intervention RMSPE and the pre-intervention RMSPE) correlate negatively with the number of fiscal policy conditions – both quantitative performance criteria (QPCs)[17] and the total number of fiscal condition – (as well as the relative size of the non-concessional loan) as stipulated in the Memoranda of Understanding. Surprisingly, we find the highest level of program ownership in Portugal (1.768) and then Greece (1.942) and the lowest in Cyprus (2.304) and then Ireland (2.146).

One of the benefits of SCM analysis is that it can demonstrate the dynamic evolution of the treatment effect throughout the post-intervention as captured by the absolute gaps between actual and synthetic units in each program year $T_{i0}+1,\ldots,T$. In line with our hypothesis, we find a highly positive correlation coefficient between the number of fiscal policy QPCs and the yearly absolute gap for Greece and Ireland.[18] In other words, a loosening of conditions will tend to enhance reform ownership over time.

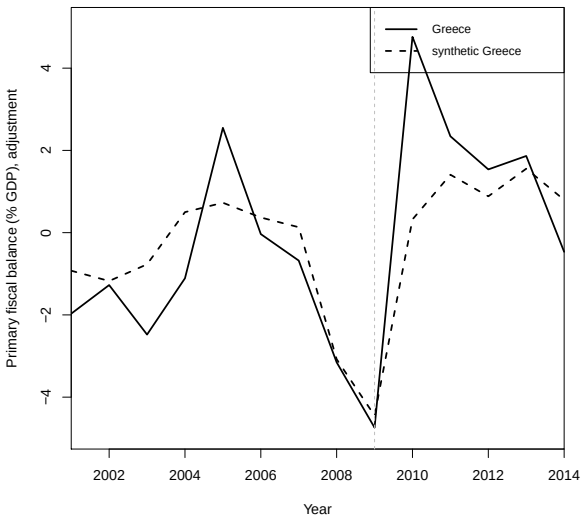
Our overall causal inference analysis of conditionality and ownership in the recent IMF economic adjustment programs of Eurozone countries using the SCM method has yielded mixed results. This could be due to two reasons: (i) Ireland and Cyprus experienced different types of structural imbalances primarily afflicting their banking sector. Therefore, their abrupt fiscal consolidation can be seen as a short-term aber-

[16] In such cases, Abadie, Diamond and Hainmueller (2010, 2015) argue against the use of the SCM method for causal inference unless one applies a linear interpolation technique. The reason is that SCM will not work well for cases that lie outside of the convex hull of control units because the method constraints weights to lie between zero and one and looks for the optimal convex combination of such units.

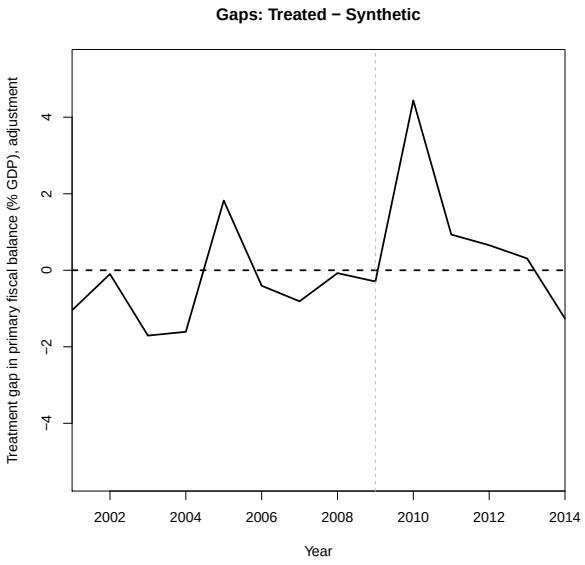
[17] Arguably these are the types of conditions that best correspond to the outcome of primary fiscal balance adjustment.

[18] The coefficient cannot be defined for Cyprus and Portugal because neither of them had any fiscal policy QPCs in their IMF arrangements.

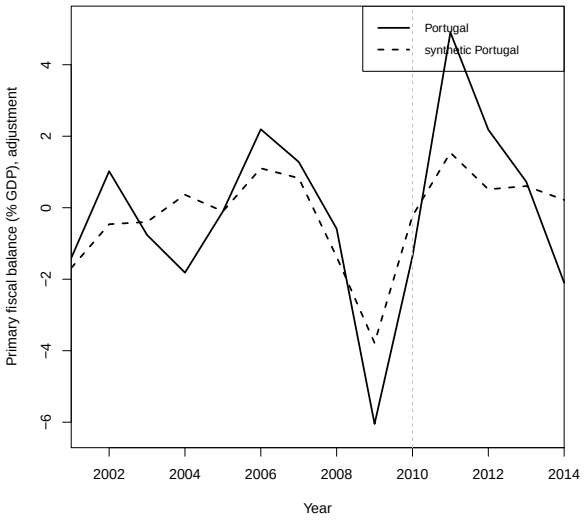
(a) Greece primary fiscal balance adjustment, levels



(b) Greece primary fiscal balance adjustment, gaps



(c) Portugal primary fiscal balance adjustment, levels



(d) Portugal primary fiscal balance adjustment, gaps

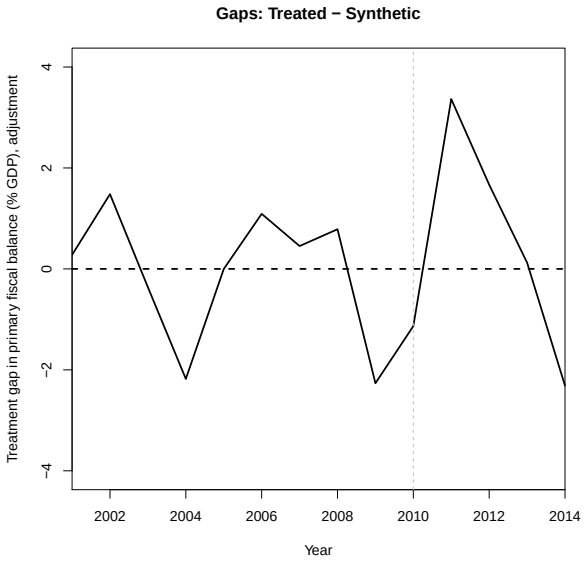
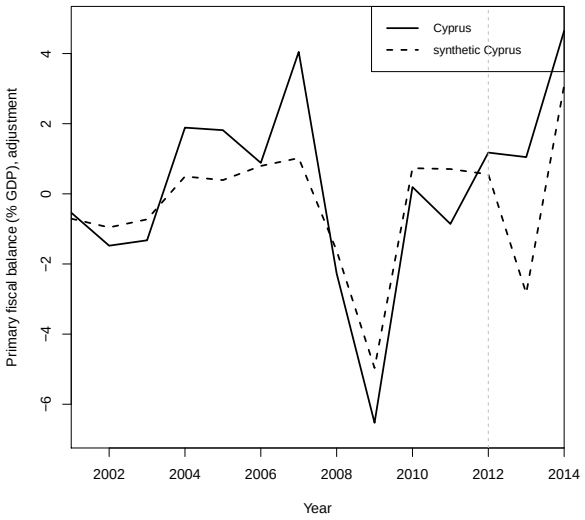
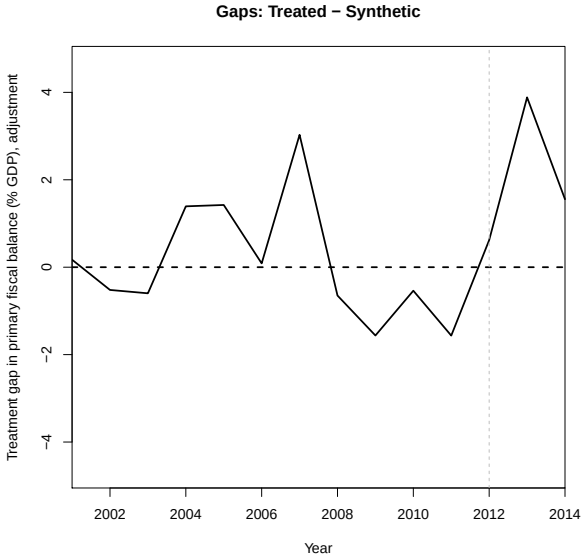


Figure 3: Primary fiscal balance adjustment (% GDP) and gaps between treated and synthetic units

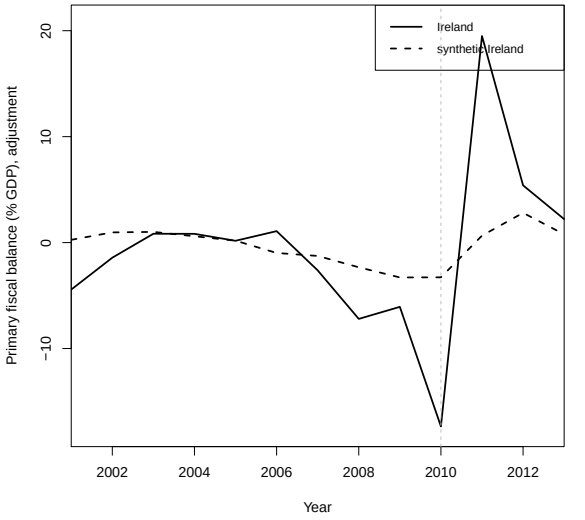
(a) Cyprus primary fiscal balance adjustment, levels



(b) Cyprus primary fiscal balance adjustment, gaps



(c) Ireland primary fiscal balance adjustment, levels



(d) Ireland primary fiscal balance adjustment, gaps

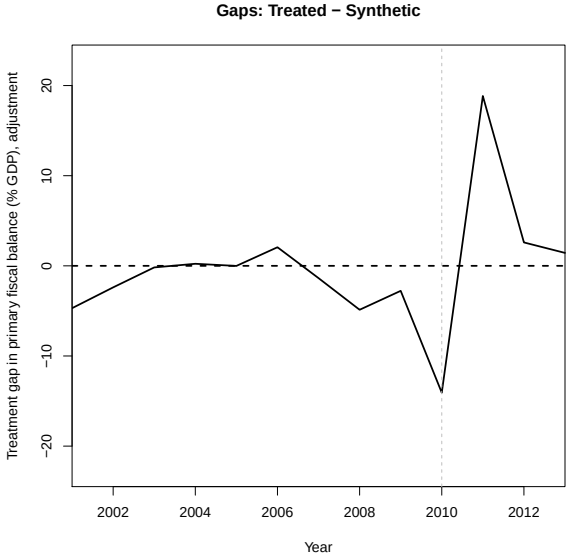


Figure 4: Primary fiscal balance adjustment (% GDP) and gaps between treated and synthetic units, continued

Treated units / program years	2010	2011	2012	2013	2014	Total period
Greece						
Actual	4.761	2.343	1.538	1.864	-0.466	
Synthetic	0.322	1.409	0.883	1.555	0.797	
Absolute gap	4.439	0.934	0.655	0.309	1.263	
Sum of gaps						5.075
Ownership (pre-/post- RMSPE)						1.942
Fiscal policy (FP) QPCs	8	8	8	0	0	
Total FP conditions	13	19	22	18	15	
Non-con loan/IMF quota	11.102	8.161	15.328	7.187	7.196	
Portugal						
Actual		4.904	2.183	0.729	-2.097	
Synthetic		1.540	0.515	0.605	0.217	
Absolute gap		3.365	1.669	0.124	2.314	
Sum of gaps						2.844
Ownership (pre-/post- RMSPE)						1.768
Fiscal policy (FP) QPCs		0	0	0	0	
Total FP conditions		13	12	11	3	
Non-con loan/IMF quota		7.843	7.754	7.677	0	
Cyprus						
Actual				1.047	4.647	
Synthetic				-2.838	3.093	
Absolute gap				3.885	1.555	
Sum of gaps						5.440
Ownership (pre-/post- RMSPE)						2.304
Fiscal policy (FP) QPCs				0	0	
Total FP conditions				14	17	
Non-con loan/IMF quota				1.875	1.877	
Ireland						
Actual		19.497	5.403	2.214		
Synthetic		0.656	2.807	0.780		
Absolute gap		18.841	2.596	1.434		
Sum of gaps						22.871
Ownership (pre-/post- RMSPE)						2.146
Fiscal policy (FP) QPCs	4	4	0	0		
Total FP conditions	2	7	6	4		
Non-con loan/IMF quota	8.026	5.265	5.206	0		

Table 1: Fiscal conditionality, non-concessional loans, and gaps between actual and synthetic units in terms of primary fiscal balance adjustment (% GDP) (notation: QPCs = Quantitative Performance Criteria, RMSPE = root mean squared prediction error)

ration correcting for prior liquidity injections into the banking sector. (ii) By the same token, our outcome variable of primary fiscal balance adjustment is subject to large idiosyncratic and unobserved shocks and thus can be highly volatile. This hence would suggest that the choice of outcome variable and donor pool sample is crucial for the accurate estimation of post-intervention treatment effects (Abadie, Diamond and Hainmueller, 2015).

5 Conclusion and Extensions

Although IFI conditionality policies have been investigated to considerable extent and with unambiguous success, we still do not have convincing answers to certain questions pertaining to the different responses of otherwise similar targets. Accordingly, the proposed research investigates the potentially negative effects of conditionality policies on the intrinsic motivation of target countries to pursue reforms. To do so, it builds on cutting-edge insights from economics (contract theory and behavioral economics), political science (principal-agent models in international relations), cognitive psychology, and program evaluation.

The original idea that motivates this paper is that, contrary to a common assumption in the literature, the political-economic world does not always replicate the upward-sloping supply curves of neo-classical economic theory. Whereas a shoemaker with no intrinsic motivation to keep producing additional pairs of shoes may be convinced to do so if offered a higher price (upward-sloping supply curve), a country that recognizes the necessity of reforms may not always respond to external incentives in such a linear way. In the long run, extrinsic incentives will crowd out its intrinsic motivation for reform, thereby producing a counter-productive effect. In other words, we focus on the informational content of conditionality packages as extrinsic incentive schemes and seek to explain variation in the adjustment trajectories of target countries. I show how conditional bailout contracts, such as the design of recent Troika-sponsored economic adjustment programs in the Eurozone, are affected by the interplay of intrinsic and extrinsic incentives for reform, the observability of reforms at different stages of implementation, and the possibility for hidden action and moral hazard.

Future work will extend the analysis of conditionality contracts to multiple tasks, multidimensional reform packages (e.g., fiscal adjustment measures and structural reforms), and differential monitoring costs. This is a timely research project in light of ongoing policy debates on fiscal rules and austerity, conditionality,

and institutional design in response to the Eurozone crisis. The previous experience with conditionality programs run by the IMF and the EU is well suited to bear upon ongoing debates on the institutional response to the European debt crisis and the overall design of the EMU. The recent political turmoil and economic stagnation experienced by countries hit by austerity and recession in the European periphery make this project all the more pertinent and topical.

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Appendix

Variable name	Variable description	Data source
IMFnn	IMF program active at any point in the year	IMF Monitor (Kentikelenis, Stubbs and King, 2016)
loanNon	IMF non-concessional loan amount (2014 million SDR)	IMF Monitor (Kentikelenis, Stubbs and King, 2016)
BA1FP	Total number of fiscal policy conditions	IMF Monitor (Kentikelenis, Stubbs and King, 2016)
QCsFP	Total number of fiscal policy quantitative conditions	IMF Monitor (Kentikelenis, Stubbs and King, 2016)
Primarynetlendingborrowinga	Primary net lending/borrowing (also referred as primary balance) (% of GDP)	IMF Fiscal Monitor (International Monetary Fund, 2019*c*)
ExpenditureofGDP	Expenditure (% of GDP)	IMF Fiscal Monitor (International Monetary Fund, 2019*c*)
RevenueofGDP	Revenue (% of GDP)	IMF Fiscal Monitor (International Monetary Fund, 2019*c*)
CurrentAccountGDP	Current account balance (% GDP)	Global debt database (Mbaye, Moreno-Badia and Chae, 2018)
GrossdebtofGDP	Gross debt (% of GDP)	IMF Fiscal Monitor (International Monetary Fund, 2019*c*)
lngdppc	GDP per capita (log)	World Development Indicators (The World Bank, 2019)
gdppcgrowthWDI	GDP per capita growth	World Development Indicators (The World Bank, 2019)
KOFTrGIdf	Trade globalization, *de facto*	KOF Globalization Index (Gygli et al., 2019)
KOFFiGIdf	Financial globalization, *de facto*	KOF Globalization Index (Gygli et al., 2019)
mdmh	Mean district magnitude, House	Database of Political Institutions 2017 (Cruz, Keefer and Scartascini, 2018)
yrcurnt	Years left in current term	Database of Political Institutions 2017 (Cruz, Keefer and Scartascini, 2018)
execrlc	Party orientation with respect to economic policy	Database of Political Institutions 2017 (Cruz, Keefer and Scartascini, 2018)
hpolcon3	Political constraints index	The Political Constraint Index (POLCON) Dataset (Henisz, 2002)
GFSIndexScore	GFS fiscal transparency index	Coverage of Fiscal Reporting (COFR) dataset (International Monetary Fund, 2019*a*)

Table A.1: Variable code names, variable description, and data sources