

# Global Diffusion, Policy Flexibility, and Inflation Targeting<sup>1</sup>

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A diverse group of over 30 countries located all over the world—such as the UK, Colombia, and Ghana—introduced inflation targeting, which is a monetary policy that seeks to control inflation through a pre-announced target. Fully institutionalized democracies adopted the policy first because the core features of inflation targeting are consistent with the principles of a liberal democracy. But why was inflation targeting also introduced by less-democratic countries? This article develops the argument that decision makers of less-democratic countries became more likely to adopt inflation targeting when they observed that nearby countries increased the flexibility of the policy. The statistical analysis of data from 76 countries between 1989 and 2013 supports this hypothesis. The finding that the change of a policy toward a more flexible framework drives its global spread addresses a blind spot in the more recent policy diffusion literature.

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The seminal contribution by Dobbin, Simmons and Garrett (2007) on diffusion starts with the observation that a large set of policies have spread globally, such as the protection of women’s rights, competition laws, and environmental standards. Following this work, an abundant literature has generated various insights on how policies spread, particularly in the field of international political economy with the study of the spread of liberal economic ideas and policies, global and regional interconnectedness, and the interaction between international forces and domestic actors (Cao 2012; Chaudoin, Milner, and Pang 2015; Simmons and Elkins 2004). One fundamental question of *global* diffusion, however, remains largely unexplored—namely, why a policy spreads to a very heterogenous group of countries, which are all confronted with distinct political and economic challenges. To shed light on this question, this study explores why and how policies are adopted by countries all over the world.

Conceptually, this article divides global diffusion in different stages. In the first stage, countries with a regime type that is conducive to a policy adopt. Global diffusion, however, implies that a policy is also introduced by countries that have institutions that are less compatible with the original framework of a policy. The literature on the emulation mechanism of diffusion argues that a policy becomes attractive for countries that have institutions that are less compatible with a policy, when the policy has established a reputation as a best practice (See, for example, Bearce and Bondanella 2007). Following Meyer and Rowan (1977), historical and sociological research further shows that decision makers of such countries adjust policies to more flexible frameworks. Building on this research, this article identifies the increased flexibility of a policy as the key driver of *global* diffusion. The main argument hypothesizes that the change of a policy to a more flexible framework by one country increases the likelihood of further adoptions by *other* countries, whose existing institutions are also less compatible with the policy.

The theoretical arguments on step-wise global diffusion are empirically evaluated in a study on the global spread of inflation targeting (IT). In 1990, New Zealand introduced IT, which is a monetary policy framework that focuses on the management of inflation expectations. By 2010, a highly heterogenous group of

countries—including the UK, Armenia, Ghana, Peru, and Thailand—has adopted IT. This global spread of IT has been “almost completely ignored by political scientists” (Singer and Mukherjee 2008:324).<sup>2</sup> Fully institutionalized democracies provide a conducive institutional setting for IT because the key features of IT, such as separation of powers, transparency, and accountability, are reflections of the core principles of liberal democracies (Bernanke and Mishkin 1997; Broz 2002). Thus, fully institutionalized democracies are expected to adopt IT early in the global diffusion process. The empirical investigation of data from 76 countries between 1989 and 2013 supports the hypotheses that fully institutionalized democracies are more likely to adopt IT, and that this effect is particularly strong in the first stage of diffusion.

The main hypothesis of this article on the *global* diffusion of IT expects that decision makers of less-democratic countries become more likely to introduce IT, when nearby countries increase the flexibility of the policy. The literature discusses a 2% target as optimal (Bernanke, Laubach, Mishkin, and Posen 1999). Yet, Armenia, for example, adopted an inflation target of 3.5% to 6.5% because the institutional setting of Armenia is not consistent with IT, as the president has maintained extensive powers that are only very weakly checked. The key explanation for Armenia’s adoption, however, is that its neighbor, Turkey, used, in the years before Armenia’s adoption, very flexible IT frameworks with targets of 6% to 8% and 3% to 7%. The statistical analyses of spatial lag models support the argument that increased policy flexibility in nearby countries increased the likelihood of IT adoption in less-democratic countries.

This analysis builds on and advances the literature on policy diffusion and the scholarships on the interactions between domestic and international politics, monetary policy, and decoupling (Chaudoin et al. 2015; Dobbin, Simmons and Garrett 2007; Meyer and Rowan 1977). The main contribution of the article is the conceptualization of global diffusion in different stages and, most importantly, the theoretical and empirical study of how the changing characteristics of IT drives

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<sup>2</sup>In contrast, the worldwide spread of central bank independence has been rather well studied (Bodea and Hicks 2015; McNamara 2002; Polillo and Guillén 2005).

its adoption by distinct regimes all over the world. The finding that the change of a policy is a key driver of diffusion addresses a blind spot in the more recent diffusion literature, which assumes that policies do not change as they spread. Overall, a large body of the policy diffusion literature suggests that diffusion leads to homogenous policies, neglecting that policies are adapted to local contexts.

### **Global Diffusion, Regime Type, and Policy Flexibility**

The core question addressed by diffusion scholars is why and how policymakers react to prior policy choices of other countries (Simmons, Dobbin, and Garrett 2008). Policymakers may, for example, adopt a policy because of its normative constructed properties as appropriate practice or because they observe that a policy is successful elsewhere (Shipan and Volden 2008). Although the diffusion literature offers a wide variety of theoretical explanations, the conventional approach is to prioritize one single diffusion mechanism. This assumption is particularly problematic for the *global* spread of a policy, whereby a very heterogenous set of countries introduces the same policy. It is unlikely that the same motivation explains policy adoptions by very different countries.

In addition, diffusion scholars typically ignore the specific (and changing) content of a policy, assuming that all adoptions are essentially equivalent. Several analyses address this over-simplification by showing that the framework of a policy is “reframed, reinterpreted, and modified” throughout the diffusion process (Klingler-Vidra and Schleifer 2014:271). Some qualitative, historical, and sociological studies analyze how policies change in diffusion processes (Beissinger 2007; Chorev 2012; Howlett and Morgan 2011; Radaelli 2005). Surprisingly little research, however, has studied whether and, if so, how the varying and changing characteristics of a policy itself shapes the diffusion process. A notable exception is the study by Brooks (2007), who develops the argument that specific policy features of pension reforms mediate diffusion (See also Genovese, Kern, and Martin 2017).

This article goes beyond the narrow focus of the diffusion literature that analyzes only one mechanism and assumes that the content of a policy does not change

while it spreads. The theoretical argument developed by this article distinguishes between more and less likely adopters of a policy based on their regime types. For the purpose of this analysis, global diffusion is not defined as universal coverage, in the sense that a very large number of countries have adopted a policy. Rather, the term *global* refers to a spatial coverage that spans all over the world, which means that a very heterogenous group of countries introduced a policy (not necessarily a high share of all countries).

The most likely adopters of a policy are countries with economic, political, and institutional features that are consistent with the framework of a policy. Several studies analyze how the fit of a policy with a specific context shapes diffusion patterns, whereas context is broadly conceptualized with references to economic and political conditions, institutions, or the professionalisms of administrations (Bernauer, Kalbhenn, Vally, and Spilker 2010; Brooks and Kurtz 2012; Neumayer and Plümper 2012; Shipan and Volden 2014). As far as the pattern of adoption is concerned, we should expect that countries with a regime type that is consistent with the general idea of a policy are more likely to adopt in the early stage of diffusion. This argument on institutional fit predicts spatially constrained diffusion within the geographic region where these institutionally similar countries are located. The defining feature of global diffusion, however, is adoption by countries all over the world—including countries with regimes that are less consistent with the policy. Thus, the key for explaining global diffusion is to understand why a policy is also adopted by countries with a regime type that is less consistent with the design of a policy.

Early adopters contribute to the global spread of a policy to the extent to which their adoptions help establishing the reputation of a policy as best practice. The diffusion literature on emulation theorizes how policies are socially constructed as appropriate norms and adopted because policymakers aim to conform to these established norms (Bearce and Bondanella 2007; Dobbin et al. 2007). The advocacy and promotion of a policy as genuine best practice by international organizations, experts, and powerful countries transforms a policy from innovation to the status of appropriateness. Establishing the reputation of a policy as best practice is a

necessary condition for global diffusion and disconnects the policy from the specific regime type, in which the policy was developed.

When a policy has a reputation as a best practice, governments gain international credibility by introducing it. At this stage, policymakers of countries with less-conducive regime types also have the incentive to introduce the policy, not least because adoption signals to the international community compliance with the newly established norm. The decoupling research by Meyer and Rowan (1977) argues that decision makers adopt a policy that is considered to be state-of-the-art to gain external legitimacy and that the practice of the policy is adapted to specific contexts. Such policy adjustments usually mean an increase of the flexibility of a policy (Wiener 2007; Winston 2017). Following this strand of research, Chorev (2012:834) provides a detailed analysis of how some countries decouple the practice of a policy from its original version “by broadening the range of flexibilities.” As is common in this literature, Chorev (2012) studies domestic resistance to parts of a policy. This is an important and interesting question, but not the focus of this analysis, which conceptualizes the increased flexibility of a policy as a force of further diffusion.

This article thus builds on and departs from the decoupling scholarship by investigating whether the change of a policy framework by one country also affects the probability of further adoptions by *other* countries. The main argument of this article is that the example of a policy change in one country increases the likelihood of adoptions by other countries that (also) have regime types that are not conducive to the original version of the policy. In this dynamic, the change of a policy towards a more flexible framework becomes itself the driver of diffusion and takes the policy beyond a set of homogenous countries. This process explains how the increased flexibility of a policy paves the way for its global spread and theorizes the complex interaction between domestic and international politics by specifying how regime types moderate global diffusion (Chaudoin et al. 2015).

Taken together, the arguments developed above explain the different stages of global diffusion as follows: countries with a regime type that is conducive to a policy adopt first. Then, the advocacy for a policy by experts and international

organizations establishes, following the emulation mechanism, the reputation of a policy as a best practice. This makes the policy attractive also for countries with less conducive regime types, which is a necessary condition for global diffusion. Finally, countries with less conducive regime types become more likely to adopt when they observe that other countries have increased the flexibility of a policy. This final step explains why and how a policy spreads beyond a set of homogenous countries. The following sections analyze these theoretical arguments for the case of IT.

### **Arguments on the Global Diffusion of Inflation Targeting**

Key, as far as the contextual backdrop of IT is concerned, is the fundamental change in monetary economics that started in the late 1980s and early 1990s, when leading economists reached a consensus on the main principles of central banking. The bottom line of this monetary consensus is that independent central banks should focus on providing low and stable inflation (Bernanke et al. 1999). The theory on the time inconsistency problem lays the intellectual foundation for this argument (Calvo 1978; Woodford 2003). The implication of the time inconsistency problem is that only an independent central bank that prioritizes the control of inflation over other macroeconomic goals can provide successful monetary policymaking. The most straightforward example of a political intervention damaging the effectiveness of IT is an incumbent government that seeks to influence monetary policymaking to win reelection.

At the same time as this intellectual consensus in monetary economics emerged, the labor government in New Zealand put together a larger reform agenda, including a change of monetary policy to a framework that later became known as IT. The New Zealand version of IT was direct and clear: low and stable inflation was acknowledged as the primary goal of monetary policy. As such, the government announced a low inflation target range with a one-year time horizon.<sup>3</sup> The government could even dismiss the Governor of the Reserve Bank in the event that the

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<sup>3</sup>After a few reductions, the target was set in 1995 at 1% with a range between 0% and 2%.

inflation target was not met. In essence, the IT framework makes the central bank accountable to the government and the public for delivering inflation within the target range. Major innovations of IT are the precise mandate and the accountability of the framework.

A few years after the introduction of IT in New Zealand in 1990, prominent academics embraced the new monetary policy as a practical framework that addressed the aforementioned time inconsistency problem. Economists advocated IT as the new state-of-the-art monetary policy and the IMF started to promote IT all over the world through conferences, research, and technical assistance (Batini, Breuer, Kochhar, and Roger 2006). The congruence between the dominant academic thinking and the features of IT led to widespread advocacy on its behalf. In addition, the subsequent adoptions of IT further strengthened its reputation. Reichlin and Baldwin (2013:13) concluded that “[f]rom the late 1980s, independent central banks with inflation targets became the thinking’s person solution.”

Among others, McNamara (1999) and King (2005) analyze how experts and specialists developed, within international epistemic communities, shared ideas and new paradigms, legitimising and promoting central bank independence and IT. Thomassen (2017) argues, in a detailed case study, that the Norwegian IT adoption is explained by the ideational advocacy by experts for IT “as the best means” to secure price stability (Thomassen 2017:843). He traces in detail how IT “came to hold prestige in the central bankers’ epistemic community” (Thomassen 2017:852), listing several influential central bankers and academics that interacted as advocates for IT in “formal and informal networks” (Thomassen 2017:841). Several studies on epistemic communities, central banking, and ideational power document the buildup of a widely shared consensus that IT is best practice, which facilitated the spread of IT, as the emulation mechanism of diffusion suggests (Bearce and Bondanella 2007; King 2005; McNamara 1999). However, this mechanism does not explain the pattern of adoption.

### *Adoptions Because of Institutional Fit*

A key factor of (early) policy adoption is the fit of a policy with existing institutions. The more a new policy is consistent with existing institutions and norms, the more likely a country is to introduce it. To identify the “most likely” early adopters, we thus need to specify what type of institutional setting fits with the framework of a new policy. In a seminal article, Broz (2002) shows that monetary policy choices depend on the extent to which a political system is democratic. His analysis focuses on central bank independence and exchange-rate pegs. As far as the latter is concerned, Broz (2002) argues that less-democratic and less-developed states are more likely to adopt exchange-rate pegs because trust in the monetary system is imported from the anchor currency. In other words, the exchange-rate peg substitutes for the democratic deficits.

In the case of central bank independence, he reverses the argument: the political regime—not the monetary policy framework—provides transparency and accountability. Here, the democratic functions of the political system act as a necessary complement that makes the “opaque commitment” of central bank independence “credible” (Broz 2002:868). IT is similar to central bank independence in this respect. The IT framework is credible and effective when the central bank can execute its mandate in an environment that fully protects its operational freedom with the democratic safeguard of separation of power. Aside from that, IT is connected to further dimensions of democratic governance. The democratic principles of transparency and accountability are also among the most frequently mentioned arguments for IT (Bernanke and Mishkin 1997; Svensson 2010). Thomassen (2017:850), for example, points out that a key element of IT is to make a central bank “more *accountable* and *transparent*” to the public and the government (emphasis in the original). Therefore, the ideational advocacy for IT is linked to several dimensions of a liberal democracy and goes well beyond the separation of powers and the time inconsistency problem.

In sum, a democratic regime provides the institutional and ideational context for IT. The key elements of IT are consistent with the model of a liberal democ-

racy because a) the incumbent government is not in a position to skew elections in its favor through activist monetary policy; b) the broader society is addressed with predictable policy decisions; and c) regulatory, monetary, and economic policymaking are assigned to different institutions that control each other. This means that the argument on institutional fit predicts that IT adoptions are more likely in fully institutionalized democracies, particularly in the early stage of diffusion. Accordingly, the first two hypotheses on the spread of IT are that

*IT adoption is more likely, the more institutionalized a democracy is (H1); while this effect is particularly strong for early adopters and thus decreases over time (H2).*

### ***Global Spread of IT Because of Policy Flexibility***

As more and more countries adopt IT, the policy establishes its reputation as an appropriate policy option. The strong backing by an epistemic community of central bankers, academics, and the IMF further strengthens the standing of IT as a best practice, which creates a strong incentive for adoption and strengthens domestic actors that seek to prioritize inflation control (King 2005; McNamara 1999; Thomassen 2017). The IMF advocated IT also for developing countries, offering technical assistance and arguing that IT can also be successfully adopted when not all institutional prerequisites are met (Batini et al. 2006; Batini and Laxton 2007; Singer and Mukherjee 2008).

The question of whether a central bank should prioritize inflation control has distributional consequences and, as such, divides groups within countries. The specific political conflicts are context dependent, but the general expectation is that right parties, wealthier citizens, and the financial sector prioritize inflation control in monetary policymaking; while left parties, citizens that are more exposed to labor market risks, and large parts of the export-industry, particularly the less specialized producers of simple manufactures, prefer a stable and competitive (that is, slightly undervalued) currency (Broz and Frieden 2006; Scheve 2004; Singer and Mukherjee 2008). In short, setting the priority of monetary policymaking depends

on the economic profile of a country and the political strength of different interests in a society.

In terms of the economic profile, less developed countries are confronted with higher macroeconomic instability, volatility in capital flows, fragile institutions, and higher exposure to external shocks, which all increase the costs and risks of IT adoptions. Several economists argue that less developed countries that are not fully institutionalized democracies do not meet the institutional prerequisites for IT and that they should focus on reducing exchange rate volatility and the control of capital flows, not inflation (Eichengreen, Masson, Savaston, and Sharma 1999; Epstein and Yeldan 2009; Filardo and Gensberg 2010). Notwithstanding this criticism, the IMF and prominent academics have promoted IT also for not fully institutionalized democracies, which has strengthened political actors that seek to prioritize inflation control and has contributed to the building up of IT as an appropriate, state-of-the-art policy. The introduction of IT signals adherence to this newly established norm, which may also attract foreign investment. Thus, despite the criticism that IT may not be an ideal option for less developed countries that are not fully institutionalized democracies, policymakers of these countries have multiple incentives to adopt IT.

At the same time, policymakers of less developed countries can constrain the potential negative consequences of adoption. This can be achieved by adopting a flexible version of the policy. Even the critics of IT concede that an attractive feature of IT is its flexibility (Fraga, Goldfain, and Minella 2003). The main operational constraints are the inflation target and the range of the target. In the original version, the inflation target is set at 2%, and, if there is a range at all, it is very narrow ( $\pm 1\%$ ). The most straightforward way to adjust IT to a more flexible framework is to increase the target and range. A good proxy for the flexibility of IT is thus the sum of the point target and the range: the higher the target and range, the higher the flexibility of the IT framework.

Two straightforward implications follow from the arguments developed so far. First, less-developed and less-democratic countries should adopt more flexible versions of IT, and the average flexibility of all adopted IT frameworks should increase over time, as more countries introduce IT. The descriptive investigation of the data

supports these empirical implications. The flexibility of IT is substantially larger for less-democratic countries compared to fully institutionalized democracies and increases, as the policy diffuses globally (see Appendix A2 for the empirics on this). This descriptive analysis already supports the arguments that countries with an institutional misfit increase the flexibility of a policy and that they adopt later. The key question derived from the theoretical argument developed above, however, is whether increasing the flexibility of IT also affects the probability of further adoptions by *other* countries that are (also) less democratic.

Spatial proximity is a good proxy for the availability of policy information because policymakers are more familiar with the details of policy frameworks of nearby countries. The basic assumption here is that policymakers are more likely to be aware of fine-grained policy changes in countries that are geographically close because of more exchange among experts and greater media coverage. Policymakers are more informed about detailed policy changes of frameworks that have already been introduced in nearby countries (not the adoption itself, which will be widely noticed). As policymakers of nearby countries take notice of these changes, they become more likely to adopt IT if they govern less-democratic countries. Accordingly, the main hypothesis (H3) of this article is that

*less-democratic countries become more likely to adopt IT when nearby countries change IT to a more flexible framework by increasing targets and ranges (H3).*

## **Data and Empirical Model**

The data for the empirical analysis starts in 1989, a year before the first IT introduction, and ends, for data availability reasons, in 2013. The analysis includes all countries that are minimally democratic and for which data on standard legal central bank independence is available (Cukierman, Webb, and Neyapti 1992). I consider countries to be minimally democratic when they are not under foreign occupation and have an average positive polity score over the investigated time pe-

riod (See, for example, Besley and Reynal-Querol 2011).<sup>4</sup> Applying these selection criteria, I end up with 76 countries in the data set of which 30 have adopted IT. Following standard modeling practice that builds on event history analysis, I analyze time-series-cross-section logit models predicting the probability of IT adoption. To account for the event history structure of the data, all country-year observations are dropped from the sample after a country adopts IT because the country is no longer at risk of introducing the policy. Also, the models include  $t$ ,  $t^2$ , and  $t^3$  to control for time dependence (Carter and Signorino 2010; Bernauer et al. 2010). The following describes the coding of the main variables (see Appendix A1 for more information).

**Dependent variable** I code, as dependent variable, the formal adoption of IT—that is, a central bank officially declares that it is introducing IT as its monetary policy framework. For the coding of IT adoptions, I relied on monetary policy and inflation reports of central banks and double-checked these primary sources with IMF working papers and additional secondary literature.<sup>5</sup> Figure 1 plots the 30 IT adoptions under investigation. The pattern of IT adoptions lends support for the hypothesis that fully institutionalized democracies are likely to introduce IT early in the diffusion process. From 1991 to 1995, a rather homogeneous group of liberal market economies with highly institutionalized democratic regimes followed the example of the first adopter, New Zealand. The global spread of IT, however, started in 1997, and it particularly took off in 1999, with its first introductions in Latin America, Asia, and Africa.

**The (diminishing) effect of democracy** To evaluate hypothesis H1 that IT adoption is more likely the more institutionalized a democracy is, I model the polity score as a predictor of IT adoption. The polity score is a fairly aggregate variable, consisting of measures quantifying most relevant institutional dimensions that are consistent with IT, such as the separation of powers, accountability, and

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<sup>4</sup>Source: Polity IV Project, Political Regime Characteristics and Transition, 1800–2013, Monty G. Marshall et al., Center for Systemic Peace.

<sup>5</sup>All primary and secondary sources are available upon request.

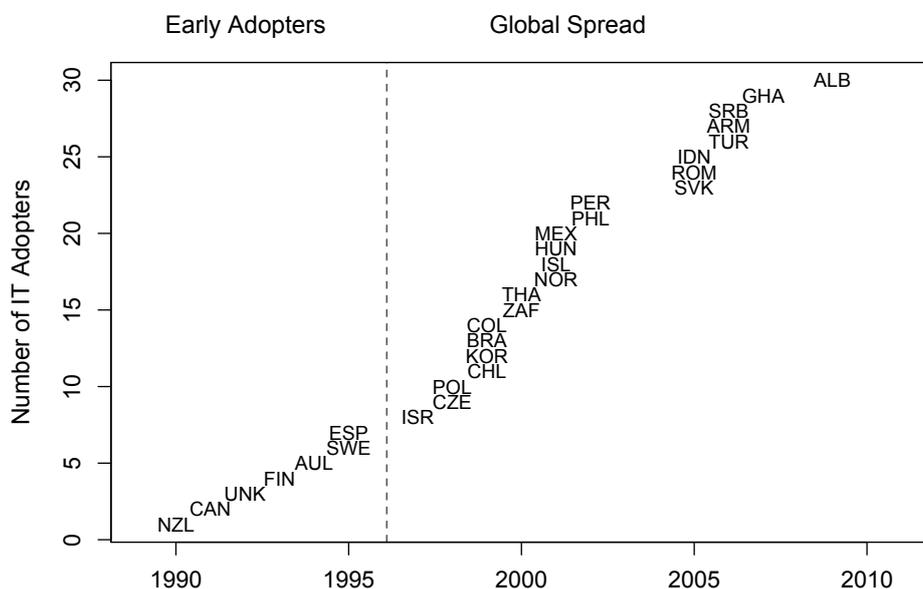


Figure 1. *IT adoptions from 1990 to 2013.*

transparency. To analyze the time dependence of the effect of democratic institutions on IT adoption (H2), I interact the polity score with time  $t$ .

**IT flexibility in nearby countries** To analyze the main hypothesis H3 of this article—that less-democratic countries become more likely to adopt IT when nearby countries change the IT framework by increasing targets and ranges—I estimate a measure of the flexibility of the IT framework. The flexibility of IT is calculated as the sum of the point target and the range, which is a straightforward estimate of both the room for maneuver of monetary policymakers and of the extent to which the policy framework has changed (as compared to the original version adopted in New Zealand). The IT flexibility index codes all frameworks in operation on a yearly basis (not only in the adoption years). Thus, the index values change with every increase or decrease of the target or the range (see Appendix A5 for an alternative specification). To empirically evaluate whether policymakers become more likely to adopt IT when they observe that nearby countries increase the flexibility of their IT policies (H3), I multiply the IT flexibility index with

a row-standardized spatial distance connectivity matrix, using the inverse of the geographic distance between capitals.<sup>6</sup> In short, the IT flexibility spatial lag gets higher values, the more a nearby country increases its IT target and range.

In principle, this variable is similar to a conventional spatial lag used in the diffusion literature. The only—yet important—difference is that the spatial connectivity matrix is not multiplied with the dependent variable (that is, the adoptions of IT), but with the flexibility of IT. Therefore, I do not investigate whether policymakers are responsive to IT adoptions in nearby countries. Rather, I empirically evaluate whether policymakers are more likely to introduce IT when nearby countries change their IT policy to a more flexible framework. To empirically test whether this effect is mediated by the regime type (see H3), I interact the IT flexibility spatial lag with the polity score and expect a positive coefficient of the IT flexibility spatial lag for not fully institutionalized democracies.

**Exchange-rate regime** The choice of a monetary policy framework is inherently a trade-off decision. According to the Mundellian trilemma, a country cannot, under the condition of free international capital mobility, simultaneously fix the exchange rate and conduct autonomous monetary policymaking that is targeted at domestic goals such as inflation control. The Mundellian trilemma suggests that, in the international monetary system of free capital flows, central banks can either peg the exchange rate to an anchor currency or target domestic macroeconomic indicators. Pegging the exchange rate provides, under certain conditions, monetary credibility and stability. However, pegs can come under attack from investors. The main alternative for an exchange-rate peg is IT. Therefore, the presence or enactment of a freely floating exchange-rate regime should increase the likelihood of IT adoption. To investigate whether the adoption of IT depends on the presence or enactment of a freely floating exchange-rate regime, I use a standard exchange-rate classification index, which codes the extent to which a currency is freely floating or

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<sup>6</sup>The spatial distance data come from the R package `cshapes`. Appendix A5 reports the empirical analysis with only the range.

pegged to another currency.<sup>7</sup>

**Control variables** The statistical analysis controls for a set of variables. As institutional variables, I use measures of central bank independence and the political system. One might expect that IT adoption is more likely, the more a country grants independence to its central bank. However, the institutional independence of a central bank may also substitute for IT because institutional independence already addresses the time inconsistency problem. Appendix A3 further discusses the relationship between IT and central bank independence. For the empirical analysis, I rely on the most recently updated measure on legal central bank independence from Bodea and Hicks (2015), which follows the Cukierman et al. (1992) classification.<sup>8</sup> To control for the effects of the political system, I use a variable separating between parliamentary, assembly-elected president, and presidential systems (Keefer 2012). Busch (1994) argues that governments in presidential systems are reluctant to cede powers to central banks. According to this hypothesis, IT adoptions should be more likely in parliamentary systems.

In addition, one might expect that countries under IMF arrangements are more likely to introduce IT. To account for that effect, I coded the sum of all IMF program dummies provided by Dreher (2006). Finally, I also account for a series of financial and economic indicators. First, I model foreign direct investment (FDI) in % of the gross domestic product (GDP) as a control variable. The adoption of IT signals to the international community that a country follows modern economic practice. This may be more valuable, the more a country's economy depends on foreign investment. Accordingly, countries with a higher share of FDI may be more likely to introduce IT (Polillo and Guillén 2005). Second, the share of exports should, if

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<sup>7</sup>Source: Ilzetzki, Ethan, Carmen M. Reinhart and Kenneth S. Rogoff (2010), Exchange Rate Arrangements Entering the 21st Century: Which Anchor Will Hold? See Appendix A6 for the analysis of a classification in three regime types based on this index.

<sup>8</sup>One of the elements of this index is the extent to which a central bank mandate prioritizes price stability as its main policy objective. I exclude this item because of its obvious overlap with the dependent variable. Instead, I use only the items that code whether a central bank is independent in the formulation (not the execution) of monetary policy, in the appointment and dismissal of the heads of the central bank, and in its lending to the government.

anything, be negatively correlated with the likelihood of IT adoption, as export-dependent countries are more focused on the exchange rate. Third, GDP per capita is expected to be positively correlated with the introduction of IT. Fourth, higher capital control restrictions on cross-border transactions should be associated with a lower likelihood of IT adoption (Chinn and Ito 2006).<sup>9</sup>

Appendix A4 reports results for models, including also government orientation and the rolling averages of inflation. Governments on the right may be more likely to introduce IT (Singer and Mukherjee 2008), and a period of high inflation may increase the likelihood of IT adoption. The following main models do not include these variables because of a low coverage in the sample, but the reported main findings are robust to the inclusion of these variables.

## **Empirical Findings**

Table 1 presents the empirical results. Model 1 includes all main variables and Model 2 and 3 add the interaction terms. As expected by hypothesis H1, the polity variable is a positive and significant predictor of IT adoption: the more institutionalized a democracy is, the more likely it is that IT will be introduced. This finding supports the argument that an institutionalized democratic system provides the conducive institutional context for the adoption of IT. Model 2 includes the interaction of the polity score with the time variable  $t$ . The significant and negative coefficient of the interaction term shows that the explanatory power of the democracy score decreases over time, which provides support for hypothesis H2.

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<sup>9</sup>All economic variables are taken from the World Bank's World Development Indicators.

	Model 1	Model 2	Model 3
INTERCEPT	-11.26*** (2.54)	-25.05*** (6.06)	-19.28*** (4.03)
POLITY	0.42** (0.16)	1.84*** (0.59)	1.25*** (0.36)
EXCHANGE RATE CLASSIFICATION	0.20*** (0.07)	0.23*** (0.07)	0.23*** (0.07)
CENTRAL BANK INDEPENDENCE	0.62 (1.09)	0.45 (1.10)	0.52 (1.09)
POLITICAL SYSTEM	0.06 (0.23)	-0.01 (0.24)	0.01 (0.24)
FDI (% OF GDP)	0.10* (0.06)	0.12** (0.06)	0.13** (0.06)
EXPORTS (% OF GDP)	-0.01 (0.02)	-0.01 (0.02)	-0.02 (0.02)
GDP PER CAPITA	-1.28 (2.12)	-1.50 (2.24)	-1.14 (2.17)
IMF CONDITIONALITY	-0.88 (0.74)	-0.86 (0.75)	-0.84 (0.76)
CAPITAL CONTROLS	-0.67 (0.73)	-0.94 (0.73)	-0.94 (0.73)
IT FLEXIBILITY IN NEARBY COUNTRIES (SPATIAL LAG)	-0.14 (0.65)	-0.30 (0.66)	5.63*** (1.83)
POLITY $\times$ $t$		-0.09*** (0.03)	
IT FLEXIBILITY (SPATIAL LAG) $\times$ POLITY			-0.71*** (0.21)
$t$	0.28 (0.48)	1.13** (0.54)	0.26 (0.50)
$t^2$	0.07 (0.41)	0.12 (0.42)	0.21 (0.43)
$t^3$	-0.07 (0.11)	-0.10 (0.11)	-0.11 (0.11)
AIC	262.18	256.05	254.10
BIC	333.57	332.54	330.59
$N$	1211	1211	1211

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$

Table 1. Estimates of IT adoption logit models (standard errors in parentheses) with interaction terms analyzing the conditional effects of the polity score (Model 2) and the flexibility of IT in nearby countries (Model 3).

Figure 2 plots the decreasing marginal effect of the polity score over time. As hypothesized by H2, the effect that fully institutionalized democracies were more likely to adopt IT was strong during the first stage of diffusion in the 1990s. After the year 2003, the effect fades away. This finding supports the argument that the fit of a new policy with the existing regime type is a particularly powerful predictor of policy adoption in the first stage of global diffusion.

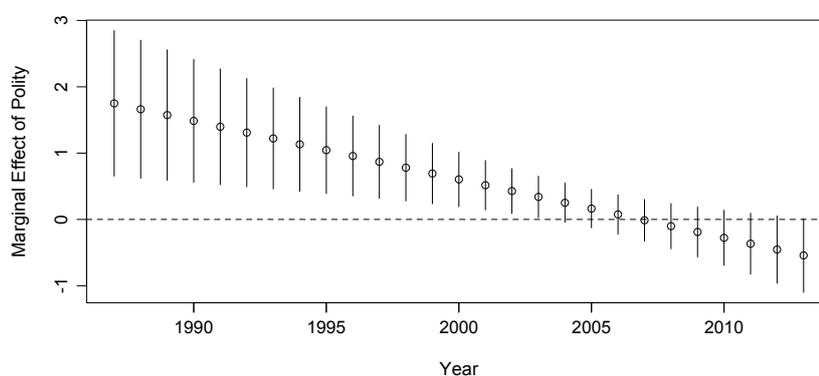


Figure 2. *Marginal effect of the polity score on the probability of IT adoption with 95% confidence intervals over time, based on the estimates of Model 2 (see Table 1).*

Turning to the alternative explanations and control variables, the positive and significant predictor of the exchange-rate classification index in all models of Table 1 lends support to the argument that the adoption of IT is more likely when a currency is not pegged and when a central bank has to give up a fixed exchange-rate regime because of pressure from the financial markets. Appendix A6 shows results for a model, where the exchange-rate index is reduced to three regime category variables that are modeled as dummies (fixed, intermediary, and freely floating exchange rate regimes). The results show again that countries with intermediary regimes and freely floating exchange rates are more likely to introduce IT than countries with a fixed exchange rate, but the effects are not significant in this alternative specification.

Central bank independence and the political system are not systematically correlated with IT adoption. Also, parliamentary democracies are not more likely to

introduce IT as compared to countries with presidential systems. GDP per capita, export dependence, capital controls, and IMF conditionality are neither systematically correlated with the introduction of IT. Only the share of FDI is a positive (and weakly significant) predictor of IT introduction, which suggests that countries with a high share of FDI are more likely to introduce IT. However, this effect is not robust in other model specification, while in some models the negative effect of the capital control index on the introduction of IT is statistically significant (see Appendix A4).

According to the estimates reported in Model 1 of Table 1, there is no average effect of policy change in nearby countries for all countries in the sample, suggesting that there is no diffusion effect, which is consistent with the analysis of Singer and Mukherjee (2008). However, the main argument of this article is that spatial diffusion is conditional (see H3). Model 3 of Table 1 includes the interaction of the IT flexibility spatial lag with the polity score to evaluate hypothesis H3, which states that decision makers from less-democratic countries become more likely to adopt IT when nearby countries increase the flexibility of the policy. The positive and significant coefficient of the IT flexibility spatial lag together with the negative and significant coefficient of the interaction term suggest that examples of more flexible IT frameworks in nearby countries indeed have a positive effect on the likelihood of adoption for less-established democracies. This result supports the main hypothesis H3 of this analysis that policy change in nearby countries is an important predictor of IT adoptions in countries with less-conducive institutional regimes.

Figure 3 plots the marginal effects of IT flexibility in nearby countries for the polity scores from 0 to 10 with 95% confidence intervals. The effect is positive and statistically significant for about 1 out of 5 observations in the analysis (19% of the observations in the sample have a polity score of 5 or less, and 29% have a score of 6 or less). An illustrative case in point is Armenia, in which the president has maintained extensive powers that are only very weakly checked (the polity score of Armenia is over the investigated time period 4.18). Shortly before Armenia adopted IT in 2005, Turkey and Romania, which are both located close to Armenia, changed

their IT policies to more flexible frameworks with ranges from 6 to 8 and 6.5 to 8.5%. The empirical evidence thus suggests that this increased policy flexibility in nearby countries contributed to the adoption of IT by Armenia.

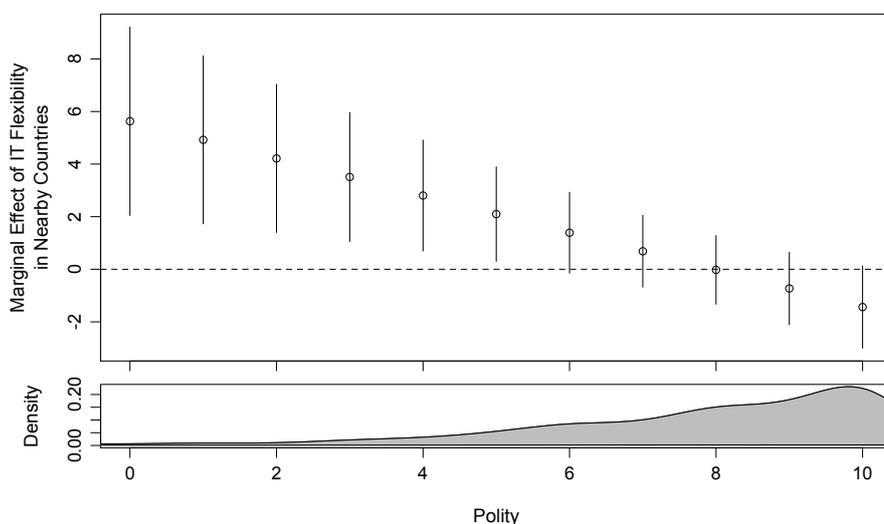


Figure 3. *Top plot: marginal effect of IT flexibility in nearby countries on the probability of IT adoption with 95% confidence intervals for polity scores from 0 to 10, based on the estimates of Model 3 (see Table 1). Bottom plot: density of polity score in the sample.*

Moving from low to higher polity scores, the positive marginal effect decreases and eventually fades away for high polity scores. Figure 3 also shows that the effect almost turns negative for fully institutionalized democracies with a polity score of 10. This may suggest that increasing the flexibility of a policy decreases the attractiveness of adoption for countries that have a conducive institutional regime for its original version.

## Conclusion

The motivating question of this study is why very distinct countries adopt the same policy. This puzzle applies to any global diffusion process because, by definition, a policy that has spread globally has been adopted by a very heterogenous group of countries. The findings of this analysis show that early adopters are countries

whose existing institutions are consistent with the general idea behind a policy framework. In the case of the IT framework, fully institutionalized democracies provide a conducive institutional regime for early adoptions (Broz 2002).

This argument, however, does not explain why countries that are less established democracies also adopted IT. Several economists argue that less developed countries that are not fully institutionalized democracies do not meet the macroeconomic and institutional prerequisites for IT (Eichengreen et al. 1999; Epstein and Yeldan 2009). However, the advocacy for IT by the IMF and prominent academics strengthen political actors that want to prioritize inflation control in monetary policymaking. According to the main argument developed in this article, policymakers of countries whose existing institutions are not consistent with the original version of a policy have the incentive to adopt a policy that has established a reputation as best practice, but they adopt the policy only when they observe that nearby countries adjust the policy to a more flexible framework. Through this mechanism, the policy spreads beyond the institutional environment for which it was developed. The findings of the empirical analyses on the global diffusion of IT support this hypothesis.

In the final stage of a diffusion process, the rate of additional adoptions goes down. In the case of IT, this fading away started around the financial crisis of 2008. Since then, some of the conventional thinking in central banking has been questioned. Central bankers in the developed world started to use so-called non-conventional measures to stabilize financial markets and to boost economic activity, while developing countries have reintroduced policies to stabilize the exchange rate and restrict international capital movements. Against this backdrop, there is an ongoing discussion among monetary economists about whether the original framework of IT has become obsolete or should be adapted (Eichengreen et al. 2012). The more general implication of this fading away for global policy diffusion may be that the flexibility of a policy is a powerful dissemination strategy, but with limits. The policy loses its genuine attraction when the increased flexibility of a policy undermines the general idea of its original framework.

The abundant and growing scholarship on policy diffusion analyzes the inter-

action between domestic and international politics, often either focusing on the (quantitative) study of how structural connectives shape diffusion or the (qualitative) investigation of how international and domestic actors connect the two spheres (Chaudoin et al. 2015; Dobbin et al. 2007; Farrell and Newman 2016). This article puts the content of the policy front and center. This level of analysis has recently gained some attention in political science (Beissinger 2007; Genovese et al. 2017), but is much more prominent in other disciplines, such as history and sociology, where diffusion studies provide rich qualitative insights on how international and domestic actors adapt diffusing policies to the domestic context (Chorev 2012; Howlett and Morgan 2011). This article seeks to show how the focus on the changing content of a policy is powerful to understand global diffusion dynamics. To that end, this study takes a broader macro perspective, showing how external influences, domestic institutions, and the changing content of a policy interact in global diffusion processes.

Finally, the focus of this article on how policies change is not only important for our broader understanding of global diffusion but also for assessing policy implications. The practical effects of more flexible and adapted policy frameworks depend on the motivation of policymakers. When the adaptation of a policy is carefully tailored to specific social, political, and economic challenges, the effects may be positive. However, decision makers may also change policies precisely because they want to undermine the effectiveness of a policy, as they are mainly interested in symbolic imitation. Also, to address global challenges, increased policy flexibility may be problematic, because multiple versions of the same policy framework can complicate global governance if some consistency in the implementation is required for international cooperation. This is the case, for example, in the fields of climate change, health, or human rights. Therefore, the increased flexibility of a policy framework can lead to dysfunctional policies and ineffective global governance.

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