# Heterogeneity, Vetoes and Exit Clauses in Federal Systems

Martijn Huysmans*

January 8, 2018

## Abstract

When setting constitutional rules, the future members of a (quasi-)federal system such as the European Union presumably think ahead. This article develops and tests a game-theoretical model of their choice of whether to adopt an exit right. Without a legislative veto, heterogeneous members may fear the adoption of policies that would cause them to stop benefiting from the prospective federation. Anticipating this, they may require an exit right in order to join. The model can explain the adoption of an exit right at the European Convention ahead of the 2004 Eastern enlargement. A probit regression on the positions 94 Convention delegates, based on newly coded data, provides statistical evidence that heterogeneity drives support for an exit right. The article concludes with a case study of Saint Kitts & Nevis, a model of the Brexit referendum, and a discussion of federalization through decentralization and through annexation.

**Keywords**: Exit, Withdrawal, Secession, Federalism, European Union

* Doctoral Candidate, LICOS Research Center, Faculty of Economics and Business, KU Leuven. Email: martijn.huysmans@kuleuven.be.

## Introduction

When thinking about the future, parties to a prospective agreement may worry about undesired policy changes post entry. Anticipating this, they may require an exit right as a safeguard. Consistent with this logic, temporary escape clauses (Rosendorff and Milner 2001) and withdrawal clauses that regulate exit are relatively prevalent in most types of international treaties (Helfer 2005; Koremenos 2016). In contrast, the vast majority of federations or (quasi-)federal systems lack exit clauses. Two notable exceptions are the European Union (EU), which allows unconditional exit after two years (Athanassiou 2009), and Saint Kitts and Nevis (Weinstock 2001).[1] This article provides theoretical and empirical evidence why.

In the literature on the size of nations the benefits of larger jurisdictions are usually assumed to consist of economies of scale minus welfare losses from centralized decision-making in the presence of heterogeneity (Alesina and Spolaore 2003; Tullock 1969). If relevant, fiscal transfers should also be taken into account (Bolton and Roland 1997; Desmet et al. 2011; Hug 2005). This logic can also be applied to federal systems: the members will benefit from economies of scale, but may suffer from centralized policy-making on federal competencies (Riker 1964). The more heterogeneous the members of the federation, the harder the problem of designing appropriate constitutions and the more important the need for power-sharing mechanisms (Lijphart 2004) to avoid civil wars (Collier and Hoeffler 2004).

Exit clauses can mitigate two important risks of being a member of a federal system. First, they provide insurance against adverse exogenous shocks to benefits from the federation (Huysmans and Crombez 2017). By creating a peaceful exit option, exit clauses can help avoid violent and costly secession wars aimed at obtaining independence. Second, exit clauses can protect against endogenous shocks such as undesired policy changes – which is the point addressed in this article. If an undesired policy is adopted and a member stops benefitting, it may exit the union. Anticipating this, credible exit threats may prevent exploitative policy changes and overreaching by the federal government (Apolte 1997; Buchanan 1995; Buchanan and Faith 1987; De Figueiredo and Weingast 2005; Hirschman 1970; Slapin 2009; Weinstock 2001).

The state-of-the-art formal model in this literature was developed by Bordignon & Brusco (2001). They find that constitutions may optimally avoid exit clauses if the benefits of the union

[1] The constitution of Ethiopia also allows secession, but given the authoritarian nature of its regime the clause might not amount to much in practice (Habtu 2005).

depend on the perceived long-term stability of its membership. This model has two important limitations that this article aims to address: (1) the members are assumed to be ex-ante identical, and (2) only exogenous shocks are modeled. In contrast, the models proposed in this article allow for heterogeneous members and endogenous shocks in the form of policy changes. This leads to novel conclusions. In particular, under the assumptions of the models, strongly heterogeneous prospective members require either a legislative veto or a free exit right in order to be willing to join the union.

The contribution of this article is that it is, to the best of my knowledge, the first to address systematically the question of when federal systems adopt exit clauses, both theoretically and empirically.

The remainder of this article is structured as follows. First three models are presented of heterogeneous federations with and without veto rights and exit rights. Next these game-theoretical models are solved, the results are discussed and a model of constitutional choice under voluntary accession is presented. The conclusions of the constitutional choice model under voluntary accession are then contrasted to those under federalization through decentralization and through annexation. The second part of the paper focuses on empirics in the EU. It starts by providing the context and facts of the EU's 2002-2003 Convention on the Future of Europe, where the EU first adopted an exit right. At the time of the Convention, 10 Candidate States were expected to join the EU in 2004. The theoretical models developed in this article are shown to be able to account for the timing of the EU's adoption of an exit clause, since these Candidate States were the first new Member States to both differ significantly from the existing Member States and to enter when the EU had moved from unanimity decision-making to qualified majority voting.

After discussing the timing of the EU's adoption of an exit right, a set of probit regressions are presented on the positions of Convention delegates and their national parties, coded by the author from Convention documents. The results of these regressions further support the hypothesis that heterogeneity leads to a desire for an exit right. The article concludes with a case study of Saint Kitts & Nevis and a model of the Brexit referendum.

## Vetoes and exit clauses in heterogeneous federations: models

This section presents game-theoretical models of heterogeneous federations. First three models of federations with different constitutional rules are developed and solved. Based on the

solutions of these models, a fourth model of constitutional choice with voluntary accession is presented. The section concludes with federalization through decentralization and through annexation.

### Heterogeneous federations under different constitutional rules

In the models presented here, an initial set of policies is assumed to have been put in place when the federation was formed, with corresponding utilities $\theta_i$ for member $i$ compared to the status quo without the federation. Following the literature, these initial utilities reflect each member's benefits from the federation's scale, minus heterogeneity losses from the divergence between the federation's initial policies and each member's local ideal policies. However, once the federation has been formed the initial set of policies may be altered within the bounds of the federal competencies.

In the highly simplified models presented here, the federation is modeled as consisting of two blocs: a core $C$ with a legislative majority and a periphery $P$. The core consists of the members of the federation that expect to benefit from majority-approved legislative programs. Conversely, the periphery groups those members that stand to lose from majority-approved legislative programs because of their level of heterogeneity from the rest of the federation. For instance, they may have different levels of economic development and hence different needs.[2]

The assumption that there are only two types of members, core and peripheral, is obviously strongly simplifying. Richer models would consider each member's heterogeneity as a matter of degree rather than a binary concept of belonging to the core or the periphery. In such models, each federal entity would have its own individual type, leading to different payoffs from the federation. The choice in this article to model heterogeneity as a binary concept was made to limit the complexity of the models to a minimum.

Apart from modeling heterogeneity as a binary rather than a continuous concept, a further implicit simplification underlies the theoretical division in core and periphery: it assumes that heterogeneity is a one-dimensional concept. If there are multiple relevant dimensions (e.g. economic development, left-right, ethnicity, language, religion) and more than two members,

[2] It is important to note that the term "periphery" is not defined here in a geographical sense. Rather, it denotes the federal entities with different preferences over federal policies (which may or may not be located on the geographical periphery of the federation).

then any two members may be similar or different on each dimension. If members tend to be similar on some dimensions and different on others, then heterogeneity is said to be cross-cutting (Gubler and Selway 2012). Conversely, if members tend to be either similar or different on all dimensions alike, then heterogeneity is said to be reinforcing. Using this terminology, modeling heterogeneity as a one-dimensional concept amounts to assuming that heterogeneity is reinforcing along all relevant dimensions and cross-cutting across none.

It has been shown that cross-cutting heterogeneity is much less problematic for the stability of federations (Desmet, Ortuño-Ortin, and Wacziarg 2017; Gubler and Selway 2012). The intuition is clear: with cross-cutting heterogeneity each federal entity may compensate losses on one policy dimension with gains on other dimensions. Since we are interested here in the problems associated with heterogeneity, a theoretical simplification to one dimension is appropriate because it amounts to assuming reinforcing heterogeneity across all dimensions, i.e. a worst case from the point of view of federal benefits and stability.

Under the assumption that the federation consists of two internally homogeneous blocs, each member $i$ belongs to either the core or the periphery, and derives the corresponding utility $\theta_C$ or $\theta_P$ from the initial set of policies. Because the periphery may have been incorporated by force (Bermeo 2002), the sign of $\theta_P$ is ambiguous: the periphery may be losing out from the federation from the start. Conversely, it is reasonable to assume that $\theta_C > 0$ since the core groups those members of the federation with a majority.

The initial set of policies, with utility $\theta_C$ for members of the core and $\theta_P$ for members of the periphery, may be changed after the federation has been formed. For each policy change, the payoffs for the core and the periphery may be positive or negative and large or small in size. Presumably, policy changes that benefit both the core and the periphery will be adopted without problems and will only strengthen the federation. In fact, there is no reason not to expect any such policy changes to already have been adopted before the creation of the federation, and hence to already be incorporated in the utilities $\theta_C, \theta_P$. Conversely, policy changes that hurt both groups will never be adopted.

Some policy changes may benefit the core and hurt the periphery, or vice versa. It is precisely such policy changes that may affect the stability of the federation and are of interest here. Given that by definition the periphery has a legislative minority (otherwise the labels core and periphery would switch), no policy changes that benefit the periphery at the expense of the core

will be adopted. This is why the models presented below focus on policy changes that benefit the core at the expense of the periphery.

Specifically, the potential for majority-approved legislative programs that benefit the core and harm the periphery is modeled through the variable $x$, which captures the benefits to the core of such programs. For simplicity, the corresponding harm to members of the periphery is assumed to be $-x$. The payoff of bloc $i$ is denoted as $\pi_i$. After approval of a program $x$, the payoffs are $\pi_C = \theta_C + x$ for the core, and $\pi_P = \theta_P - x$ for the periphery.

In each model, the core proposes a majority-approvable legislative program $x \geq 0$; more complicated models could allow for programs with $x < 0$ aimed at compensating the periphery. Since the potential for programs that benefit one group (the core) while hurting another group (the periphery) is driven by heterogeneity, the maximum value of $x$ is limited by the amount of heterogeneity in the federation, say $h$. This implies that the core is limited to proposals $x \in [0, h]$. The more heterogeneity, i.e. the bigger the difference in preferences between core and periphery, the more potential policy changes exist that the core likes and the periphery does not.

An important qualification is in order here. Members of the core may have norm-based reasons for refraining from pushing through legislative programs that would benefit them at the expense of a heterogeneous periphery. In particular, norms of universalism and consensus may counteract purely majoritarian an redistributive politics. In that sense, the models presented here are worst-case scenarios for the periphery: they represent what could happen to the periphery if the core behaved in a purely instrumental and majoritarian way.

Upon hearing that the federation will implement the program $x$, the periphery can respond. If it lacks both a veto and an exit right, its only defense against unwanted legislative programs is to break away from the federation, i.e. to secede unilaterally. Such unconstitutional secession is assumed to entail costs $w$ for the seceding periphery and $d$ for the core, and the loss of federal benefits for both the core and the periphery. This situation is depicted in Figure 1.

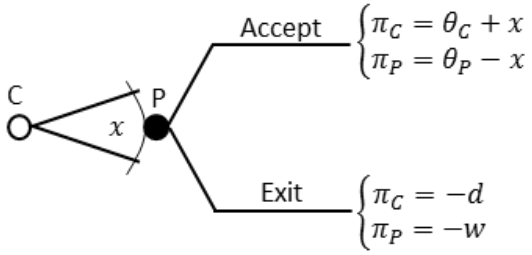



*Figure 1. A heterogeneous federation without veto or exit right.*

If the periphery does have a veto, it can block any legislative program $x$, as depicted in Figure 2. For simplicity, having a veto or not is considered a binary variable in these models. In reality, the situation may be more complex.[3]

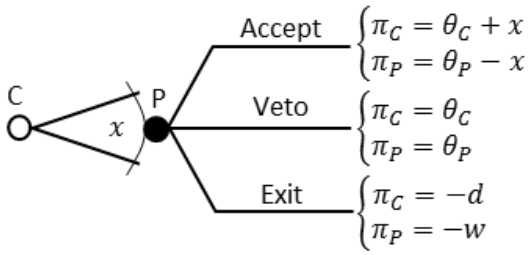



*Figure 2. A heterogeneous federation with a veto right.*

An alternative safeguard for the periphery is a free exit right. If the union was formed with a free exit right, exit is assumed to result in the status quo payoff of 0 for both the core and the periphery, as shown in Figure 3. To keep things simple, this model abstracts from transaction costs of separation.

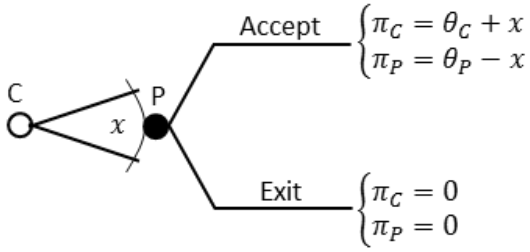



*Figure 3. A heterogeneous federation with a free exit right.*

In models with more than two types of players, other constitutional setups would be possible. With only two types, the smallest group (the periphery) can either block legislative proposals (have a veto) or not (no veto). With more types, the size of the necessary legislative majority becomes relevant.[4]

[3] For instance, in the case of Belgium the federal entities do not have an across the board veto right. However, several protection mechanisms are embedded in the Belgian constitution such as issue areas with double majority requirements, and a special "alarm bell procedure" that can be called "when at least three quarters of a language group judge that a bill could 'severely damage the relations between the communities'" (Sinardet, 2010: 354).

[4] For instance, if there were three types, say $A, B$, and $C$, with a vote share of 50%, 30%, and 20% respectively, then it matters whether the required legislative majority is above or below 80%. If it is above 80%, then $A, B$, and $C$ all need to agree (i.e. each type has a veto). If it is in the range 70%-80%, then $A$ needs $B$ to agree but not $C$ (i.e. only $A$ and $B$ have a veto). If it is in the range 50%-70%, then $A$ needs only $B$ or $C$ to agree to get changes to pass (i.e. $B$ and $C$ do not have an individual veto). In this vein, supermajority or qualified majority voting can give groups of heterogeneous federal entities a legislative veto without giving each individual entity a veto.

The more different types of federal entities are modeled (limited by the total number of federal entities), the more different possible legislative coalitions can be made winning or losing depending on the constitutional rules on the distribution of voting weights and the majority threshold. The focus on two types of federal entities hence simplifies the analysis of constitutional rules.

To summarize, each of these models has two stages. In the first stage, the core $C$ proposes a majority-approvable legislative program $x$. In the second stage, the periphery $P$ decides on how to respond to the program. Depending on the constitutional rules, the periphery may accept the program, secede unilaterally, veto the program, or use a free exit right.

The models are games of complete and perfect information. This means that the subgame perfect equilibria can be identified using backwards induction.

### Solution of the models and discussion

This section provides the solutions to the models presented above. First the models are solved assuming that the level of heterogeneity $h$ is so strong that it is never binding as an equilibrium limit on $x$, i.e. $h > \theta_P + w$.

The model without veto or exit right was presented in Figure 1, and is solved here using backwards induction. In the second stage, $P$ will accept a program $x$ as long as $\theta_P - x \geq -w$ or $x \leq \theta_P + w$; like in the canonical ultimatum game, when indifferent $P$ is assumed to accept. In words: the periphery will accept any program $x$ that does not make staying in the federation worse than paying the cost of unilateral secession $w$. Using backwards induction and recalling that $x \geq 0$, $C$'s equilibrium strategy is to propose $x = Max\{0, \theta_P + w\}$.

The subgame perfect equilibrium outcome and payoffs depend on $\theta_P$. If $\theta_P \geq -w$, the core proposes $x = \theta_P + w$ and the periphery accepts, resulting in payoffs $\pi_C = \theta_C + \theta_P + w$ and $\pi_P = -w$. In this case the periphery is maximally exploited by the core. If $\theta_P < -w$, the core's proposal is irrelevant. Any proposal can be made in equilibrium, but the periphery exits regardless, and the payoffs are $\pi_C = -d, \pi_P = -w$. In this case the set of initial policies was so bad for the periphery that it prefers costly exit, taking away the core's benefits from the federation as well.

Figure 2 presented the model with veto right. When indifferent, I assume that $P$ vetoes rather than exits. In the second stage, $P$ will then veto if $\theta_P \geq -w$ and exit if $\theta_P < -w$. Hence $C$'s proposal does not matter: any proposal $x > 0$ can be made in equilibrium, but it will be vetoed

or lead to exit, resulting in the same outcome as if $x = 0$ had been proposed. The outcome again depends on $\theta_P$. If $\theta_P \geq -w$, the equilibrium payoffs are $\pi_C = \theta_C, \pi_P = \theta_P$. Thanks to the periphery's veto right, the core cannot implement additional federal policies harming the periphery. If $\theta_P < -w$, the periphery exits and the payoffs are $\pi_C = -d, \pi_P = -w$.

Finally, Figure 3 presented a model with a constitutional free exit right. In the second stage, assuming $P$ accepts when indifferent, it accepts as long as $\theta_P - x \geq 0$ or $x \leq \theta_P$. $C$'s equilibrium strategy is to propose $x = Max\{0, \theta_P\}$. If $\theta_P \geq 0$, the core proposes $x = \theta_P$ and the periphery accepts, resulting in $\pi_C = \theta_C + \theta_P$ and $\pi_P = 0$. If $\theta_P < 0$ any proposal $x \geq 0$ can be made in equilibrium, the periphery exits and the payoffs are $\pi_C = 0, \pi_P = -w$.

Note that with perfect information (as assumed here) strategic exit threats by $P$ in order to obtain $x < \theta_P$ would not be subgame perfect.[5] To the extent that the real world approaches a setting of perfect information, this observation undermines the claim that a free exit right will lead to a stream of purely strategic exit threats aimed at extracting favorable policy changes as made by Sunstein (1991) and Filippov, Ordeshook, & Shvetsova (2004).

A second important observation is that a free exit right only increases the occurrence of exit in the case of federations that could not have formed voluntarily, i.e. $\theta_P < 0$. For voluntary federations, a free exit right merely provides a protection against undesired policy changes: the possibility of exit increases the amount of effective voice (Hirschman 1970). Under the assumption of perfect information made here, if $\theta_P \geq 0$ exit will never occur, not even with a free exit right.

The equilibrium payoffs for the strong heterogeneity case are summarized in Table 1. Several conclusions follow directly. First, if the initial set of policies is such that $\theta_P < 0$, a heterogeneous periphery would never benefit from a federation, since things could only get worse. Second, even if the initial set of policies is such that $\theta_P \geq 0$, the periphery anticipates a negative payoff if it does not have a veto or an exit right. Hence it requires either a veto right or an exit right in order to join voluntarily. Third, if $\theta_P \geq 0$, the periphery prefers a veto right

[5] An example of a Nash equilibrium relying on an implicit exit threat is the following: $P$ announces that it will exit if $x > 0$, and $C$ proposes $x = 0$. Given $P$'s strategy, $C$'s best response is not to propose a positive $x$. However, $C$ should realize that the exit threat in this equilibrium is not subgame perfect. As long as it proposes $x \leq \theta_P$, it would be rational for $P$ to accept anyway.

over an exit right over no rights, while the core prefers no rights over an exit right over a veto right.

*Table 1. Payoffs from a strongly heterogeneous federation ($h > \theta_P + w$) under different constitutional rules.*

| | $\theta_P < -w$ | | $-w \leq \theta_P < 0$ | | $0 \leq \theta_P$ | |
|---|---|---|---|---|---|---|
| | $\boldsymbol{\pi_C}$ | $\boldsymbol{\pi_P}$ | $\boldsymbol{\pi_C}$ | $\boldsymbol{\pi_P}$ | $\boldsymbol{\pi_C}$ | $\boldsymbol{\pi_P}$ |
| No veto/exit right | $-d$ | $-w$ | $\theta_C + \theta_P + w$ | $-w$ | $\theta_C + \theta_P + w$ | $-w$ |
| Veto right | $-d$ | $-w$ | $\theta_C$ | $\theta_P$ | $\theta_C$ | $\theta_P$ |
| Free exit right | 0 | 0 | 0 | 0 | $\theta_C + \theta_P$ | 0 |

The analysis can be repeated for cases of more limited heterogeneity $h$, where the constraint $x \leq h$ may be binding in equilibrium. The Appendix shows that as soon as heterogeneity is limited to $h \leq \theta_P$, the periphery no longer requires a veto right or a free exit right in order to join.

Coming back to the discussion of norms, strong norms of universalism may be modeled in a similar fashion as limited heterogeneity: they impose an upper limit on $x$. However, in the remainder of this article I assume that even if such norms are present, the periphery will take a worst-case perspective and assume that the norms may not always bind. This can be justified by a story of signaling: if the core expects to be fully bound by norms of universalism as in the case of $h \leq \theta_P$, then giving a free exit right to the periphery will not change its own expected benefits. Hence refusing to give such a right might send a signal to the periphery that the core actually expects not to be fully bound by norms of universalism, reinforcing the periphery's expected need for constitutional protection.

I now turn to the generalizability of the results and the implications of the models' simplifying assumptions. The main assumption to be discussed here is that there are only two types of federal entities: core and peripheral. Relaxing this assumption would introduce many degrees of freedom and hence require a host of further assumptions and/or a large number of scenarios to be analyzed.[6] In the end, it stands to reason that what would matter for each type would still be whether it had a veto and/or exit option to protect itself against majoritarian coalitions that

[6] In particular, one would have to specify how policy changes map to payoffs for each type, how legislative coalitions can be formed (who proposes and responds in which order), and how each entity's federal benefits depend on the presence of each other type.

would be able in equilibrium to implement policy changes resulting in a negative payoff for that type.

A second assumption to be discussed is that exit based on an exit right is free. In the models of complete information presented here, the core will propose $x$ to make the periphery just indifferent between accepting and exiting. It follows that if there would be a cost of exiting even if there is an exit right, then the expected payoff of the periphery would be equal to minus that cost, and the periphery would not join voluntarily. However, in reality the core will likely not fully exploit the periphery (because of norms or incomplete information), and even an exit right with some transaction costs could be sufficient to guarantee the periphery a positive expected payoff from the federation.

Taken together, these results imply that a relatively homogeneous core could successfully attract a strongly heterogeneous periphery to a federation with (1) a set of initial policies such that under these policies the periphery would benefit from the federation, i.e. $\theta_P \geq 0$, and (2) a legislative veto or a constitutional exit right. The next subsection presents a model of constitutional choice to illustrate the second implication.

### A model of constitutional choice under voluntary accession

The payoffs generated by the different constitutional rules as presented in Table 1 beg the question of which constitutional rule will be adopted. To address this question, Figure 4 presents a model of constitutional choice under voluntary accession. It covers strongly heterogeneous federations with initial policies that benefit the periphery, i.e. the third column of Table 1, for which $h > \theta_P + w$ and $\theta_P \geq 0$. The other cases can be analyzed similarly.

In this model, the set of initial policies is assumed to have been agreed on, but the federation has not formed yet. At the first node of the model, the core has the choice between proposing the three different constitutional setups discussed before: “No Veto/Exit Right”, “Veto Right”, or “Exit Right”. Next, the periphery either chooses “Out”, in which case the federation does not form, or “In”, in which case the federation is formed under the constitutional setup proposed by the core. The payoffs under each constitutional setup are those derived from the three models presented before.

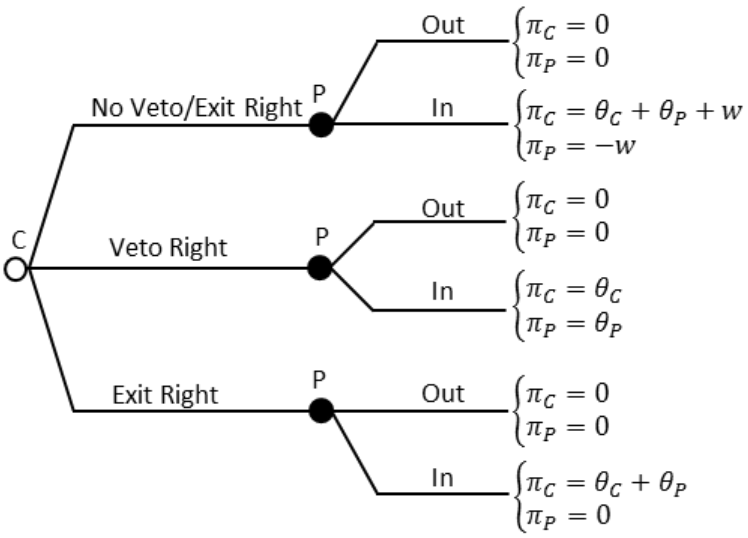



*Figure 4. A model of constitutional choice for a strongly heterogeneous federation with $\theta_P \geq 0$*

Solving this model by backwards induction, the periphery accepts the constitutional setups "Veto Right" and "Exit Right" because these give a positive payoff from the federation, and refuses the setup "No Veto/Exit Right" because this yields a negative payoff of $-w$. Anticipating this, the core proposes an exit right, since this yields a payoff of $\theta_C + \theta_P$ rather than only $\theta_C$, the payoff from proposing a veto right. The outcome of the unique subgame perfect equilibrium of this game is hence that the core proposes an exit right, and that the periphery accepts.

Alternative models of constitutional bargaining could have the periphery propose the constitutional setup, and/or allow for counteroffers as in Rubinstein (1982). I opted to model the core as making a take-it-or-leave-it offer to reflect its presumably stronger bargaining position. Under this assumption, the core will successfully propose a free exit right. Conversely, if one would model the periphery as making a take-it-or-leave-it offer, then it would successfully propose a veto right, since it prefers having a veto right over an exit right, and a veto right leaves a positive payoff for the core. In any case, regardless of the bargaining model one assumes, a strongly heterogeneous periphery will never voluntarily join a federation without either an exit right or a veto.

The analog of this model for the case of mild heterogeneity (limited to $h \leq \theta_P$) would yield a different conclusion. Replacing the payoffs in Figure 4 by those of the second column of Table 7 in Appendix, one finds that in equilibrium the core may successfully propose no veto/exit right as well as proposing a free exit right.

### Federalization through decentralization

The constitutional choice model presented earlier assumed that the federation was formed through voluntary accession. In the terminology of Stepan (1999), it was a model of "coming-together" federalism. However, many real-world federations were formed through decentralization of a previously unitary state, in a process Stepan calls "holding-together" federalism. As examples he cites the 1950 Indian Constitution, the 1978 Spanish Constitution, and the 1993 Belgian Constitution (Stepan, 1999: 22).

Figure 5 presents a formal model of constitutional change in a unitary country. As in the main model, the status-quo payoffs of the union are $(\pi_C, \pi_P) = (\theta_C, \theta_P)$. Since the country is unitary, it is assumed not to have an exit right, so that exit ("Out") by the periphery will lead to payoffs $(-d, -w)$.

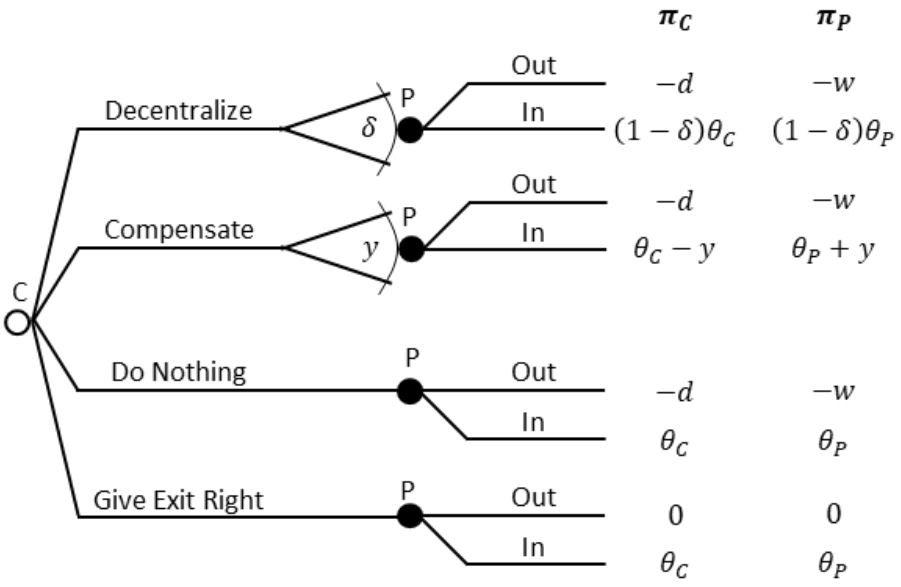



*Figure 5. Constitutional change: federalization of a unitary state through decentralization.*

The model gives the core four potential options. The first option is to federalize the country and decentralize a fraction $\delta$ of policies. If accepted, this results in payoffs $\big((1-\delta)\theta_C, (1-\delta)\theta_P\big)$, since a fraction of $1-\delta$ remains centralized and the payoffs are defined versus the outside option of having no union.[7]

[7] In fact, this is a conservative estimate of the benefits of decentralization, because it assumes that all policies have the same level of economies of scale and heterogeneity. In reality, policies with low economies of scale and high heterogeneity would be decentralized first.

The second option is to compensate the periphery with a package of policy changes $y$. Such a package may include monetary transfers or changes in substantive policy that benefit the periphery. Since the core and the periphery are heterogeneous, changes that benefit the periphery will hurt the core (there is no reason why policies that benefit both would not have been implemented). With compensatory policies $y$, payoffs are $(\theta_C - y, \theta_P - y)$ if there is no secession.

The third option is to do nothing, resulting in the status quo payoffs of $(\theta_C, \theta_P)$ if there is no secession. The fourth option is to modify the constitution and allow free exit. This does not modify the status quo payoffs but takes away the costs of unilateral exit.

As long as $\theta_P \geq -w$, it is optimal for the core to do nothing, because the periphery will remain and the core will retain its payoff $\theta_C$. However, if the periphery's payoff is so low that it prefers to secede unilaterally, i.e. $\theta_P < -w$, then constitutional reform becomes an option. This is why Stepan uses the term "holding-together" federalism: his arguments is that without constitutional reform, the countries in question would have broken up.

In the case $\theta_P < -w$, what type of constitutional reform can we expect? Since this is again a model of complete and perfect information, a subgame perfect equilibrium can easily be derived through backwards induction. In case of decentralization, the periphery is in if $(1-\delta)\theta_P \geq -w \Leftrightarrow \delta \geq \frac{w+\theta_P}{\theta_P}$ and out otherwise. Recall that $\theta_P < -w$, so $\delta \in [0,1]$: for $\theta_P \to -w, \delta \to 0$, and for $\theta_P \to -\infty, \delta \to 1$. Since decentralization reduces the core's payoff, the optimal level is $\delta = \frac{w+\theta_P}{\theta_P}$. This results in a payoff of $\pi_C = -\frac{w}{\theta_P}\theta_C$.

In case of compensation, the periphery is in if $\theta_P + y \geq -w \Leftrightarrow y \geq -w - \theta_P$. The optimal level of compensation for the core is hence $y = -w - \theta_P$, so that $\pi_C = \theta_C + w + \theta_P$.[8] In case the core does nothing, since $\theta_P < -w$ the periphery exits and $\theta_C = -d$. If the periphery gets an exit right, it also exits but $\theta_C = 0$.

It is easy to see that for the core decentralizing to the optimal level is better than any of the options which lead to exit, since $-\frac{w}{\theta_P}\theta_C > 0 > -d$. This means that once $\theta_P < -w$, options

[8] If $\theta_C + w + \theta_P < 0$, the core is better off allowing free exit. This is intuitive: if $\theta_C + \theta_P < 0$ the federation is inefficient. However, the core can use the cost of unilateral exit $w$ to only partially compensate the periphery. If the federation is so inefficient that $\theta_C + \theta_P < -w$, then the core cannot get a positive payoff from the federation through compensation, even if it only compensates the periphery up to the point where its utility is $-w$.

three and four cannot be part of an equilibrium. While both options one and two can keep the country together, one option may be more cost effective for the core than the other.

Comparing the payoffs, optimal decentralization is better than optimal compensation if $-\frac{w}{\theta_P}\theta_C > \theta_C + w + \theta_P \Leftrightarrow (\theta_P + w)(\theta_C + \theta_P) > 0$. Since $\theta_P + w < 0$, decentralization is better than compensation if $\theta_C + \theta_P < 0$, i.e. if the federation is inefficient. This is intuitive: decentralization is like a partial dissolution, and so makes sense if the federation is inefficient. Conversely, if the union is efficient compensation will allow to keep it fully integrated, an application of Coase (1960).

To conclude, under the assumptions of the model, unitary states may federalize through decentralization if otherwise secession of the periphery is imminent, i.e. if $\theta_P < -w$. If the level of decentralization $\delta$ is sufficient so that $(1-\delta)\theta_P \geq -w$, the periphery will accept federalization through decentralization even if no exit right is proposed. The periphery will still have a negative payoff from the federation, but given that it does not have the bargaining power of a prospective member of a coming-together federation, it will have to accept not having an exit right.

To the best of my knowledge, there are only three current federal systems with an exit clause: the EU, Saint Kitts & Nevis, and Ethiopia. The first two are cases of coming-together federalism and will be discussed in the empirical section. The case of Ethiopia is one of decentralization: the current constitution, adopted in 1995, transformed Ethiopia from a unitary state into a federal system. The current exit right was also introduced with this constitution. At first sight, the case of Ethiopia hence seems to contradict the conclusion of the model of federalization through decentralization. However, as argued by Habtu (2005), given the authoritarian nature of the regime the exit right likely exists on paper only.

Allowing for the caveat that the Ethiopian right to secede may be a right in name only, all other cases of currently existing federalization through decentralization indeed do not have an exit right. Examples include India and Belgium, but arguably also Spain and the United Kingdom. While the latter two countries do not call themselves federal, they have devolved certain competencies to entities with outlying preferences, e.g. Catalonia and Scotland. In the case of Catalonia, as recent events have made clear, the central government will do anything it can to prevent secession and to make unilateral exit as costly as possible. In the case of Scotland, it is true that the UK government allowed an independence referendum to take place. However, just as the 1975 UK referendum on EU membership did not establish an EU-wide permanent right

to secede, neither has the 2014 Scottish referendum established a right to secede for all devolved entities (Scotland, Wales, and Northern Ireland).

### Federalization through annexation

A third mode of federalization next to "coming-together" and "holding-together" is what Stepan (1999) calls "putting together", i.e. federalization through forceful annexation. Clearly, such federations are based on domination and do not require the core to give a veto right or an exit right to the annexed periphery. The example cited by Stepan is the Soviet Union.

Note that the Soviet Union theoretically allowed a right to secede. However, this right was probably a right in name only. About independence prior to the Gorbachev era, Suesse (2016: 8) writes: "Those few individuals that did dare advocating regional autonomy or even independence were confined to labor camps or psychiatric clinics. Where any form of public unrest did surface on a broader scale, as in the town of Novocherkassk in 1962, Soviet authorities did not hesitate to use lethal military force to quell the unrest. The threat of harsh repression was continuous, and it was credible (Beissinger 2002; Harrison 2002)".

In terms of the models presented earlier, forceful annexation implies $\theta_P < 0$, so that giving a credible free exit right would result in immediate exit and is hence not something the core would do after having just conquered the periphery. To conclude, in the case of federalization through annexation, we expect the federation not to have a free exit right. Allowing for the caveat that authoritarian federations created through annexation may have an exit right on paper, there is no example of a federation created through annexation that has an exit right.

## The EU's adoption of an exit right at the European Convention

The second part of this paper assesses the empirical merits of the theory in more detail by investigating the European Union. After discussing the timing of the EU's introduction of an exit right, regression analyses provide statistical evidence for the role of heterogeneity in driving preferences for an exit right.

The aim of analyzing the EU's adoption of an exit right is to test the theory that heterogeneity drives preferences over veto rights and/or exit rights. This section starts with summarizing the context of the Convention on the Future of Europe (2002-2003) and the subsequent Intergovernmental Conferences of 2004 and 2007. Next it considers the EU's broader institutional history and the timing of its adoption of an exit right.

### The Convention on the Future of Europe (2002-2003)

The Convention on the Future of Europe was to adopt its final document, a draft Constitution for the EU, by consensus among its 105 members and their alternates. It was led by a Praesidium which set the agenda and drafted Articles for discussion in the Convention's plenary (European Commission 2007).

The Convention was chaired by Valéry Giscard d'Estaing, and all 15 Member States and 13 Candidate States[9] had one representative of their government, and two representatives of their national parliaments. The European Parliament (EP) had 16 representatives and the Commission two. In this setup, as formulated by van Hecke (2012: 846), "each Convention member was subject to three loyalties: nationality, institution and ideology".

Prior to the Convention the legality of exit from the EU had been a contentious issue (Athanassiou 2009; Berglund 2006; Harbo 2008; Herbst 2006; Hofmeister 2010; Weiler 1985; Wyrozumska 2012). Some scholars and practitioners argued that exit was possible, usually based on the Vienna Convention on the Law of Treaties, the general acceptance of the 1975 British referendum on European Community membership, or the withdrawal of Greenland (a part of Denmark) in 1985. Others argued that unilateral exit was not possible, usually based on the principle of "ever-closer union" and the autonomous and superseding character of the European legal sphere. In any case, exit would have been more difficult and costly prior to the introduction of an explicit exit right.

The Praesidium introduced a first placeholder for a potential withdrawal right in its preliminary constitutional draft of October 28, 2002 (document CONV 369/02). The first substantive draft of a withdrawal right was proposed by the Praesidium on April 2, 2003 (document CONV 648/03). The draft Article 46 (reproduced in Appendix) allowed unilateral withdrawal i.e. exit. If a withdrawal agreement could not be reached within two years, the withdrawing state would no longer be bound by the EU's constitution.

Concerning the decision by the Praesidium to introduce an exit right, Vice-Chairman Jean-Luc Deheane told Le Monde (2003): "In certain countries where there is a discussion about membership of the EU, and where there is a certain Eurosceptic tendency, it can apparently be

[9] Of these 13 Candidate States, 10 states acceded in 2004 after signing an Accession Treaty in 2003: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovenia, Slovakia. The other three Candidate States at the time were Bulgaria and Romania (acceded in 2007) and Turkey (which has not acceded to date).

an important psychological point not to be locked in the union". Justifying this view, The Economist (2003) wrote the following about the Hungarian fear of losing sovereignty: "Viktor Orban, prime minister in the Fidesz government narrowly beaten a year ago, said that today's Eurocrats view Hungary much as its former Soviet masters used to".

The draft Article 46 proved controversial (Spinant 2003), and many amendments were proposed (European Convention 2003). The Convention plenary of April 25, 2003 saw a strong discussion on the Article and the proposed amendments: "the 105-member body was split as to whether such a clause would appease Eurosceptics or give ammunition to them" (Mahony 2003).

Representing the Dutch parliament, Frans Timmermans (plenary of April 25, 2003; intervention 5-066) formulated the following position, which showed understanding for the Baltic countries but still demanded stringent conditions for exit:

*"I understand that some members of our Convention view the Union differently to the way I see it […] Just think of our Baltic friends: they have indeed lived in a prison and it is important for them to be able to say to their citizens, 'we can leave'. […] If we maintain Article 46, I would support those who have mentioned three conditions, namely that you can leave at the next stage of European integration, when there is the next treaty; you can leave by the same procedure as that by which you joined; and, thirdly, a mutually acceptable agreement is compulsory before you can leave."*

In the end, none of the conditions proposed by Timmermans and others were added to the draft, and the unconditional exit right was maintained. The Convention adopted by consensus a final draft and presented it to the European Council in Rome on July 18, 2003. The withdrawal clause, now numbered Article 59 but essentially unaltered, is reproduced in Appendix.

### The 2004 and 2007 Intergovernmental Conferences

Based on the draft Constitutional Treaty, the IGC started in October 2003 adopted the Treaty Establishing a Constitution for Europe (TCE) on June 18, 2004. The withdrawal clause was now numbered Article I-60 (reproduced in Appendix). However, the implementation of the TCE was prevented by referenda in France and the Netherlands which failed to approve ratification. This setback led to a period of reflection.

When Germany assumed the presidency of the Council in 2007, it decided to strive for a new Treaty that would contain the most important reforms of the failed TCE (König, Daimer, and

Finke 2008). Lord Kerr, who had been Secretary General of the European Convention, pushed for the inclusion of the withdrawal clause he had drafted (Kerr 2007). This attempt was successful and the withdrawal clause was indeed reproduced in the Treaty of Lisbon. Since the Treaty of Lisbon was successfully ratified, the exit clause has been numbered Article 50 of the Treaty on European Union (TEU), reproduced in Appendix.

### The EU's institutional history and the timing of its adoption of an exit right

Table 2 gives an overview of the EU's recent history. More details can be found in Crombez & Hix (2011) and Kelemen, Menon, & Slapin (2014). Before the 1986 Single European Act (SEA), the Council of the EU required unanimity for decision making on all policy areas. Starting with the SEA, qualified majority voting (QMV) was introduced for some policy areas. This change from unanimity to QMV supermajority eliminated the Member States' individual veto on the concerned policy areas. All Treaties adopted after the SEA further expanded the use of QMV to more policy areas: Maastricht (1992), Amsterdam (1997), Nice (2001) and Lisbon (2007).

Importantly, the European Commission holds the legislative initiative right in the EU, and was originally nominated by unanimity in the Council. This implied that Member States could indirectly enforce the legislative status quo by refusing to nominate Commissions that would move away from it (Crombez and Hix 2011). However, since the Nice Treaty the European Commission has also been nominated by QMV instead of unanimity, thus opening the possibility of majority-approved legislative programs that move away from the status quo.

The decision to abandon unanimity voting allowed the EU, which was relatively homogeneous up to that point (Maggi and Morelli 2006), to escape a joint-decision trap (Scharpf 1988) in which one dissenting country could block efficient collective action. It is important to point out that even the UK and Denmark, two later supporters of a free exit right, accepted to give away their individual veto. In accordance with my theoretical model, this suggests that they were only mildly heterogeneous from the rest of the EU at that time.

Table 2 also shows the EU's expanding membership. Prior to the SEA, 12 Member States had joined the European Economic Community (the EU's predecessor). This group is often referred to as the EU-12. In 1994, Austria, Finland, Sweden and Norway signed an Accession Treaty. However, ratification failed in Norway and it never became a Member State. The EU-12 plus Austria, Finland and Sweden are known as the EU-15. In 2003, the so-called A-10 Candidate States (Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovenia,

Slovakia) signed an Accession Treaty, which took force after ratification in 2004. The EU-15 and A-10 combined are known as the EU-25.

*Table 2. Treaty Reforms and Accessions to the EU from the Single European Act to the Treaty of Lisbon*

| Treaty | Signed | Council decision rule | Member States |
|---|---|---|---|
| Pre-SEA | | Unanimity | Belgium, Germany, Denmark, Greece, France, Ireland, Italy, Luxemburg, Netherlands, Portugal, Spain, UK (EU-12) |
| SEA | 1986 | Introduction of QMV | |
| Maastricht | 1992 | Extended use of QMV | |
| Accession | 1994 | | + Austria, Finland, Sweden (EU-15) |
| Amsterdam | 1997 | Extended use of QMV | |
| Nice | 2001 | Extended QMV, incl. to Commission nomination | |
| Accession | 2003 | | + A-10: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovenia, Slovakia (EU-25) |
| Lisbon | 2007 | Extended use of QMV | |

The three models presented earlier led to the conclusion that prospective members of a federation will require an exit right if (a) they are strongly heterogeneous from the core majority and (b) they will lack a legislative veto. Applying this to the EU, both conditions only apply clearly to the countries that acceded in 2004, and not to those that acceded before.

Austria, Finland and Sweden were arguably much more similar to the EU-12 than the ten states of the 2004 accession were to the EU-15.[10] The A-10 accession states were mostly Eastern European and former communist countries. Average Gross Domestic Product (GDP) in 2003 was 29,124 euros/capita for the EU-15, and only 8,571 euros/capita for the A-10.[11]

Because the A-10 countries were so heterogeneous from the EU-15, in particular so much less developed economically, they expected to benefit from EU policies such as cohesion spending.

[10] For specific sensitive issues on which countries are heterogeneous, the EU also sometimes grants permanent policy derogations at the time of accession. An example of such a derogation is the right of Sweden not to ban the sale within Sweden of an oral tobacco product known as Snus, as codified in Annex XV corresponding to Article 151 of the Accession Treaty of Austria, Finland, and Sweden.
[11] Author calculations based on Eurostat data (Eurostat 2016).

They were also much more dependent on the agricultural sector, and hence expected to benefit significantly from the Common Agricultural Policy (König and Bräuninger 2004; Swinnen 2001). However, in line with my theoretical model, they knew that once they entered the EU-15 might attempt to reduce these policies. In terms of the model, they were aware that a legislative package $x$ that would reduce these subsidies would hurt them.

In terms of lacking a legislative veto to block such policy changes, the prospective Member States in 2003 would clearly have less veto power than those of 1994 due to the expansion of QMV to more policy areas and to the nomination of the European Commission.[12]

The timing of the EU's introduction of an exit right is hence consistent with the models developed in this article: it came at a time when a set of new and heterogeneous states were about to become members of the EU, knowing that they would lack a legislative veto. This conclusion is supported by statements such as that from Henrik Hololei, representing the Estonian government: "I extend my sincere support for Article 46 […] Not having this article makes it very difficult for me to defend the new Constitutional Treaty in my own country" (plenary of April 25, 2003; intervention 5-053).

So far, the assessment of the model in the context of the EU has been narrative. The next section provides statistical evidence that heterogeneity drives preferences over an exit right.

## Heterogeneity and the desire for an exit right: empirical evidence

From the Convention documents, amendments and newspaper articles discussed above emerges a consistent picture. The Praesidium of the Convention felt an exit clause was necessary to convince Eurosceptics in the Candidate States and elsewhere (mostly the UK and Denmark) that the EU was not a prison. The Candidate States required an exit right in order to join, and the other Member States accepted this in order to benefit from increased economies of scale. This picture is also broadly consistent with expert judgments collected in the research project Domestic Structures of European Integration or DOSEI (Hug and König 2007), according to which only 8 out of 25 countries favored an unconditional exit right as was adopted.

[12] As a group, the A-10 countries would have 37 votes out of 124 in the Council, versus 87 for the EU-15 countries. A qualified majority in the Council would require 88 out of 124 votes, giving the A-10 countries as a group a blocking minority of just one vote. Leaving out Cyprus and Malta, with two votes each, the 8 Eastern European countries among the A-10 would have only 33 votes, leaving a qualified majority of 91 votes for the EU-15 plus Cyprus and Malta.

In order to assess more directly the theoretical claim developed in this article that heterogeneity creates a desire for an exit right, this section systematically analyzes all amendments and plenary interventions made at the Convention plenary on April 25, 2003 regarding the proposed Article 46. The analysis is conducted at the level of Convention delegates. On the basis of their amendments and plenary statements, delegates were coded as being either in favor or against a free exit right. Using a probit regression, the positions regarding a free exit right are regressed on a measure of heterogeneity and a set of control variables.

### Dependent variable: positions in favor or against a free exit right

The European Convention published summaries of the amendments to Article 46 (CONV 672/03) and the plenary debate of April 25 (CONV 696/03) on its website. The full text of all amendments was collected from the Convention's website (European Convention 2003), while the verbatim text of the plenary interventions was obtained from the European Parliament after a request under the right of access to documents.

A total of 43 amendments were submitted to Article 46, and 60 plenary interventions were made on title X "Union Membership" which contained Article 46. Of these, 36 amendments and 39 plenary interventions from EU-25 delegates substantively addressed the withdrawal right.[13] All of these were classified as being either in favor of a free exit right or against. Observations proposing to delete the clause, or arguing exit was only possible at certain moments (e.g. Treaty change) or on certain conditions (e.g. a negotiated exit agreement), were counted as being against a free exit right. Indeed, taking a game-theoretical approach, an exit clause that would only allow exit with a negotiated exit agreement does not provide heterogeneous members with effective insurance against unwanted policy changes.

To ensure the reliability of the coding, a second coder independently coded each of the 75 amendments and plenary interventions from EU-25 delegates which addressed the withdrawal right. The coding was different for 6 of these 75, yielding an intercoder reliability of 92%. Results with the alternative coding are reported as a robustness check to the main regressions.

Next, these positions in favor or against were traced to the delegates who signed the amendments or made the plenary interventions. While plenary statements are always made by

[13] The other amendments either where not from an EU-25 delegate, did not take a stance on the exit right (for instance proposing a related article on associate membership) or were double counted literal translations into another language. The other plenary interventions either addressed other articles in title X, took no stance regarding a free exit right, or were interventions by Mr. Amato in his capacity as President of the plenary.

one person, amendments can be signed by multiple delegates. This yielded a list of 94 delegates, 23 of which had more than one amendment or plenary intervention. Of these 23, only one had items against and in favor. Having two items against and one in favor, this delegate was coded as being against.

The result of this coding process is a dummy variable "Exitfree" with a value of 1 for delegates in favor of a free exit right, and a value of 0 for delegates against. As an example, consider the plenary statement made by Frans Timmermans quoted above (intervention 5-066 of April 25, 2003). Given the conditions mentioned, this statement is clearly against a free unconditional exit right, and was coded as a 0 by the author and independently by the second coder. Since there was no other relevant amendment or plenary statement for Frans Timmermans, he was coded as a 0, i.e. being against a free exit right.

In terms of sample size, 94 delegates were observed out of a total of 189 EU-25 delegates.[14] To deal with the 95 delegates without information, two robustness checks are reported later.

Because some of the control variables to be introduced later are at the party level, each of the delegates was linked to their national party at the time of the Convention, using a list of the delegates and their parties (Coffey, 2003, Appendix 2 p.133-137) complemented with Convention documents, the repository of the EP, and national parliament and party websites. Five delegates without affiliation (4 diplomats and 1 academic) were attributed to the party of the Minister who appointed them. Parties were coded by their PartyID used in the Parlgov database (Döring and Manow 2016).

The 94 observed delegates belong to 65 different national parties.[15] As a robustness check, the regressions will also be run at the level of the parties. This requires addressing the problem of parties with multiple observations, i.e. multiple amendments or plenary interventions made by delegates from the same party. Of the 65 parties, 31 have multiple observations, of which three parties have conflicting observations. One party had 4 against and 1 in favor, and so was coded as being against. The other two parties had an equal number of observations in favor and against, requiring an overall judgment in order to code these two parties' positions.

[14] The Convention had 105 delegates and 102 alternates – the 3 (vice-)chairmen did not have alternates. Of this total of 207 delegates, 18 were from outside the EU-25 (Romania, Bulgaria and Turkey) and 189 from within the EU-25.

[15] In total, the population of 189 EU-25 delegates belonged to 99 different national parties, so at the party level 65 out of a total of 99 parties were observed in the sample.

To illustrate the process of linking delegates to parties and deriving parties' positions, I return to the example of Frans Timmermans. Since he belonged to the Dutch party PvdA or "Partij van de Arbeid" (Labor Party) his party was coded as 742, the Parlgov code for this party. There were no other delegates belonging to PvdA, so the PvdA received the same coding as its only delegate, i.e. a 0 representing "against a free exit right".

### Independent variable: measuring heterogeneity and identifying the periphery

In the theoretical section of this article, the periphery was defined as the members of the federation that stand to lose from majority-approved legislative programs because of their level of heterogeneity from the rest of the federation. In the context of the EU, one key hurdle that legislation needs to pass is obtaining a qualified majority in the Council (Crombez and Hix 2015). This section describes how the rules for QMV can be used to identify the periphery at the time of the European Convention.

After the accession of the A-10 countries, a qualified majority in the Council would require 88 out of 124 votes. In the context of a spatial model, this threshold can be used to compute a Council gridlock interval between its left and right pivot (Crombez and Hix 2015). After having sorted the Member States according to their ideal policies along a dimension and adding up their votes, the right pivot is the country with the 88$^{th}$ vote starting from the left. Similarly, the left pivot is the country with the 88$^{th}$ vote starting from the right. The interval between these two pivots is a gridlock interval: policies can be moved into this interval, but there will never be a qualified majority to move policies out of this interval.

Given that policies can only move into the gridlock interval, a natural way to identify the periphery is to look at countries outside of the gridlock interval defined by the pivotal Member States in the Council.

As noted before, the A-10 accession countries were on average much poorer than the existing EU-15. To investigate the importance of heterogeneity along this dimension, each delegate was associated with the 2003 per capita GDP of its country, calculated based on Eurostat (2016). The pivotal countries in the Council were calculated as described above, yielding a left pivot of €13,994/capita (Portugal) and a right pivot of €27,293/capita (Belgium).

One can expect policy changes approved in the Council to favor countries with levels of economic development in the Council gridlock interval. In particular, compared to countries in the gridlock interval or above it, poorer countries will prefer not to reduce policies such as the Common Agricultural Policy or Cohesion policy.

As reported in the Appendix, all of the A-10 countries except for Cyprus had a level of GDP per capita below the gridlock interval, while none of the EU-15 did. This means that the EU-15 together with Cyprus had a qualified majority to adopt policies that would be more favorable to Member States with higher levels of economic development. Conversely, the 9 countries below the gridlock interval can indeed be said to constitute the periphery of the EU-25 in terms of economic development.

The dummy variable "GDP_Peripheral_below" captures this as follows: it is equal to 1 for delegates from countries with levels of GDP/capita below the left pivot of €13,994. In terms of theory presented above, the expectation is that delegates for whom GDP_Peripheral_below is equal to 1 are more likely to be in favor of a free exit right. In the case of Frans Timmermans, being from the Netherlands with a GDP/capita of €31,290, i.e. not below the gridlock interval, GDP_Peripheral_below takes a value of 0.

### Control variables

The independent variable GDP_Peripheral_below is equal to 1 for delegates from countries with levels of economic development below the gridlock interval. Broadly speaking, this periphery consists of the A-10 countries. On the other hand, countries with levels of economic development above the gridlock interval constitute a different kind of periphery. Indeed, they may fear increases in regulation or immigration. Since also rich countries may fear policies moving into the gridlock interval, the dummy variable "GDP_Peripheral_above" is equal to 1 for delegates from countries with levels of GDP/capita above the right pivot of €27,293. In the case of Frans Timmermans, being from the Netherlands with a GDP/capita of €31,290, i.e. above the gridlock interval, GDP_Peripheral_above takes a value of 1.

Since the economies of scale from the EU may be less relevant for larger countries, the regression will control for country population (Eurostat 2016). The variable "Pop_M" captures the 2003 population in millions. In the example, the Netherlands in 2003 had a population of 16,192,572, yielding a value of 16.2 for the variable Pop_M.

Because of the history of their countries, delegates from ex-Soviet countries may have a particular desire for a free exit right. The dummy variable "Ex_Soviet" is equal to 1 for countries that were part of the Soviet Union, i.e. the Baltics (Estonia, Latvia and Lithuania).

Individuals and parties may have ideological objections to European integration, and hence desire a free exit right from the EU irrespective of whether their country is peripheral. To control for this, a variable capturing parties' stance on European integration is added to the regression.

The variable "Anti_EU" is constructed based on the variable "eu_anti_pro" in the Parlgov database (Döring and Manow 2016). This latter variable presents expert judgments on a 10-point scale, where 0 is completely against the EU and 10 is completely in favor. The transformed variable Anti_EU is calculated as follows: Anti_EU = (10-eu_anti_pro)/10. Returning to the example of Frans Timmermans, his party PvdA has an eu_anti_pro score of 8 out of 10, i.e. a relatively pro-European score. Using the formula above, a score of 8 on eu_anti_pro results in a value of 0.2 for the variable Anti_EU.

Parties with peripheral positions on the left-right dimension may also be more in favor of a free exit right. To score the national political parties of the EU-25 on this dimension, the variable "left_right" of the Parlgov database was used (Döring and Manow 2016). These are expert judgments on a 10-point scale, where 0 is extreme left and 10 is extreme right. To compute Member States' positions on this dimension, for each country the positions of the parties in government on April 25, 2003 were weighted by their number of seats in the cabinet. The pivotal member states in the Council were identified as described earlier, yielding a left pivot of 4.0 (Slovenia) and a right pivot of 7.1 (Slovakia).

Next, a dummy variable "LR_Peripheral" was constructed to identify peripheral parties on the left-right dimension. Political parties with a left-right score outside of the Council gridlock interval [4.0,7.1] received a score of 1, parties within the interval a score of 0. Returning to the example of Frans Timmermans, since his party, PvdA, has a left-right score of 3.6, which is outside of the Council gridlock interval, he was coded as a 1 on LR_Peripheral.

Finally, compared to delegates from national governments and parliaments, delegates representing supranational institutions (i.e. the European Commission and the European Parliament), could be expected to have more integrationist preferences, i.e. to be against an exit right (Vaubel 2002). To control for this, the dummy variable "Supranational" is 1 for delegates from the European Commission and the European Parliament (EP), and 0 for delegates from national governments and parliaments. In the example, Timmermans represents his national parliament and is hence coded as a 0 for the variable Supranational.

### Descriptive statistics

A descriptive summary of the data is provided in Table 3. Tables with delegate level, party level and country level data, as well as a correlation table are presented in the Appendix.

*Table 3. Regression variables: descriptive statistics and sources.*

| Variable | Min | Max | Average | Source of underlying data |
|---|---|---|---|---|
| Exitfree | 0 | 1 | 0.33 | Coding of plenary statements and amendments |
| GDP_Peripheral_below | 0 | 1 | 0.18 | Eurostat (2016) |
| GDP_Peripheral_above | 0 | 1 | 0.41 | Eurostat (2016) |
| Pop_M | 0.40 | 82.5 | 24.7 | Eurostat (2016) |
| Ex_Soviet | 0 | 1 | 0.06 | Countries that used to be in the Soviet Union |
| Anti_EU | 0.03 | 0.95 | 0.25 | Parlgov (Döring and Manow 2016) |
| LR_Peripheral | 0 | 1 | 0.59 | Parlgov (Döring and Manow 2016) |
| Supranational | 0 | 1 | 0.27 | List of Convention delegates |

N = 94 delegates

## Empirical strategy and results

The conclusion of the theory presented in this paper is that, in the absence of a veto, members of a heterogeneous periphery will require a veto right in order to join a federation. This can be tested by investigating whether delegates from countries in the EU's lesser developed periphery (roughly corresponding to the A-10 accession states) were indeed more likely to be in favor of a free exit right.

Considering delegate $i$ from party $p$ and country $c$, one can model her utility from having a free exit right as follows:

$$U_{ipc}(\text{exit right}) = \alpha + \beta.\,\text{GDP\_Peripheral\_below}_c + X'\gamma + \epsilon_{ipc} \qquad (1)$$

where $\alpha$ is a constant, $\beta$ the coefficient of interest, $X'$ a vector of control variables with coefficients $\gamma$, and $\epsilon_{ipc}$ an error term. The control variables contained in $X'$ are $\text{GDP\_Peripheral\_above}_c$, $\text{Pop\_M}_c$, $\text{Ex\_Soviet}_c$, $\text{Anti\_EU}_p$, $\text{LR\_Peripheral}_p$ and $\text{Supranational}_i$.

Delegates' utilities from having a free exit right are unobserved. However, the unobserved utilities can be seen as the latent variable driving their position on the free exit right. It is natural to assume that a delegate would be in favor of a free exit right in case her utility from it would be positive. Assuming that the error term in (1) follows a standard normal distribution with cumulative density function $\Phi(\epsilon)$, this results in the following probit model:

$$\begin{aligned} p(\text{Exitfree}_i = 1 | \text{GDP\_Peripheral\_below}_c, X') &= p\big(U_{ipc}(\text{exit right}) > 0\big) \\ &= \Phi(\alpha + \beta.\,\text{GDP\_Peripheral\_below}_c + X'\gamma) \end{aligned} \qquad (2)$$

In order to assess the role of heterogeneity in driving the preferences for a free exit right, the above probit model was estimated for the 94 observed delegates. Standard errors were clustered at the party level. The results of this regression are reported in Table 4.

*Table 4. Probit regression of Exitfree at the delegate level (1 = in favor of a free exit right).*

| Probit of Exitfree | Probit coefficients | Marg. effects at means | Variable coding |
|---|---|---|---|
| GDP_Peripheral_below | 1.675*** | 0.542*** | 1 if GDP/capita below €13,994 |
| | (0.609) | (0.197) | |
| GDP_Peripheral_above | 1.443*** | 0.461*** | 1 if GDP/capita above €27,293 |
| | (0.479) | (0.159) | |
| Pop_M | 0.017** | 0.005** | Population in Million |
| | (0.008) | (0.003) | |
| Ex_Soviet | 1.230 | 0.398 | 1 if ex-Soviet country (Baltics) |
| | (0.775) | (0.253) | |
| Anti_EU | 2.851*** | 0.923** | Strength of anti-EU position, range [0,1] |
| | (1.077) | (0.373) | |
| LR_Peripheral | 0.184 | 0.060 | 1 if 0-10 left-right position ∉ [4.0,7.1] |
| | (0.422) | (0.136) | |
| Supranational | 1.038*** | 0.336*** | 1 if delegate from EP or Commission |
| | (0.321) | (0.107) | |
| Constant | -3.130 | | |
| N (delegates) | 94 | 94 | |

*Robust standard errors clustered at the party level in brackets. *p<10%, **p<5%, ***p<1%*

The results are consistent with the theoretical models presented in this article. Delegates from countries in the less developed periphery, i.e. those with GDP_Peripheral_below equal to 1, are significantly more likely to be in favor of a free exit right. The probit coefficient is significant at the 1%-level, and the marginal effect (computed at the means of all variables) is substantial: delegates from countries with a level of GDP/capita below the Council gridlock interval are 54 percentage points more likely to support a free exit right.

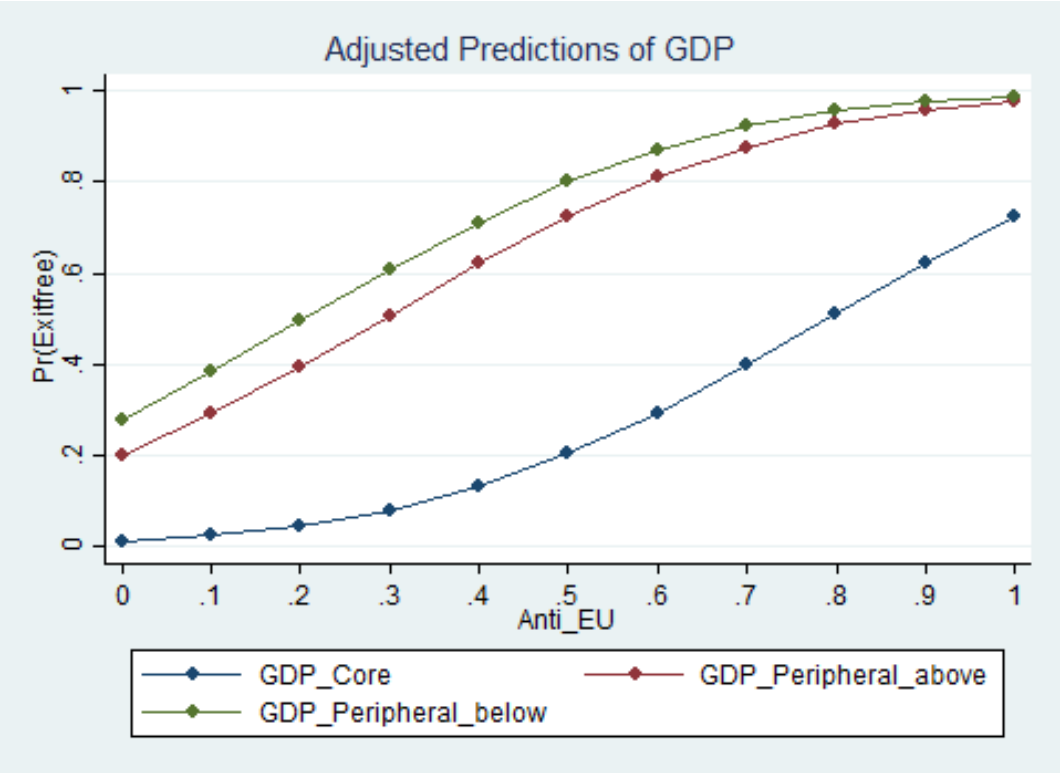
The results for all control variables but the last are intuitive. Delegates from the rich periphery, i.e. from countries with a level of GDP/capita above the gridlock interval, are 46 percentage points more likely to support a free exit right. For each additional million inhabitants in their country, delegates are 0.5 percentage points more likely to want a free exit right. Delegates from ex-Soviet countries are 40 percentage points more likely to be in favor, while an increase in a delegate's party anti-EU score is associated with a marginal effect of 92 percentage points. Delegates from parties with a peripheral left-right position are 6 percentage points more likely to be in favor of a free exit right.

Finally, delegates from Supranational institutions are 34 percentage points more likely to be in favor a free exit right. This finding goes directly against the expectation that self-interested supranational delegates will favor integration. Although this issue merits further study, one speculative explanation is that directly elected Members of European Parliament were responding to electoral fears of a European superstate at least as much as delegates from national institutions. Alternatively, some supranational delegates may have preferred deeper integration over wide integration, and hence wanted to give doubters an elegant way out.

The estimated effect of GDP_Peripheral_below is strongly statistically significant, and of substantial magnitude. While the focus of the model is on the lesser developed periphery, those in the rich periphery are also significantly more likely to support a free exit right. Hence on the whole, I argue that the results of this regression support the theory developed in this article: heterogeneity from the rest of a prospective federation drives preferences for a free exit right.

Figure 6 illustrates the predicted probabilities of being in favor of a free exit right. The x-axis corresponds to the anti-EU position of a delegate's party, while the three different graphs show the predicted probabilities for the different categories of economic development. Those in the core, i.e. with a level of GDP/capita in the Council gridlock interval of [€13,994; €27,293], are much less likely to support a free exit right. Those in the rich periphery are more likely to support a free exit right, and those in the lesser developed periphery more likely still. Irrespective of whether a delegate's country is peripheral, the probability of supporting a free exit right rises with a delegate's anti-EU position.

To assess the overall fit of the model, Table 12 in Appendix shows the percentages of correctly and incorrectly predicted observations. Overall, 81% of the observations are predicted correctly versus 67% in an empty model. The corresponding proportionate reduction of error is 42%.




*GDP_Peripheral_below: Latvia, Lithuania, Poland, Slovakia, Estonia, Hungary, Czech Republic, Malta, Slovenia. GDP_Core: Portugal, Greece, Cyprus, Spain, Italy, France, Germany, Belgium. GDP_Peripheral_above: Austria, Finland, United Kingdom, Netherlands, Sweden, Denmark, Ireland, Luxembourg*

*Figure 6. Predicted probabilities of being in favor of a free exit right.*

## Robustness

Of the 189 EU-25 delegates, only 94 have an observation for Exitfree. Table 5 reports the results of an ordered probit regression assuming that the remaining 95 delegates had no strong opinion. Since this is an ordered probit regression with three possible outcomes, two cutpoints were estimated for the index function, and the sizes of the coefficients are not directly comparable to the previous regression. However, the coefficient for GDP_Peripheral_below is again positive and significant at the 1%-level. Note that the coefficient for Supranational is no longer significant, so that the finding for national versus supranational delegates is not robust.

*Table 5. Ordered probit regression of Exitfree at the delegate level (-1 = against, 0 = no information, 1 = in favor).*

| Ordered probit of Exitfree | Probit coefficients |
|---|---|
| GDP_Peripheral_below | 0.718*** |
| | (0.246) |
| GDP_Peripheral_above | 0.574** |
| | (0.284) |
| Pop_M | 0.010** |
| | (0.004) |
| Ex_Soviet | 0.576* |
| | (0.295) |
| Anti_EU | 1.650*** |
| | (0.510) |
| LR_Peripheral | 0.135 |
| | (0.194) |
| Supranational | 0.265 |
| | (0.249) |
| Ordered Probit cuts | 0.670, 2.260 |
| N (delegates) | 189 |

*Robust standard errors clustered at the party level in brackets. *p<10%, **p<5%, ***p<1%*

An alternative assumption is that the remaining 95 delegates did not voice their opinion because they were actually in favor of the Praesidium's proposal to introduce a free exit right. The results of a probit regression making this assumption are reported in Table 6.

*Table 6. Probit regression of Exitfree at the delegate level (0 = against, 1 = in favor of a free exit right or no information).*

| Probit of Exitfree | Probit coefficients | Marg. effects at means |
|---|---|---|
| GDP_Peripheral_below | 0.981*** | 0.315*** |
| | (0.300) | (0.105) |
| GDP_Peripheral_above | 0.331 | 0.117 |
| | (0.285) | (0.099) |
| Pop_M | 0.006 | 0.002 |
| | (0.005) | (0.002) |
| Ex_Soviet | 0.511 | 0.181 |
| | (0.467) | (0.164) |
| Anti_EU | 1.461** | 0.516** |
| | (0.590) | (0.206) |
| LR_Peripheral | 0.177 | 0.062 |
| | (0.219) | (0.078) |
| Supranational | 1.022* | 0.361* |
| | (0.605) | (0.215) |
| Constant | -0.548 | |
| N (delegates) | 189 | 189 |

*Robust standard errors clustered at the party level in brackets. *p<10%, **p<5%, ***p<1%*

Under the assumption that the 95 unobserved delegates were actually in favor of a free exit right, most of the marginal effects are a smaller than in the main regression. The marginal effect

of GDP_Peripheral_below drops from 54 percentage points to 32 percentage points. However, the effect remains of substantial magnitude and is still statistically significant at the 1%-level.

As a robustness check, the regression was also conducted at the party level (excluding the delegate-level variable Supranational). The results of this regression, with standard errors clustered at the country level, are reported in the Appendix. The estimated coefficients are similar to the regressions at the individual level. In particular, the marginal effect of GDP_Peripheral_below is 51 percentage points, significant at a p-value of 1.3%.

A final robustness check, reported in the Appendix, shows that the results are robust to using the second coder's coding of the dependent variable: the marginal effect of GDP_Peripheral_below is 50 percentage points, significant at a p-value of 1.2%.

## Discussion

This section starts by showing how the models can also explain a case other than the EU, namely that of Saint Kitts and Nevis. Next follows a discussion of the UK's role in the adoption of Article 50 and of the Brexit referendum.

### The case of Saint Kitts and Nevis

Outside of the EU, the conclusions of the simple models presented above are also consistent with the case of Saint Kitts and Nevis, a two-island federation in the Caribbean. Nevis obtained a right to secede during the 1982-1983 constitutional conference in London aimed at establishing a constitution for an independent Saint Kitts and Nevis.

The islands of Saint Kitts and Nevis were very different from one another economically: while Saint Kitts produced sugar cane, the inferior soil of Nevis did not allow this (Veenendaal, 2015: 593). In spite of their differences, representatives from the two islands had to agree on a post-independence constitution in order to achieve the larger goal of independence from the United Kingdom. Anticipating that Nevisian representatives would constitute a minority without veto in prospective federal governments, the Nevisian negotiators at the 1982-1983 London constitutional conference successfully obtained a constitutional right to secede for Nevis (Midgett 2011).

The Nevisian expectation of lacking a veto turned out to be correct. In fact, with only three of the eleven seats in the federal parliament, Nevis is often not represented at all in the ruling federal coalitions (Veenendaal, 2015: 594). Perhaps paradoxically, the fact that the federation

has survived to date may be due precisely to Nevis' right to secede: consistent with the models presented above, it gives Kittitian politicians an incentive to limit policies that are unfavorable to Nevis.

### The UK's role in the adoption of Article 50

Because the documents relating the Convention are public, the empirical part of this paper focused on the position of delegates at the Convention, rather than on the Intergovernmental Conferences (IGCs) leading to the Treaty Establishing a Constitution for Europe and the Lisbon Treaty. The data confirmed the hypothesis that more heterogeneous members were more likely to want a free exit right.

As can be seen from the data presented in the Appendix, the UK was peripheral on the dimension of economic development: it was richer than the core of the EU-25 (rather than poorer, like the A-10 countries). It might hence have feared more regulation or more immigration as EU-policies are brought into the gridlock interval. Consistent with the hypothesis that heterogeneity drives the desire for an exit right, the UK hence was a strong supporter of introducing Article 50.

However, contrary to the accession states the UK could not bargain at the European Convention on the basis of not becoming a member if it did not get an exit right. That is why I argue that, consistent with the theoretical model, the exit right made it into the draft Constitution because of the A-10 countries. Indeed, according to Le Monde (2003a), the exit clause was "chiefly aimed at reassuring the future members of the EU".

On the other hand, I am far from claiming that the support of the UK and Denmark (members of the rich periphery) hurt the adoption of an exit right. In reality, their support was important too, especially at the IGCs. Consistent with this observation, the drafter of Article 50, Lord Kerr, has said that it was included "partly to undermine an argument made by British opponents of EU membership" about being trapped in an ever-closer union (Gray 2017).

A final observation on why the A-10 countries were so crucial to the adoption of an exit right is the following. If the UK and Denmark were so desiring of an exit right, and if they had the necessary bargaining power to obtain it, then why did they not obtain one prior to the Convention, for instance in the 2001 Nice Treaty?

## The Brexit referendum

The models presented so far assumed complete and perfect information. However, in reality information about other players' payoffs may be incomplete. In particular, the Brexit referendum of June 23, 2016 has shown that when an exit right is in place governments may be willing to take recourse to uncertain referenda. This may be attributed to purely intra-party or domestic politics. Alternatively, consistent with the logic of two-level games (Hug and König 2002; König, Daimer, and Finke 2008; Putnam 1988) and brinkmanship (Schelling 1980), the decision to call a referendum may also have been a deliberate attempt to generate uncertainty and use this to extract surplus from the rest of the federation.

Figure 7 presents a model of the situation once a referendum has been called by a member of the periphery, i.e. the United Kingdom in this case. The referendum will be decided by the UK median voter $M$, a new player. The model starts with the possibility for the core to offer concessions $y$ to the periphery. This would reduce the core's utility to $\pi_C = \theta_C + x - y$ and increase the periphery's utility to $\pi_P = \theta_P - x + y$. The outcome of the referendum is uncertain because of uncertainty about the median voter's preferences. This is modeled by setting $\pi_M = \pi_P + \epsilon$, where $\epsilon$ is a random variable decided by Nature $N$.

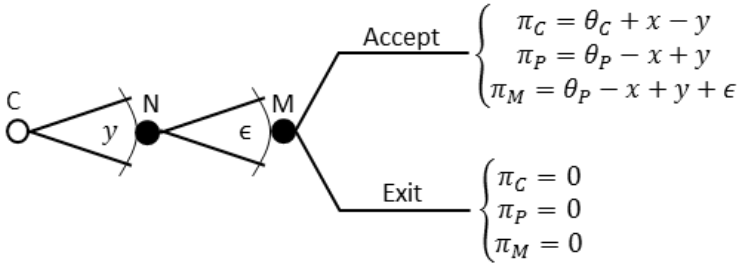



*Figure 7. A model of an uncertain referendum.*

In the model, if $M$ votes to accept the concessions $y$ the federation is maintained and payoffs are as described above. If $M$ votes to leave, then $P$ leaves the federation completely and all players lose all of their costs and benefits from $P$ being in the federation.[16]

[16] In reality, the UK and the EU-27 may negotiate a future relationship that involves keeping part of the costs and benefits for both sides. It is with respect to these negotiations that the UK may be willing to pay a settlement to the rest of the EU, even though it argues that from a strictly legal point of view it can leave the EU per Article 50 without having to pay any money to the EU (House of Lords 2017, 30-43). This is because the commitments of the UK under the Multiannual Financial Frameworks and the legal authority of the European Court of Justice to enforce these commitments follow from the Treaties, which, according to Article 50, would cease to apply.

The random variable $\epsilon$ may capture a variety of things. For instance, allowing for heterogeneity among the voters, the median voter's net benefits from the federation may be different from the average. In particular, the benefits from the EU may accrue disproportionately to the educated and the wealthy, leaving the median voter worse off than the average. This would imply $\epsilon < 0$. In addition, the median voter may have an anti-EU bias in his perceived benefits, also implying $\epsilon < 0$. Finally, events may occur which swing the median voter one way or another, implying $\epsilon$ could be both positive or negative. To conclude, it seems reasonable to assume that $\epsilon$ has a negative expected value. This can be modeled most easily with a uniform distribution that is asymmetrical around zero: $\epsilon \sim U[-b, a]$ with $b > a$.

The Appendix shows that for reasonable values of $a$, in particular for all $a < \theta_C + \theta_P$, the referendum will lead to positive concessions $y$. This is consistent with the observation that in anticipation of the Brexit referendum David Cameron obtained an emergency brake on welfare payments to immigrants, should the UK have decided to remain in the EU. However, as shown in the Appendix, because of uncertainty the equilibrium concessions may not suffice to make the median voter accept to stay. And indeed, as the facts have shown the strategy of brinkmanship is a dangerous one: although it allowed the UK to extract some concessions, the end result was the decision to leave the EU.

## Conclusion

This article presented theoretical models and empirical evidence regarding heterogeneity, vetoes and exit clauses in (quasi-)federal systems. By including an exit right at the constitutional stage, federations can ex-ante insure prospective members against undesired policy changes. In the simplified models of heterogeneous federations developed in this article, members of a periphery that is strongly heterogeneous from the core of the federation will require an exit right if they will lack a legislative veto after the federation is formed. This conclusion is supported by the case of Saint Kitts and Nevis, and by more detailed evidence from the European Union.

In contrast to the constitutional choice model of federalization through voluntary accession, a model of federalization through decentralization and a discussion of federalization through annexation show that an exit right is not to be expected in these cases.

To statistically test the empirical power of the models, the second part of the paper focused on the EU. The EU adopted a free exit right during the 2002-2003 Convention on the Future of Europe, which developed a draft Constitution for the EU. The draft Constitution was ultimately

not ratified, but through the 2007 Treaty of Lisbon the withdrawal clause containing the free exit right was adopted as Article 50 of the Treaty on European Union.

The presented models can account not only for the adoption of the EU's exit clause, but also for its timing in 2003. The Candidate States which would join the EU in 2004 were the first new Member States to both differ significantly from the existing Member States and to enter when the EU had largely moved from unanimity decision-making to qualified majority voting, eroding Member States' veto power. Knowing that they would lack a veto, the Candidate States feared post-entry reductions in the Common Agricultural Policy and other subsidies.

Applied to the EU, the hypothesis that heterogeneity leads to a desire for an exit right is supported by probit regressions at the level of 94 Convention delegates and their 65 national parties. In these regressions, delegates were coded as being peripheral if their country fell outside the Council gridlock interval in terms of GDP/capita. Nine of the 10 Candidate States from the Eastern enlargement had a level of GDP/capita below the gridlock interval. For the dependent variable, two independent coders classified all amendments and plenary statements made at the Convention on April 25, 2003 as either in favor or against a free exit right.

In the main regression, the expected effect of being from a country with a level of GDP/capita below the gridlock interval is a 54 percentage point increase in the probability of being in favor of a free exit right, significant at the 1%-level. For delegates from countries above the gridlock interval, i.e. those in the rich periphery of the EU-25, which includes the UK and Denmark, the corresponding increase is 46 percentage points.

Unsurprisingly, the regressions also show that the stronger the anti-EU ideology of a delegate's party, the stronger the desire for a free exit right. Delegates from larger countries were also found to be somewhat more likely to support a free exit right. Finally, in the main regression delegates from supranational institutions (the European Parliament and the Commission) were found to be more likely to support a free exit right than those from national governments and parliaments. However, this result was not robust to different specifications.

An area for future work is to investigate more systematically the vast majority of federal systems: those without an exit right. In order for the theory presented in this article to hold, such federations should either (a) have been formed through decentralization or annexation, (b) be composed of relatively homogeneous members, or (c) have other constitutional safeguards such as veto rights.

# References


Alesina, Alberto, and Enrico Spolaore. 2003. *The Size of Nations*. Cambridge, Mass: MIT Press.

Apolte, Thomas. 1997. "Secession Clauses: A Tool for the Taming of an Arising Leviathan in Brussels ?" *Constitutional Political Economy* 8: 57–70.

Athanassiou, Phoebus. 2009. "Withdrawal and Expulsion from the EU and EMU: Some Reflections." *ECB Legal Working Paper Series* (10).

Beissinger, M. 2002. *Nationalist Mobilization and the Collapse of the Soviet State*. Cambridge: Cambridge University Press.

Berglund, Sara. 2006. "Prison or Voluntary Cooperation? The Possibility of Withdrawal from the European Union." *Scandinavian Political Studies* 29(2): 147–67.

Bermeo, Nancy. 2002. "A New Look at Federalism: The Import of Institutions." *Journal of Democracy* 13(2): 96–110.

Bolton, P, and G Roland. 1997. "The Breakup of Nations: A Political Economy Analysis." *The Quarterly Journal of Economics*: 1057–90.

Bordignon, Massimo, and Sandro Brusco. 2001. "Optimal Secession Rules." *European Economic Review* 45(10): 1811–34.

Buchanan, James M. 1995. "Federalism As an Ideal Political Order and an Objective for Constitutional Reform." *Publius: The Journal of Federalism* 25(2): 19–28.

Buchanan, James M., and Roger L. Faith. 1987. "Secession and the Limits of Taxation: Toward a Theory of Internal Exit." *American Economic Review* 77(5): 1023–31.

Coase, Ronald. 1960. "The Problem of Social Cost." *Journal of Law and Economics* 3: 1–47.

Coffey, Peter. 2003. *The Future of Europe - Revisited*. Cheltenham, UK: Edwar Elgar.

Collier, Paul, and Anke Hoeffler. 2004. "Greed and Grievance in Civil War." *Oxford Economic Papers* 56: 563–95.

Crombez, Christophe, and Simon Hix. 2011. "Treaty Reform and the Commission's Appointment and Policy-Making Role in the European Union." *European Union Politics* 12(3): 291–314.

———. 2015. "Legislative Activity and Gridlock in the European Union." *British Journal of*

*Political Science*: 1–23.

Desmet, Klaus, Michel Le Breton, Ignacio Ortuño-Ortin, and Shlomo Weber. 2011. "The Stability and Breakup of Nations: A Quantitative Analysis." *Journal of Economic Growth* 16: 183–213.

Desmet, Klaus, Ignacio Ortuño-Ortin, and Romain Wacziarg. 2017. "Culture, Ethnicity, and Diversity." *American Economic Review* (Forthcoming): 1–39.

Döring, Holger, and Philip Manow. 2016. "Parliaments and Governments Database (ParlGov): Information on Parties, Elections and Cabinets in Modern Democracies." *www.Parlgov.org*.

European Commission. 2007. "The Outcome of the European Convention." *Summaries of legislation*.

European Convention. 2003. "Proposed Amendments to the Text of the Articles of the Treaty Establishing a Constitution for Europe: Article 46."

Eurostat. 2016. "National Accounts and Population Data." http://ec.europa.eu/eurostat/data (December 22, 2016).

De Figueiredo, Rui J P, and Barry R. Weingast. 2005. "Self-Enforcing Federalism." *Journal of Law, Economics, and Organization* 21(1): 103–35.

Filippov, Mikhail, Peter C. Ordeshook, and Olga Shvetsova. 2004. *Designing Federalism: A Theory of Self-Sustainable Federal Institutions*. Cambridge University Press.

Gray, Andrew. 2017. "Article 50 Author Lord Kerr: I Didn't Have UK in Mind." *Politico* March 28(2017).

Gubler, J. R., and J. S. Selway. 2012. "Horizontal Inequality, Crosscutting Cleavages, and Civil War." *Journal of Conflict Resolution* 56(2): 206–32.

Habtu, A. 2005. "Multiethnic Federalism in Ethiopia: A Study of the Secession Clause in the Constitution." *Publius: The Journal of Federalism* 35(2): 313–35.

Harbo, Florentina. 2008. "Secession Right - an Anti-Federal Principle? Comparative Study of Federal States and the EU." *Journal of Politics and Law* 1(3): 132–48.

Harrison, Mark. 2002. "Coercion, Compliance, and the Collapse of the Soviet Command Economy." *The Economic History Review* 55(3): 397–433.

Van Hecke, Steven. 2012. “Polity-Building in the Constitutional Convention: Transnational Party Groups in European Union Institutional Reform.” *Journal of Common Market Studies* 50(5): 837–52.

Helfer, Laurence R. 2005. “Exiting Treaties.” *Virginia Law Review* 91(7): 1579–1648.

Herbst, Jochen. 2006. “Observations on the Right to Withdraw from the European Union: Who Are the ‘Masters of the Treaties’?” In *The Unity of the European Constitution*, eds. Philipp Dann and Michał Rynkowski. Springer.

Hirschman, Albert O. 1970. *Exit, Voice and Loyalty: Responses to Decline in Firms, Organizations and States*. Cambridge, Mass.: Harvard University Press.

Hofmeister, Hannes. 2010. “Should I Stay or Should I Go? A Critical Analysis of the Right to Withdraw from the EU.” *European Law Journal* 16(5): 589–603.

House of Lords. 2017. “Brexit and the EU Budget.” *Select Committee on the European Union, Session 2016-17 15th report* March 2: 1–63.

Hug, Simon. 2005. “Federal Stability in Unequal Societies.” *Constitutional Political Economy* 16(2): 113–24.

Hug, Simon, and Thomas König. 2002. “In View of Ratification: Governmental Preferences and Domestic Constraints at the Amsterdam Intergovernmental Conference.” *International Organization* 56(2): 447–76.

———. 2007. “Domestic Structures and Constitution-Building in an International Organization: Introduction.” *Review of International Organizations* 2(2): 105–13.

Huysmans, Martijn, and Christophe Crombez. 2017. “Making Exit Costly but Efficient: The Political Economy of Exit Clauses and Secession.” *LICOS Discussion Paper Series* 397/2017: 1–40.

Kelemen, R. Daniel, Anand Menon, and Jonathan Slapin. 2014. “Wider and Deeper? Enlargement and Integration in the European Union.” *Journal of European Public Policy* 21(5): 647–63.

Kerr, John. 2007. “Pick the Best European Cherries.” *Financial Times* Feb 27.

König, Thomas, and Thomas Bräuninger. 2004. “Accession and Reform of the European Union: A Game-Theoretical Analysis of Eastern Enlargement and the Constitutional

Reform." *European Union Politics* 5(4): 419–39.

König, Thomas, Stephanie Daimer, and Daniel Finke. 2008. "The Treaty Reform of the EU: Constitutional Agenda-Setting, Intergovernmental Bargains and the Presidency's Crisis Management of Ratification Failure." *Journal of Common Market Studies* 46(2): 337–63.

Koremenos, Barbara. 2016. *The Continent of International Law: Explaining Agreement Design*. Cambridge University Press.

Lijphart, Arend. 2004. "Constitutional Design for Divided Societies." *Journal of Democracy* 15(2): 96–109.

Maggi, Giovanni, and Massimo Morelli. 2006. "Self Enforcing Voting in International Organizations." *American Economic Review* 96(4): 1137–58.

Mahony, H. 2003. "Convention Struggles with EU Withdrawal Clause." *EU Observer* Apr 28.

Midgett, Douglas. 2011. "Cuckoo Politics Revisited: The Failure of the St. Kitts-Nevis Constitution." *Social and Economic Studies* 60(2): 41–66.

Le Monde. 2003a. "La Convention Sur L'avenir de l'Europe Débat D'une Clause de Sortie." *Le Monde* Apr 25.

———. 2003b. "Un Projet D'article de La Constitution Propose Une Clause de Sortie de l'UE." *Le Monde* Apr 4.

Putnam, Robert D. 1988. "Diplomacy and Domestic Politics: The Logic of Two-Level Games." *International Organization* 42(3): 427–60.

Riker, William H. 1964. *Federalism: Origin, Operation, Maintenance*. Boston: Brown Little.

Rosendorff, B. Peter, and Helen V. Milner. 2001. "The Optimal Design of International Trade Institutions: Uncertainty and Escape." *International Organization* 55(4): 829–57.

Rubinstein, Ariel. 1982. "Perfect Equilibrium in a Bargaining Model." *Econometrica* 50(1): 97–109.

Scharpf, FW. 1988. "The Joint-decision Trap: Lessons from German Federalism and European Integration." *Public administration* 66(1986): 239–78.

Schelling, Thomas. 1980. *The Strategy of Conflict*. Harvard University Press.

Sinardet, Dave. 2010. "From Consociational Consciousness to Majoritarian Myth:

Consociational Democracy, Multi-Level Politics and the Belgian Case of Brussels-Halle-Vilvoorde." *Acta Politica* 45(3): 346–69.

Slapin, Jonathan B. 2009. "Exit, Voice, and Cooperation: Bargaining Power in International Organizations and Federal Systems." *Journal of Theoretical Politics* 21(2): 187–211.

Spinant, Dana. 2003. "Giscard Forum Set to Unveil Controversial EU 'Exit Clause.'" *European Voice* Apr 2.

Stepan, Alfred. 1999. "Federalism and Democracy : Beyond the U . S . Model." *Journal of Democracy* 10(4): 19–34.

Suesse, Marvin. 2016. "Shaping the Size of Nations: A Test of the Determinants of Secessions." *VIVES Discussion Paper* 54: 1–52.

Sunstein, Cass R. 1991. "Constitutionalism and Secession." *The University of Chicago Law Review* 58(2): 633–70.

Swinnen, Johan F. M. 2001. "Will Enlargement Cause a Flood of Eastern Food Imports, Bankrupt the EU Budget, and Create WTO Conflicts?" *EuroChoices*: 48–53.

The Economist. 2003. "Hungary and EU Membership: An Unpersuasive Referendum." *The Economist* Apr 19: 45.

Tullock, Gordon. 1969. "Federalism: Problems of Scale." *Public Choice* 6(1): 19–29.

Vaubel, Roland. 2002. "Die Politische Ökonomie Des Europäischen Verfassungskonvents." *Wirtschaftsdienst* 82(10): 636–40.

Veenendaal, Wouter P. 2015. "Origins and Persistence of Federalism and Decentralization in Microstates." *Publius* 45(4): 580–604.

Weiler, Joseph H. 1985. "Alternatives to Withdrawal from an International Organization: The Case of the European Economic Community." *Israel Law Review*: 282–98.

Weinstock, Daniel. 2001. "Constitutionalizing the Right to Secede." *The Journal of Political Philosophy* 9(2): 182–2003.

Wyrozumska, Anna. 2012. "Withdrawal from the Union." In *The European Union after Lisbon: Constitutional Basis, Economic Order and External Action*, eds. Hermann-Josef Blanke and Stelio Mangiameli. Springer, 343–65.

# Appendix

## Models with limited heterogeneity

In the interest of conciseness, only cases with $\theta_P \geq 0$ are presented here. Assume first that heterogeneity is somewhat limited, i.e. $\theta_P \leq h \leq \theta_P + w$. In the case without veto or exit right, the constraint $x \leq h$ is binding: the core proposes $x = h$. The equilibrium with veto remains as in the strong heterogeneity case presented in the main text. With a free exit right, the constraint $x \leq h$ is not binding and $x = \theta_P$ as before. If heterogeneity is even more limited to values $h \leq \theta_P$ the constraint $x \leq h$ is also binding in the case with a free exit right. The results of this analysis are summarized in Table 7.

*Table 7. Payoffs from mildly heterogeneous federations under different constitutional rules.*

| | $0 \leq \theta_P < h \leq \theta_P + w$ | | $0 \leq h \leq \theta_P$ | |
|---|---|---|---|---|
| | $\boldsymbol{\pi_C}$ | $\boldsymbol{\pi_P}$ | $\boldsymbol{\pi_C}$ | $\boldsymbol{\pi_P}$ |
| No veto/exit right | $\theta_C + h$ | $\theta_P - h$ | $\theta_C + h$ | $\theta_P - h$ |
| Veto right | $\theta_C$ | $\theta_P$ | $\theta_C$ | $\theta_P$ |
| Free exit right | $\theta_C + \theta_P$ | 0 | $\theta_C + h$ | $\theta_P - h$ |

With limited heterogeneity, the payoffs for the periphery are (weakly) higher than with strong heterogeneity. For intermediate values of heterogeneity, i.e. $\theta_P < h \leq \theta_P + w$ the periphery still requires a veto right or a free exit right in order to join the federation voluntarily since in this case the payoff of $\theta_P - h$ is negative. If heterogeneity is limited to $h \leq \theta_P$ the periphery no longer requires a veto right or a free exit right in order to join, since the payoff $\theta_P - h$ is positive. The periphery would still prefer to have a veto right since $\theta_p > \theta_P - h$, but it does not require it to join.

### Article 46, Draft Constitutional Treaty published on April 2, 2003

Article 46: Voluntary withdrawal from the Union

1. Any Member State may decide to withdraw from the European Union in accordance with its own constitutional requirements.

2. A Member State which decides to withdraw shall notify the Council of its intention. Once that notification has been given, the Union shall negotiate and conclude an agreement with that State, setting out the arrangements for its withdrawal, taking account of the framework for its future relationship with the Union. That agreement shall be concluded on behalf of the Union by the Council, acting by a qualified majority, after obtaining the assent of the European Parliament. The withdrawing State shall not participate in the Council's discussions or decisions concerning it.

3. This Constitution shall cease to apply to the State in question as from the date of entry into force of the withdrawal agreement or, failing that, two years after the notification referred to in paragraph 2.

### Article 59, Draft Constitutional Treaty presented to the Council on July 18, 2003

Article 59: Voluntary withdrawal from the Union

1. Any Member State may decide to withdraw from the European Union in accordance with its own constitutional requirements.

2. A Member State which decides to withdraw shall notify the European Council of its intention; the European Council shall examine that notification. In the light of the guidelines provided by the European Council, the Union shall negotiate and conclude an agreement with that State, setting out the arrangements for its withdrawal, taking account of the framework for its future relationship with the Union. That agreement shall be concluded on behalf of the Union by the Council of Ministers, acting by a qualified majority, after obtaining the consent of the European Parliament.

The representative of the withdrawing Member State shall not participate in Council of Ministers or European Council discussions or decisions concerning it.

3. The Constitution shall cease to apply to the State in question from the date of entry into force of the withdrawal agreement or, failing that, two years after the notification referred to in

paragraph 2, unless the European Council, in agreement with the Member State concerned, decides to extend this period.

4. If a State which has withdrawn from the Union asks to rejoin, its request shall be subject to the procedure referred to in Article 57.

Article I-60, Treaty Establishing a Constitution for Europe published on August 6, 2004

ARTICLE I-60 Voluntary withdrawal from the Union

1. Any Member State may decide to withdraw from the Union in accordance with its own constitutional requirements.

2. A Member State which decides to withdraw shall notify the European Council of its intention. In the light of the guidelines provided by the European Council, the Union shall negotiate and conclude an agreement with that State, setting out the arrangements for its withdrawal, taking account of the framework for its future relationship with the Union. That agreement shall be negotiated in accordance with Article III-325(3). It shall be concluded by the Council, acting by a qualified majority, after obtaining the consent of the European Parliament.

3. The Constitution shall cease to apply to the State in question from the date of entry into force of the withdrawal agreement or, failing that, two years after the notification referred to in paragraph 2, unless the European Council, in agreement with the Member State concerned, unanimously decides to extend this period.

4. For the purposes of paragraphs 2 and 3, the member of the European Council or of the Council representing the withdrawing Member State shall not participate in the discussions of the European Council or Council or in European decisions concerning it. A qualified majority shall be defined as at least 72% of the members of the Council, representing the participating Member States, comprising at least 65% of the population of these States.

5. If a State which has withdrawn from the Union asks to rejoin, its request shall be subject to the procedure referred to in Article I-58.

Article 50, post-Lisbon consolidated TEU published on May 9, 2008

Article 50

1. Any Member State may decide to withdraw from the Union in accordance with its own constitutional requirements.

2. A Member State which decides to withdraw shall notify the European Council of its intention. In the light of the guidelines provided by the European Council, the Union shall negotiate and conclude an agreement with that State, setting out the arrangements for its withdrawal, taking account of the framework for its future relationship with the Union. That agreement shall be negotiated in accordance with Article 218(3) of the Treaty on the Functioning of the European Union. It shall be concluded on behalf of the Union by the Council, acting by a qualified majority, after obtaining the consent of the European Parliament.

3. The Treaties shall cease to apply to the State in question from the date of entry into force of the withdrawal agreement or, failing that, two years after the notification referred to in paragraph 2, unless the European Council, in agreement with the Member State concerned, unanimously decides to extend this period.

4. For the purposes of paragraphs 2 and 3, the member of the European Council or of the Council representing the withdrawing Member State shall not participate in the discussions of the European Council or Council or in decisions concerning it. A qualified majority shall be defined in accordance with Article 238(3)(b) of the Treaty on the Functioning of the European Union.

5. If a State which has withdrawn from the Union asks to rejoin, its request shall be subject to the procedure referred to in Article 49.

## Data

*Table 8. Delegate-level data*

| Country | Delegate | Party | Institution | Exitfree |
|---|---|---|---|---|
| Austria | Einem | SPO | Parliament | 1 |
| Austria | Farnleiter | OVP | Government | 0 |
| Austria | Rack | OVP | European Parliament | 0 |
| Austria | Tusek | OVP | Government | 0 |
| Austria | Lichtenberger | Gruene | Parliament | 0 |
| Austria | Voggenhuber | Gruene | European Parliament | 0 |
| Belgium | Nagy | Ecolo | Parliament | 0 |
| Belgium | Michel | MR | Government | 0 |
| Belgium | Van Lancker | SP | European Parliament | 0 |
| Belgium | Chevalier | PVV\|VLD | Government | 0 |
| Belgium | De Gucht | PVV\|VLD | Parliament | 0 |
| Belgium | Di Rupo | PS | Parliament | 0 |
| Cyprus | Demetriou | DISY | Parliament | 0 |
| Czech Republic | Zahradil | ODS | Parliament | 1 |
| Czech Republic | Zieleniec | ODS | Parliament | 0 |
| Czech Republic | Kroupa | KDU-CSL | Parliament | 0 |
| Denmark | Dybkjaer | RV | European Parliament | 1 |
| Denmark | Bonde | JuBe | European Parliament | 1 |
| Denmark | Thorning-Schmidt | Sd | European Parliament | 1 |
| Estonia | Hololei | ERP | Government | 1 |
| Finland | Vanhanen | KESK | Parliament | 1 |
| Finland | Kiljunen | SSDP | Parliament | 1 |
| Finland | Korhonen | KOK | Parliament | 0 |
| Finland | Peltomäki | KOK | Government | 0 |
| Finland | Tiilikainen | KOK | Government | 0 |
| Finland | Seppänen | DL\|VAS | European Parliament | 1 |
| France | Andreani | RPR | Government | 0 |
| France | de Villepin | RPR | Government | 0 |
| France | Haenel | RPR | Parliament | 0 |
| France | Lamassoure | UDF | European Parliament | 0 |
| France | Badinter | PS | Parliament | 0 |
| France | Berès | PS | European Parliament | 0 |
| France | Duhamel | PS | European Parliament | 1 |
| France | Abitbol | RPF | European Parliament | 1 |
| Germany | Kaufmann | SPD | European Parliament | 0 |
| Germany | Meyer | SPD | Parliament | 0 |
| Germany | Fischer | B90/Gru | Government | 0 |
| Germany | Brok | CDU+CSU | European Parliament | 0 |
| Greece | Giannakou | ND | Parliament | 0 |
| Greece | Stylianidis | ND | Parliament | 0 |
| Greece | Avgerinos | PASOK | Parliament | 0 |
| Hungary | Szajer | Fi-MPSz | Parliament | 0 |

| | | | | |
|---|---|---|---|---|
| Hungary | Vastagh | MSZP | Parliament | 1 |
| Ireland | Roche | FF | Government | 1 |
| Ireland | Cushnahan | FG | European Parliament | 0 |
| Ireland | Gormley | Green | Parliament | 1 |
| Italy | Fini | AN | Government | 1 |
| Italy | Muscardini | AN | European Parliament | 1 |
| Italy | Basile | FI-PdL | Parliament | 0 |
| Italy | Paciotti | DS | European Parliament | 1 |
| Italy | Dini | DL-M | Parliament | 0 |
| Italy | Speroni | LN | Government | 1 |
| Latvia | Zile | TB/LNNK | Government | 0 |
| Latvia | Kalniete | JP | Government | 1 |
| Latvia | Piks | TP | Parliament | 0 |
| Latvia | Liepina | JL | Parliament | 1 |
| Lithuania | Jusys | NS | Government | 1 |
| Luxembourg | Wagener | Greng | Parliament | 0 |
| Luxembourg | Fayot | LSAP | Parliament | 0 |
| Luxembourg | Schmit | LSAP | Government | 0 |
| Luxembourg | Santer | CSV | Government | 0 |
| Malta | Dolores | PN | Parliament | 0 |
| Malta | Frendo | PN | Parliament | 0 |
| Netherlands | Maij-Weggen | CDA | European Parliament | 0 |
| Netherlands | Van Der Linden | CDA | Parliament | 0 |
| Netherlands | Van Dijk | CDA | Parliament | 0 |
| Netherlands | de Bruijn | D66 | Government | 0 |
| Netherlands | De Vries | D66 | Government | 0 |
| Netherlands | Timmermans | PvdA | Parliament | 0 |
| Poland | Fogler | PO | Parliament | 0 |
| Poland | Hübner | PO | Government | 0 |
| Portugal | Queiró | CDS-PP | European Parliament | 1 |
| Portugal | Lobo Antunes | PS | Government | 0 |
| Portugal | Marinho | PS | European Parliament | 0 |
| Portugal | Vitorino | PS | European Commission | 0 |
| Portugal | Azevedo | PSD | Parliament | 0 |
| Portugal | Lopes | PSD | Government | 0 |
| Portugal | Nazaré Pereira | PSD | Parliament | 0 |
| Slovakia | Migas | SDKU-DS | Government | 0 |
| Slovenia | Rupel | SDS | Government | 1 |
| Spain | Alonso | AP-P | Parliament | 0 |
| Spain | Cisneros | AP-P | Parliament | 0 |
| Spain | Borrell Fontelles | PSOE | Parliament | 0 |
| Sweden | Lennmarker | M | Parliament | 0 |
| Sweden | Kvist | V | Parliament | 0 |
| Sweden | Lekberg | SAP | Parliament | 0 |
| United Kingdom | Heathcoat-Amory | Con | Parliament | 1 |
| United Kingdom | Kirkhope | Con | European Parliament | 1 |

| | | | | |
|---|---|---|---|---|
| United Kingdom | Stockton | Con | European Parliament | 1 |
| United Kingdom | MacCormick | SNP | European Parliament | 1 |
| United Kingdom | Duff | LD | European Parliament | 1 |
| United Kingdom | Hain | Lab | Government | 1 |
| United Kingdom | McAvan | Lab | European Parliament | 1 |
| United Kingdom | Stuart | Lab | Parliament | 1 |

*Table 9. Party-level data.*

| Country | Party | left_right | LR_Peripheral | Anti_EU |
|---|---|---|---|---|
| Austria | SPO | 3.7 | 1 | 0.2 |
| Austria | OVP | 6.5 | 0 | 0.1 |
| Austria | Gruene | 2.5 | 1 | 0.3 |
| Belgium | Ecolo | 2.6 | 1 | 0.2 |
| Belgium | MR | 6.7 | 0 | 0.2 |
| Belgium | SP | 3.2 | 1 | 0.2 |
| Belgium | PVV\|VLD | 7.0 | 0 | 0.1 |
| Belgium | PS | 2.9 | 1 | 0.2 |
| Cyprus | DISY | 8.7 | 1 | 0.1 |
| Czech Republic | ODS | 7.4 | 1 | 0.6 |
| Czech Republic | KDU-CSL | 5.8 | 0 | 0.2 |
| Denmark | RV | 4.9 | 0 | 0.2 |
| Denmark | JuBe | 2.6 | 1 | 0.9 |
| Denmark | Sd | 3.8 | 1 | 0.3 |
| Estonia | ERP | 8.5 | 1 | 0.1 |
| Finland | KESK | 5.8 | 0 | 0.4 |
| Finland | SSDP | 3.6 | 1 | 0.1 |
| Finland | KOK | 7.2 | 1 | 0.1 |
| Finland | DL\|VAS | 2.2 | 1 | 0.5 |
| France | RPR | 7.5 | 1 | 0.3 |
| France | UDF | 6.1 | 0 | 0.1 |
| France | PS | 3.2 | 1 | 0.2 |
| France | RPF | 7.4 | 1 | 0.9 |
| Germany | SPD | 3.6 | 1 | 0.2 |
| Germany | B90/Gru | 2.9 | 1 | 0.2 |
| Germany | CDU+CSU | 6.3 | 0 | 0.1 |
| Greece | ND | 6.7 | 0 | 0.1 |
| Greece | PASOK | 4.5 | 0 | 0.1 |
| Hungary | Fi-MPSz | 6.5 | 0 | 0.3 |
| Hungary | MSZP | 2.9 | 1 | 0.0 |
| Ireland | FF | 6.1 | 0 | 0.2 |
| Ireland | FG | 6.4 | 0 | 0.1 |
| Ireland | Green | 2.4 | 1 | 0.7 |
| Italy | AN | 8.1 | 1 | 0.6 |
| Italy | FI-PdL | 7.1 | 1 | 0.5 |
| Italy | DS | 2.6 | 1 | 0.1 |
| Italy | DL-M | 4.0 | 1 | 0.1 |
| Italy | LN | 7.8 | 1 | 0.7 |

| | | | | |
|---|---|---|---|---|
| Latvia | TB/LNNK | 8.3 | 1 | 0.3 |
| Latvia | JP | 7.4 | 1 | 0.2 |
| Latvia | TP | 7.8 | 1 | 0.1 |
| Latvia | JL | 7.3 | 1 | 0.1 |
| Lithuania | NS | 4.3 | 0 | 0.1 |
| Luxembourg | Greng | 2.5 | 1 | 0.3 |
| Luxembourg | LSAP | 3.3 | 1 | 0.2 |
| Luxembourg | CSV | 6.4 | 0 | 0.2 |
| Malta | PN | 5.7 | 0 | 0.1 |
| Netherlands | CDA | 5.9 | 0 | 0.2 |
| Netherlands | D66 | 4.5 | 0 | 0.1 |
| Netherlands | PvdA | 3.6 | 1 | 0.2 |
| Poland | PO | 6.2 | 0 | 0.1 |
| Portugal | CDS-PP | 8.0 | 1 | 0.6 |
| Portugal | PS | 4.0 | 0 | 0.1 |
| Portugal | PSD | 6.3 | 0 | 0.2 |
| Slovakia | SDKU-DS | 7.4 | 1 | 0.1 |
| Slovenia | SDS | 7.0 | 0 | 0.1 |
| Spain | AP-P | 7.6 | 1 | 0.2 |
| Spain | PSOE | 3.7 | 1 | 0.1 |
| Sweden | M | 7.9 | 1 | 0.1 |
| Sweden | V | 1.5 | 1 | 0.9 |
| Sweden | SAP | 3.4 | 1 | 0.3 |
| United Kingdom | Con | 7.4 | 1 | 0.8 |
| United Kingdom | SNP | 3.6 | 1 | 0.2 |
| United Kingdom | LD | 4.1 | 0 | 0.1 |
| United Kingdom | Lab | 4.4 | 0 | 0.3 |

*Table 10. Country-level data.*

| Country | Pop_M | GDP/Cap | GDP_Peripheral_below | GDP_Peripheral_above |
|---|---|---|---|---|
| Austria | 8.1 | 28 517 | 0 | 1 |
| Belgium | 10.4 | 27 293 | 0 | 0 |
| Cyprus | 0.7 | 18 034 | 0 | 0 |
| Czech Republic | 10.2 | 8 630 | 1 | 0 |
| Denmark | 5.4 | 35 916 | 0 | 1 |
| Estonia | 1.4 | 6 333 | 1 | 0 |
| Finland | 5.2 | 29 113 | 0 | 1 |
| France | 61.9 | 26 468 | 0 | 0 |
| Germany | 82.5 | 26 898 | 0 | 0 |
| Greece | 10.9 | 16 390 | 0 | 0 |
| Hungary | 10.1 | 7 416 | 1 | 0 |
| Ireland | 4.0 | 36 718 | 0 | 1 |
| Italy | 57.1 | 24 343 | 0 | 0 |
| Latvia | 2.3 | 4 557 | 1 | 0 |
| Lithuania | 3.4 | 4 858 | 1 | 0 |
| Luxembourg | 0.4 | 57 723 | 0 | 1 |
| Malta | 0.4 | 12 068 | 1 | 0 |

| | | | | |
|---|---|---|---|---|
| Netherlands | 16.2 | 31 290 | 0 | 1 |
| Poland | 38.2 | 5 031 | 1 | 0 |
| Portugal | 10.4 | 13 994 | 0 | 0 |
| Slovakia | 5.4 | 5 594 | 1 | 0 |
| Slovenia | 2.0 | 13 184 | 1 | 0 |
| Spain | 41.8 | 19 209 | 0 | 0 |
| Sweden | 8.9 | 32 821 | 0 | 1 |
| United Kingdom | 59.5 | 30 175 | 0 | 1 |

## Correlation table

*Table 11. Correlations between the regression variables.*

| correlations | Exitfree | ~below | ~above | Pop. | Sov. | Anti_EU | LR_Per. | Supra. |
|---|---|---|---|---|---|---|---|---|
| Exitfree | 1.00 | | | | | | | |
| GDP_Peripheral_below | 0.08 | 1.00 | | | | | | |
| GDP_Peripheral_above | 0.19 | -0.40 | 1.00 | | | | | |
| Pop_M | 0.14 | -0.29 | -0.21 | 1.00 | | | | |
| Ex_Soviet | 0.19 | 0.56 | -0.22 | -0.23 | 1.00 | | | |
| Anti_EU | 0.44 | -0.17 | 0.19 | 0.24 | -0.12 | 1.00 | | |
| LR_Peripheral | 0.18 | -0.05 | -0.04 | 0.19 | 0.13 | 0.38 | 1.00 | |
| Supranational | 0.29 | -0.28 | 0.13 | 0.29 | -0.16 | 0.22 | 0.02 | 1.00 |

## Correctly predicted observations

The predictions were made using the estimates of the main model. A delegate was predicted to be in favor if her predicted probability of being in favor exceeds 50%. Note that out of 94 observations, 31 are in favor and 63 against. An empty model would hence correctly predict 63 out of 94 observations, or 67%. The estimated model correctly predicts 76 observations out of 94 or 81%. The proportionate reduction of error is $\frac{76-63}{94-63} = \frac{13}{31} = 42\%$.

*Table 12. Fit of the model.*

| | Observations | % of sample |
|---|---|---|
| Correctly predicted in favor | 20 | 21% |
| Correctly predicted against | 56 | 60% |
| Incorrectly predicted in favor | 7 | 7% |
| Incorrectly predicted against | 11 | 12% |
| Total | 94 | 100% |
| Correctly predicted | 76 | 81% |

## Robustness checks

### *Conducted regression at party level*

*Table 13. Probit regression of Exitfree at the party level (1 = in favor of a free exit right).*

| Probit of Exitfree | Probit coefficients | Marg. effects at means |
|---|---|---|
| GDP_Peripheral_below | 1.380** | 0.508** |
| | (0.568) | (0.206) |
| GDP_Peripheral_above | 1.307** | 0.482** |
| | (0.611) | (0.232) |
| Pop_M | 0.014 | 0.005 |
| | (0.011) | (0.004) |
| Ex_Soviet | 0.841 | 0.310 |
| | (0.594) | (0.220) |
| Anti_EU | 2.525*** | 0.930** |
| | (0.963) | (0.380) |
| LR_Peripheral | 0.114 | 0.042 |
| | (0.335) | (0.123) |
| Constant | -2.328 | |
| N (parties) | 65 | 65 |

*Robust standard errors clustered at the country level in brackets. *p<10%, **p<5%, ***p<1%*

### *Used second coder's coding of the dependent variable*

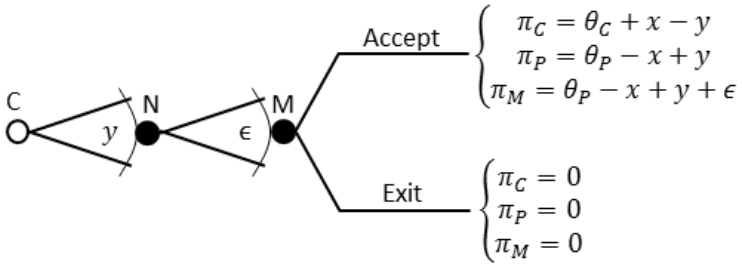
*Table 14. Probit regression of Exitfree (1 = in favor of a free exit right).*

| Probit of Exitfree | Probit coefficients | Marg. effects at means |
|---|---|---|
| GDP_Peripheral_below | 1.453** | 0.504** |
| | (0.593) | (0.201) |
| GDP_Peripheral_above | 1.153** | 0.400** |
| | (0.482) | (0.167) |
| Pop_M | 0.009 | 0.003 |
| | (0.009) | (0.003) |
| Ex_Soviet | 0.356 | 0.124 |
| | (0.710) | (0.247) |
| Anti_EU | 2.137** | 0.741** |
| | (0.976) | (0.347) |
| LR_Peripheral | 0.353 | 0.123 |
| | (0.405) | (0.134) |
| Supranational | 0.755** | 0.262** |
| | (0.327) | (0.115) |
| Constant | -2.468 | |
| N | 94 | 94 |

*Robust standard errors clustered at the party level in brackets. *p<10%, **p<5%, ***p<1%*

## A model of an uncertain referendum

Figure 7, reprinted below, presents a model of an uncertain referendum.




When making concessions $y$, the core does not know the value of $\epsilon$. However, in a subgame perfect equilibrium it is clear that the median voter will vote to leave if $\theta_P - x + y + \epsilon < 0$.

To simplify the algebra, define $z = x - y$. This variable captures the net policy change $z$ after concessions $y$ were made on initial changes $x$. Using this variable, the median voter will vote to stay if

$$\theta_P - z + \epsilon \geq 0 \tag{3}$$

Anticipating the median voter's behavior, the core's payoff can be written as

$$\pi_C = (\theta_C + z).I\ (\theta_P - z + \epsilon \geq\ 0) \tag{4}$$

Where $I(.)$ is an indicator function taking the value 1 if the condition is true and zero otherwise.

Integrating out over the uncertain $\epsilon \sim U[-b, a]$ with probability density function $f(\epsilon) = \frac{1}{a+b}$ for $-b \leq \epsilon \leq a$, one finds

$$E(\pi_C) = \int_{-b}^{a} (\theta_C + z).I\ (\epsilon \geq\ -\theta_P + z).f(\epsilon)d\epsilon \tag{5}$$

For $-b \leq -\theta_P + z \leq a$ or $-b + \theta_P \leq z \leq a + \theta_P$, this computes to

$$\begin{aligned} E(\pi_C) &= \int_{-b}^{-\theta_P+z} 0 d\epsilon \int_{-\theta_P+z}^{a} (\theta_C + z).1.\frac{1}{a+b} d\epsilon \\ &= \frac{a + \theta_P - z}{a+b}.(\theta_C + z) \end{aligned} \tag{6}$$

The first term gives the probability that $M$ votes to maintain the federation, while the second term gives the payoff in that case. Given that this expression is a concave function of $z$, the

optimum interior value can easily be derived by taking the first order condition. The result is $z = \frac{a+\theta_P-\theta_C}{2}$.

Recall that $z$ is bounded by $-b + \theta_P \leq z \leq a + \theta_P$. Clearly the upper bound will never be binding, since $\frac{a+\theta_P-\theta_C}{2} \leq a + \theta_P$ regardless of the parameters. However, the lower bound may be binding. In particular, if $\frac{a+\theta_P-\theta_C}{2} < -b + \theta_P$ or $\theta_C + \theta_P > a + 2b$ then it becomes optimal for the core to set $z = -b + \theta_P$ instead. In this case, the compensation is equal to $y = x - z = b$. The intuition is clear: if the federation is very beneficial compared to the uncertainty of the referendum, then it is optimal to set such a high compensation that the median voter never leaves. To conclude, the optimal value is

$$z^* = Max\left\{\frac{a + \theta_P - \theta_C}{2}, -b + \theta_P\right\} \quad (7)$$

Compared to the equilibrium value of $x = \theta_P$ as presented in the main text, this is guaranteed to be lower if $\frac{a+\theta_P-\theta_C}{2} < \theta_P \Leftrightarrow a < \theta_P + \theta_C$. Hence as long as the potential upside of $\epsilon$ is not exceedingly high, positive concessions $y^*$ will be made, since

$$y^* > 0 \Leftrightarrow z^* < x^* = \theta_P \Leftrightarrow a < \theta_P + \theta_C \quad (8)$$

On the other hand, as long as $a + 2b \geq \theta_C + \theta_P$, i.e. there is enough uncertainty and especially potential downside of $\epsilon$, there will be a positive probability that exit occurs.