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I treat formal policy agreements between governments and major peak associations—social pacts—as a useful way to explore issues of election-induced variation in economic policymaking. I argue that pacts are part of an electoral strategy for political parties. They are one way a party can convince voters that economic outcomes under its rule will be better than those under a challenger. I show that pacts can emerge as part of equilibrium behavior in a repeated game but only if the policymaker is sufficiently willing to work with unions. There is no reason for a pact to exist in the absence of electoral incentives. I hypothesize that pacts are more likely to be struck nearer to elections and with greater Left participation in government. Using an original dataset on social pacts in the OECD, 1974–2000, I find evidence that the onset of pacts is related to elections, partisanship, and EMU convergence pressures.

In confronting the major economic challenges of the last 30 years—the stagflation of the 1970s and subsequent global economic integration—rich democracies’ policy approaches have varied across time and space. Policy makers have, at times, turned to monetarist interest rate policies to dampen inflation at the cost of high unemployment and severe economic downturns. Governments have sometimes legislated directly over wages and prices. Some attempted negotiated agreements with peak associations of labor and capital—social pacts—in an attempt to liberalize labor markets or gain control of wage demands, prices, and government budgets. Neoclassical economic theory has little to say about such agreements, particularly how they might actually influence economic outcomes.

Based on the simple premise that office-seeking politicians have every incentive to manipulate fiscal and/or monetary policy to improve their electoral chances, a parallel literature on the “political business cycle” also emerged, though it took limited interest in unions or wage bargaining. Suffice to say there is some empirical evidence for electoral cycles in policies; evidence for electoral cycles in real economic variables is less convincing; and evidence for partisan differences in electioneering is even weaker (Franzese 2002). Both Clark (2003) and Franzese (2002) emphasize that we cannot look for cross-national evidence of either partisan or electoral cycles in economic policymaking without first accounting for the tools available to politicians.

In this paper I view social pacts as useful avenue through which to explore important issues of election-induced variation in economic policymaking. While pacts can (and have) been productively viewed from a number of angles—as determinants of macroeconomic outcomes or as examples of everything from the the declining power of unions to consensus-based policy making—I focus on a hitherto under-appreciated attribute of social pacts: their highly public nature. Based on the hypothesis that pacts are publicly trumpeted because they are attempts to communicate with voters, I take the position that pacts are essentially part of an electoral strategy for political parties, particularly those parties with close links to major labor peak associations. Pacts are one way in which a party can try to convince voters that economic outcomes under its rule will be better than those under a challenger. I show that it is possible for pacts to emerge as part of equilibrium behavior in a game involving unions, an elected policy maker, a central bank, and a representative voter. But this emergence and implementation of a pact is by no means assured. Pacts can either be self-enforcing or ignored, implemented or still-born. Nevertheless, no pact can emerge if the policy maker is insufficiently willing to work with unions nor is there any reason for a pact to exist in the absence of an electoral
incentive. Under the additional assumptions that Left parties are more capable of working with union federations and that policy signals are more effective closer to elections, I hypothesize that pacts are more likely to be struck nearer to elections and when there is sufficient Left participation in government. Using an original dataset of social pacts in 20 OECD countries from 1974 to 2000, I find evidence that the onset of pacts is strongly affected by both electoral cycles and partisanship. I also find that the Maastricht treaty, whose EMU convergence criteria starkly limited governments’ economic policy tools by fixing currencies and imposing binding fiscal and monetary rules, has a strong relationship with the emergence of social pacts. These findings provide a more general understanding of pacts while also casting some doubt on Clark’s neo-Downsian model in which all survival-maximizing parties pursue the same policies in equilibrium, conditional on the policy levers at their disposal. Rather, a successfully implemented pact may enable a government to satisfy its constituencies without some of the purported macroeconomic side effects, thus providing one mechanism to help account for why we fail to observe more ubiquitous partisan-based electioneering.

**Background**

The literature on the political business cycle is long and distinguished in both political science and economics. It is intuitively appealing to think that politicians, eager to remain in office and facing voters who care deeply about their own economic positions, would emphasize expansionary or income-generating policies near elections in an effort to influence the voters’ beliefs or expectations about the incumbent’s ability to manage the economy. Empirical studies generally turn up modest cycles in expansionary policies that tend to fade as the incumbent’s term wears on (Alesina, Roubini, and Cohen 1997). But calls for more nuanced work have been heeded: “[E]lectoral and partisan cycles in policies and outcomes tend to generate greatest theoretical interest and insight and to receive strongest empirical support when researchers recognize their context conditionality” (Franzese 2002, 407). Specifically, Clark (2003) argues that the basic economic institutions of capital mobility, exchange rate orientation, and central bank independence condition the policies available to politicians. He ends up concluding that, conditional on the institutional structure, parties of the Left and Right pursue similar policies. More closely related to the tack pursued here, Adolph (2006, chap. 7) shows that the interaction between partisanship, bargaining centralization, and central bank independence can induce both temporary electoral cycles and “permanent” partisan difference in unemployment levels.

The theoretical advances underpinning the Adolph argument come from relaxing the assumption of perfectly competitive labor markets. Once we allow for stickiness in wages and monopsony power, involuntary unemployment exists and a role for government emerges even in the context of rational expectations (Iversen and Soskice 2006). Governments can attempt to engineer bargains in which wage bargaining parties restrain wage growth in effort to boost overall employment. The problem is two-fold. First, the “larger the number of independent unions, the harder this becomes. If N – 1 unions agree on wage moderation, where N is a large number, the gain to the Nth union from free riding on the general moderation and demanding higher bargained real wages will be great, and the incentive on the part of the other N – 1 unions from retaliating (by stopping moderation) will be limited” (Iversen and Soskice 2006, 439). Second, unions worry that they may not fully benefit from their concessions. Benefits may disproportionately accrue to capital owners in the form of a lower real-wage bill and reduced inflation. The role of government is to use fiscal policy to compensate unions and sustain the bargain—if possible.

Social pacts aimed at generating this type of bargain have been a regular part of economic policy making in several OECD countries in recent decades, but they still occupy a stepchild position in the larger comparative political economy literature, overshadowed or subsumed by the literatures on “neocorporatism,” the welfare state, and the so-called “varieties of capitalism.” While bi- and tripartite policy agreements have differed substantially in their content, timing, and durability, they most commonly embody some form of exchange in which labor unions pull their punches in wage negotiation or assent to changes in labor market regulations in exchange for social spending, taxation, or other policies they prefer. Some pacts (e.g., in Ireland) have proven so resilient that observers consider the pacts to be institutionalized. Other agreements, such as the 1979 National Accord in the United States or the 1990 Growth Agreement in New Zealand, were still born. Still others had more modest goals involving the implementation of specific policies (e.g., in Spain).

Several arguments have been put forward to help us understand the existence of pacts. Regini (1995)
argues that pacts are a way for governments to share the blame for unpopular welfare state reforms. Hassel (2003) argues that more recent pacts are the result of improved bargaining position of governments vis-à-vis unions while Culpepper (2008) describes pacts as a means of institutional change. Probably the most articulated theory of pacts emerges from Lucio Baccaro and coauthors (Baccaro 2006; Baccaro and Lim forthcoming). They argue that pacts emerge when the government is weak (in the minority or a caretaker), unions are dominated by political moderates (i.e., not Communists), and there is a “crisis.”

But it is not always obvious that scholars discussing social pacts are even talking about the same things. To facilitate systematic quantitative work, I propose the following definition: a social pact is a written, formally articulated, policy contract in which specific policy domains are identified, policy targets set, and the responsibilities of the signatories enumerated. A pact is time-bound, either explicitly or implicitly. A pact is signed by a labor peak association and at least one of {employer peak association, government/executive}. The government or prospective government must either be a pact signatory or the pact must have clauses which require government action and the government publicly declares its support for the agreement and its intention to take the required actions. The term “pact” reflects the formal, contractual nature of the agreements while the term “social” distinguishes these agreements from pure private sector wage bargaining and purely government-based policymaking.

Others (Avdagic, Rhodes, and Visser 2005; Baccaro and Simoni 2006) have spent a great deal of effort defining and categorizing pacts in a more granular fashion, identifying general policy areas or arguing for a typology of pacts. This is surely valuable work, especially when it comes to examining the eventual impact pacts may have on specific policy outcomes. Since my central purpose is to explore the role of employers, especially for pact renegotiation and survival, for future work.

Pacts are distinct from collectively bargained employment contracts, whether private or public sector. While governments routinely negotiate contracts with unionized public sector workers, these are restricted only to a subset of unions. Social pacts are agreements with union peak associations that affect public policy goals. In a pact, the government negotiates in its role as policy maker, not public employer.

While pacts are related to the notions of “policy concertation” and “neo-corporatism,” they differ in important ways. If concertation is taken to mean collaborative design of regulatory (as opposed to redistributive) policy (Iversen 2005), then pacts straddle a boundary. They clearly appear to be collaborative in the sense of unions, governments, and employers agreeing on the basic parameters of effective economic management. But they also frequently implicate highly redistributive policies such as taxation, retirement and pensions, health care, and unemployment while also affecting labor market regulations and the structure of union representation. Nor are social pacts just another way to talk about “neo-corporatism” or wage bargaining coordination. As Scharpf and Schmidt point out

In the countries classified as neo-corporatist...the pattern is always associated with the involvement of peak associations of capital and labor...in the policy choices of the state. In the reverse direction, however, the direct and open involvement of the state in collective bargaining between employers and unions is less common...In fact examples of explicit ‘political exchange’ in the form of ‘accords’, ‘social pacts’, or ‘alliances for employment’, where the government tries to obtain explicit acceptance of wage guidelines...are more characteristic of formerly fragmented industrial relations systems...rather than of corporatism. (2000, 12–13; emphasis in original)

Although pacts may induce centralized bargaining for a time, they differ from codified institutional arrangements. Pacts are generally time-bound, with definite dates of inception and termination. They
also encompass specific policy domains with identifiable policy targets (inflation levels, wage increases, etc.). And pacts must be self-enforcing as they are not legally binding in any meaningful sense.

Pacts are also something different from direct lobbying. Unions and employers lobby governments all the time. Labor federations maintain significant political alliances even where they are weak and fragmented. Pacts are different in that they are very policy specific and very public. Pacts are trumpeted loudly both within unions and the mainstream press. It is the public, contractual nature of pacts that links pacts, policy, and elections while making pacts distinct from the other ways government and major interest groups pressure one another.

To date, the literature has had a strong European focus. This has led some to argue that EMU convergence criteria induce pacts (Fajertag and Pochet 2000; 1997; Hancké and Rhodes 2005; Hassel 2003; Regini 1995). This is both understandable, since all post-1991 pacts occurred in Maastricht countries, and unfortunate since it has often ignored similar experiments outside the EU, whether successful (Australia) or less so (New Zealand, United States). Some (Rhodes 2001) have argued that this difference implies that the early and later pacts are fundamentally different in nature. But the strong relationship between pacts and the process of European integration, discussed empirically below, is also consonant with the idea that politicians follow an “electioneering Ramsey rule” and “use all available policy tools for electoral gain in proportion to their utility toward that end” (Franzese 2002, 382). The Maastricht criteria effectively removed devaluation from the stimulus toolbox while also imposing constraints on price stability. Bargaining with peak associations therefore becomes a more attractive policy tool in the post-Maastricht period (Baccaro and Simoni 2006) while simultaneously enhancing the governments’ threat of stricter monetary policy (Hassell 2003).

And what of pacts’ actual effects on policy and outcomes? As might be expected, without an appropriate understanding of what determines pact onset, it is nearly impossible to evaluate their effectiveness on a systematic, cross-national basis. Their idiosyncratic contents makes identifying implementation and “success” across pacts a nontrivial exercise. Nevertheless, there is some prima facie evidence that pacts, when implemented, can have had effects on policy, elections, and outcomes in specific cases (Scharpf 2000). In Australia, there is evidence that the Accord of the 1980–90s lowered strike activity (Chapman 1998), compressed wages, and reduced real-wage growth and unemployment (Chapman 2000). It seems likely that the Accord was effective in helping Labor win the 1983 and 1986 Australian federal elections (Singleton 1990). Observers of Ireland and Italy have credited pacts there with stabilizing wage-bargaining relationships (Baccaro and Lim forthcoming; Culpepper 2008; Teague 1995). In Spain and Portugal, pacts do seem to have smoothed the implementation of controversial policies.

In sum, pacts occupy an uncomfortable theoretical purgatory in the existing thinking about economic policymaking, wage-price bargaining, corporatism, and interest group influence. They can be considered as independent variables, mitigating variables, and outcomes in their own right. I argue theoretically that pacts serve a “bridging” role, enabling the effective linking of private sector wage bargaining and public fiscal—and perhaps monetary—policies. But they also serve an electoral purpose, providing a way for us to link models of political control of the economy with an understanding of electoral and partisan cycles in policymaking. As such, they merit attention as outcomes. Existing theories of pacts emphasize the role of crisis and governmental weakness. My argument puts the focus squarely on the electoral imperatives facing partisan politicians.

**Pacts and elections: a model**

This section develops a stylized model showing how pacts can be related to the electoral cycle and the partisan composition of the government. For concreteness I discuss pacts in the context of wage bargaining but the basic argument follows for any set of concessions by unions in one domain in exchange for policy favors in another. The key strategic issue at hand is one of intertemporal political exchange. The model here builds on Iversen (1999, chap. 2) and Adolph (2006, chap. 7). Levi and Schott (1986) first propose viewing pacts as part of a repeated game.

**Players**

In the model, there are four classes of strategic players: (1) a set of $n$ unions, $L^i \ (i = 1 \ldots n)$, each of which chooses nominal wage increases for its bargaining area; (2) an incumbent party, $P$, who controls tax and transfer at some cost; (3) a representative citizen, $C$, who chooses either the incumbent or the challenger in periodic elections. $C$ is assumed not to be a union member (or at least does
not vote as if she were); and (4) a monetary authority, \( M \), with control over the inflation rate.

Each union is assumed to value real wages, employment, and the “social wage.” Specifically, each union’s utility at time \( t \) is

\[
V_t^U = S_t + \alpha (w_t^i - \pi_t) - (1 - \alpha) \bar{U}_t U_t^i
\]

where \( \pi \) is the inflation rate; \( w^i \) is the nominal wage increase set by union \( i \); \( U^i \) is the unemployment rate amongst members of union \( i \) and \( \bar{U} \) is the average unemployment rate in the economy; \( \alpha \in [0, 1] \) is a parameter governing the relative importance of wages and unemployment; and \( S \) is the “social wage” or, alternatively, the government policies that benefit unions. I combine all nonpolicy terms of the unions’ objective function into \( W_t^L(w^i) \).

With the term “representative voter,” I am envisioning a population of agents who are politically identical, so we can consider a single agent with no loss of generality. This population need not be the entire population of voters, but it must be pivotal. The existence of this class of voters is a convenient formulation useful in that it captures an ideological or, more likely, an organizational affinity between political parties and unions while also incorporating quite starkly the electoral incentives facing politicians.

The monetary authority is assumed to care about aggregate price levels and unemployment. \( M \) chooses the inflation rate to maximize

\[
V_t^M = -\frac{1}{2} \epsilon (\pi_t)^2 - (1 - \epsilon) (\bar{U}_t)^2
\]

The parameter \( \epsilon \) describes the relative weight the monetary authority places on price stability versus unemployment.

### Economic Assumptions

Rather than posit a full model of the economy, I import Iversen’s specification of the labor market and expectations-augmented Phillips curve. Specifically, I assume that unions set nominal wage increases. The effect of nominal wages on prices and unemployment flows through a relative price effect and an aggregate price effect.\(^1\) The relative effect for union \( i \) is given by \( cw^i \), where \( c = 1/n \) is a measure of the centralization of unions. The relative effect for all other unions is given by \( cw^o \). The aggregate effect for \( i \) is \( c^2 w^i \) while for all other unions it is \( c(1 - c)w^o \). If \( M \) were to set inflation below the price increases implied by the nominal wage demands \( w^i \) and \( w^o \), there would be an effect on unemployment. These disequilibrium conditions simplify to

\[
\Delta U^i = w^i(c^2 - c + 1) + w^o c(1 - c) - \pi
\]

\[
\Delta \bar{U} = cw^i + (1 - c)w^o - \pi
\]

\(^1\)See Iversen (1999, 38–46) for a detailed discussion and derivation of the relative and aggregate effects.
Sequence of play and information

The value of \( \epsilon \) is assumed to be common knowledge and constant for all periods. At \( t = 0 \), \( P \) and \( L \) can bargain over a contract of the form \( \langle S^t_\infty, w_\infty^t \rangle \), where the subscript denotes an infinite sequence of vectors \( \langle S^t_\infty, w_\infty^t \rangle \). I assume that, if possible, \( P \) and \( L \) reach a Nash bargaining solution in setting contract terms. If a contract is signed, then the contract’s existence is announced to \( C \), along with the values \( \langle S^t_\infty, w_\infty^t \rangle \). \( C \) then either appoints \( P \) or some challenger as policy maker. If the challenger is selected then \( \tau_t = 0 \) \( \forall \ t \) and \( L^t \) sets nominal wages accordingly. If \( P \) is installed in office, \( P \) and \( L^t \) implement \( \tau_t \), \( S_t \), and \( w_t^t \), which need not be those announced under a pact. \( M \) sets \( \pi_t \) and the stage ends. In subsequent periods, play proceeds identically only there is no possibility for a pact.

Equilibria

A one-period game. I first consider the equilibria for a single period of the game. Given equations (1), (5), and (6) and suppressing subscripts for time, I can reformulate \( M \)'s optimization problem as

\[
\max_{\pi} -\epsilon \pi^2 - (1 - \epsilon)(\bar{U} + c\pi^t + (1 - c)\pi^t)^2
\]

yielding exactly Iversen’s sufficient condition for a maximum:

\[
\pi^* (w^t) = (1 - \epsilon)[\bar{U} + c\pi^t + (1 - c)\pi^t]
\]

(7)

with the far-right equation resulting from the fact that \( \pi^t = \pi^t \) in equilibrium.

Now consider the unions’ demands in the absence of any pact. Given \( M \)'s best response, \( L^t \) will solve \( \max_{\pi} \alpha(\pi^t - \pi^*) - (1 - \alpha)(\bar{U} + \Delta\bar{U}) \) for \( \pi^* \).

Using the fact that \( w^t = \pi^t \) and \( \bar{U}^t = \bar{U} \) in equilibrium, the unions’ optimal wage demand is given by

\[
\dot{w} = \dot{\pi}^t = \frac{\alpha(1 - c + \alpha) - (1 - \alpha)\epsilon\bar{U}(c^2 + 2c(\epsilon - 1) + 1)}{(1 - \alpha)(c^2 + 2c(\epsilon - 1) + 1)}
\]

(8)

once again, equivalent to Iversen’s expression. We can also now specify \( \frac{\partial W^L}{\partial \pi^t} \) and \( \frac{\partial W^C}{\partial \pi^t} \), two expressions that will be useful later:

\[
\frac{\partial W^L}{\partial \pi^t} = \alpha(1 - c + \alpha) - (1 - \alpha)\epsilon\bar{U}(c^2 + 2c(\epsilon - 1) + 1)
\]

(9)

\[
\frac{\partial W^C}{\partial \pi^t} = 2c(-\epsilon^2 + 2\beta\epsilon - \beta)(\bar{U} + \pi^t)
\]

(10)

It can be verified that \( \frac{\partial W^L}{\partial \pi^t} > 0 \) for \( \pi^t < \bar{\pi} \) and that \( \frac{\partial W^C}{\partial \pi^t} < 0 \) \( \forall \beta, \epsilon \in [0, 1] \). In words, the unions’ utility not related to government transfers is increasing in its wage up to \( \bar{\pi} \) whereas the citizen’s utility is decreasing in the unions’ wage demands. This relationship is fundamental to a pact; unions and voters make an agreement whereby unions are compensated for giving up wages and the gain for the citizen is worth the policy price.

Working backwards, \( M \) will set inflation according to (7). Consider the case in which some pact was signed prior to the election and \( C \) installed \( P \). Suppose further that \( S' \) and \( w' \) are such that both \( C \) and \( L^t \) are better off under the pact than without one (the conditions for this will be elaborated below). In this case, the unions have an incentive to deviate from whatever the pact demanded and set \( \pi^t = \bar{\pi} \). Similarly, \( P \) has no incentive to implement \( \pi^t \) and \( S' \). In the one-shot game no contract signed by \( L^t \) and \( P \) is credible. As a result, \( C \) will disregard any pact and install \( P \) with probability 1/2 since \( P \) and the challenger are indistinguishable in terms of expected policy. Thus, in the subgame perfect Nash equilibria for a one-shot game \( M \) sets \( \pi^* = \pi^* (\bar{\pi}^t) \), \( L^t \) signs any pact offered with probability 1/2; \( L^t \) sets \( \pi^t = \bar{\pi}^t \) \( \forall t \); \( P \)'s set of contract offers is unrestricted; \( P \) sets \( \tau_t = 0 \); and \( C \) votes for \( P \) with probability 1/2.

While pacts are possible in these equilibria they are not worth the paper they are printed on. Substantively, this result formalizes an intuition held by many: pacts are just cheap talk with no bearing on policy. There are some examples of pacts that appear to correspond to this characterization. The 1979 National Accord signed by the Carter Administration and the AFL-CIO was an attempt to deflect criticism of the Democrats’ handling of inflation in the run up to the 1980 Presidential election (Flanagan 1980).
The repeated game. Given that the voter witnesses a social pact, are there conditions under which it is reasonable for the voter to believe that the pact will be implemented if the government continues in power? Since no agent can coerce the government into compliance \textit{ex post}, a pact must be self-enforcing which requires repeated play. As the game is played through time I assume that all players hold the common discount factor \( \delta \).

As with all repeated games, there are an infinite number of equilibria including an infinite repetition of the equilibria just described. I characterize equilibria in which pacts that are proposed are signed, both \( L^i \) and \( P \) implement the pact’s provisions, and \( C \) appoints \( P \) in every period after having seen a pact. Put another way, the pact is both credible and self-enforcing. To construct the equilibrium, I posit a trigger strategy. \(^2\) Specifically I consider the conditions under which the following “grim trigger” strategy profile constitutes and equilibriu:

- \( M \) sets monetary policy in each period as above
- \( L^i \) sign a pact and set \( w^i_0 = w^i_j \) \( \forall i \), provided that 1) \( P \) is in office at \( t \); 2) \( P \) has set \( S_r = S^j_r \) \( \forall r < t \); 3) \( w^o_r = w^o_j \) \( \forall o \neq i \forall r < t \). Otherwise \( w^o_j = \hat{w} \).
- \( P \) signs a pact and sets \( \tau = S^+ t \) and \( S_t = S^j_t \) provided that 1) \( P \) is in office at \( t \); 2) \( w^i_r = w^i_j \) \( \forall i \forall r < t \). Otherwise \( \tau_j = S_t = 0 \).
- \( C \) installs \( P \) in office in every period provided that 1) a pact was signed at \( t = 0 \); 2) \( P \) was in office at \( t - 1 \) or \( t = 0 \); or 3) \( W^C_r > W^C(\hat{w}) \) \( \forall r < t \). Otherwise install the challenger.
- \( P \) and \( L^i \) set \( w' \) and \( S^i \) according to Nash bargaining.

Let \( \sigma \) denote this strategy profile. Note that \( \sigma \) requires both vertical and horizontal accountability: All unions defect if \( P \) fails to deliver or if one of the other unions fails to cooperate in wage restraint.

Any implemented pact must be self-enforcing. For \( P \) this is not a problem since neither proposing nor signing a pact is costly; \( P \) will propose, sign, and implement any pact provided it believes \( L^i, M \), and \( C \) are playing \( \sigma \).

Given the strategies of \( L^i \) and \( P \), it is in \( C \)'s interest to vote for \( P \) iff

\[
\frac{\delta}{1 - \delta} V^C(w', \tau') \geq \frac{\delta}{1 - \delta} V^C(\hat{w}, \tau = 0) \quad (11)
\]

where \( \tau' = S' + \epsilon \). Note that since \( C \) acts every period to select the government, the discount factors cancel and condition 11 is equivalent to ensuring that the value to \( C \) of a pact is at least as good as having no pact in every period.

For a pact to be of interest to unions, it must be the case that the (discounted) benefits of the pact exceed the foregone wages. Formally, for a pact to be an equilibrium outcome the value to the unions of a one-time deviation cannot outweigh the punishment inflicted by \( P \) and \( C \), i.e., reverting to the no-pact state for the rest of the game:

\[
\sum_{t=0}^{\infty} [W^L_t(w') + \tau_t - 1\epsilon_t] \\
\geq W^L_t(\hat{w}) + \tau - 1\epsilon + \sum_{t=r+1}^{\infty} W^L_t(\hat{w}) \\
\delta \frac{\delta}{1 - \delta} [W^L(w') + \tau - 1\epsilon] \\
\geq \tau - 1\epsilon + \delta W^L(\hat{w}) \quad (12)
\]

Condition 12 emphasizes the standard result in the theory of repeated games: equilibria supported by trigger strategies require that the players do not discount the future too heavily. Note, however, that so long as voters find the pact credible only the unions’ discount rate matters. The other players’ payoffs are determined within a single election cycle. Formally, \( \delta \) must be greater than \( \delta^{*} \)

\[
\delta^{*} = \frac{\epsilon - \tau}{W^U(\hat{w}) - W^L(\hat{w})} + 2(\epsilon - 2\tau)
\]

To characterize equilibria we need to find the values of \( w' \) and \( S^i \) that make the players exactly indifferent between a pact and no pact. First, consider \( C \)'s decision. The best contract the decisive voter can hope for is the one that makes \( L^i \) indifferent between signing and not, assuming that the pact is implemented in equilibrium. The values for this contract are given by the solution to max \( \tau w W^C(w) - \tau \) subject to the constraints that \( \tau \geq \frac{\epsilon}{2\delta - 1} [W^L(\hat{w}) - W^L(\hat{w})] + 1\epsilon \) and \( \tau, w \geq 0 \). The first inequality is the unions’ participation constraint derived by solving (12) for \( \tau \). The constraint will bind, giving the first-order condition that implicitly defines \( w' = w^p = w \), the smallest wage increase a pact can induce or, equivalently, the maximum amount of wage restraint that any pact can secure:

\[
\frac{\delta}{2\delta - 1} \frac{\partial W^L(w)}{\partial w} + \frac{\partial W^C(w)}{\partial w} = 0 \quad (13)
\]

Substituting in the appropriate derivatives and simplifying yields
Thus we can now state that There exists a set of Nash equilibria in the infinitely repeated game under strategy profile $\sigma$ provided that $\varepsilon < \bar{\varepsilon}$ and $\delta \geq \delta'$.

Discussion and implications

In the context of a repeated game between unions, a political party, the central bank, and the representative voter pacts can emerge as part of equilibrium behavior in two fundamental ways: in the first, a pact may be signed but it is never implemented. But while the equilibrium in mixed strategies may help account for failed pacts, the solution is unattractive, especially if voters are assumed to know $\varepsilon$. Voters should disregard any pact announced between unions and a party where the terms of the pact are overambitious given the party's ability to deliver policy. The notion of a union federation randomizing over signing a pact is also unattractive since failure would reflect poorly on union leadership. In the second set of equilibria, the terms of the agreement are implemented, using the threat of defection in a repeated game to enforce terms. Pacts are the public announcements specifying the focal point for trigger strategy implementation off the equilibrium path. In this multilateral trigger strategy the voter refuses to elect the party if overall fiscal and economic outcomes are not as good those expected under a challenger; the political party refuses to compensate unions if any of the unions do not deliver the agreed wage restraint; and the unions fail to coordinate on wage restraint if either the government fails to deliver promised policies to unions or other unions violate the wage restraint agreement. Without some mechanism for coordination there is no way for the trigger strategies to exist and no way for the voters to evaluate the preelectoral policy statements of the incumbent.

In either case, the electoral incentives of the incumbent and the voters’ desire for believable policy promises about economic management motivate the emergence of pacts. Ultimately, elections are both the reason for policy promises and the mechanism that induces compliance by the unions and the government. The incumbent party’s aversion to cooperating with unions, which I interpret as partisanship, affects the size of the surplus over which the actors bargain. We have thus linked partisan economic policymaking with elections and the reactions of voters. Note that I have derived this relationship without appealing to either partisan policy objectives or voter uncertainty about the incumbent’s competence in managing economic affairs.

If the model captures some key attributes driving social pacts, we should expect necessary conditions for
pact emergence to obtain more readily when (1) the Left constitutes a sufficient proportion of the government and (2) the electoral imperative is most stark. All else constant, the more likely the necessary conditions the more likely we observe a pact. If we assume that statements made closer to elections are more salient to voters and therefore more valuable to the incumbent from an electoral perspective, then we should expect pacts to emerge close to elections. These are the two empirical hypotheses I examine in the next section.

The model also has notable limitations. First, I have focused on the political determinants of pacts without specifying the economic conditions that might make a pact more or less attractive, though the relationship between that higher unemployment and the amount of wage restraint a pact can secure suggests that unemployment is important. I address this below by appealing to existing arguments in the literature linking economic upheaval with pacts. Second, while the model’s depiction of the political process most closely approximates systems with two dominant parties or blocs, the conceptualization of “partisanship” as a continuous variable enables us to think of the incumbent government as one of composed of differing coalition members. And while the “representative voter” construct is unrealistic, the simplifying assumption permits us to focus more directly on the bargaining relationship between government and unions. Future work will need to explore the relationship between party systems and pact timing in greater detail.

Data

This section outlines the data used in analysis below focusing on the outcome variable of social pacts. To date most studies of pacts have involved case studies of particular countries or pacts. The lack of widely available cross-nationally comparable data on pacts has slowed larger-n work. One of the contributions of this paper is the introduction of a comprehensive data set encoding the signing of pacts in 20 developed democracies for the periods 1974–2000. The countries in the sample are: Australia, Canada, the EU15 (without Luxembourg), Norway, New Zealand, Switzerland, and the United States.

Social pacts

I coded the onset and collapse of pacts at the quarterly level. All details about the sources and coding rules as well as the dataset and replication code are online at http://dvn.iq.harvard.edu/dvn/dv/ahlquist. Pacts can vary in their durations; some persist for long periods while others are never around long enough to be implemented. It seems plausible that the variables likely to affect the duration of pacts (e.g., economic performance, employer participation, the actual results of elections) are endogenous to both pact emergence and one another. These endogeneity problems in pact duration complicate empirical analysis. As a result, this paper focuses exclusively on pact onset; it is not currently possible to estimate a model for the entire pact lifecycle without serious violations of model assumptions.

Many pacts, especially the most durable, are renegotiated several times. For example, the Australian Accord was renegotiated five separate times between 1983 and 1996. The Irish Programme for National Recovery was renegotiated (and renamed) four times between 1987 and 2003. Both my model and the literature have fewer claims to make about pact renegotiation relative to initial onset. Fitting statistical models for renegotiated pacts suffers from the same endogeneity problems afflicting models of pact duration. I therefore consider only “new pacts,” excluding renegotiated versions of previously existing pacts. All findings are therefore restricted in scope; it may be that variables I find to be unrelated to pact onset in fact affect pact longevity or renegotiation.3

Table 1 displays the pacts in the dataset and some of the relevant information about each: when a pact starts and ends; the extent of Left-party participation in government; whether any of the employers’ peak associations was a participant; and how many times the pact was renegotiated. It is worth noting the employers were participants in 15 of the 23 pacts in the dataset. The average for Left government score for all country-quarters under pacts was 31 compared to 20 for all for all country-quarters without pacts.

I rely on an empirical coding rule to identify new pacts: a new pact occurs in a quarter when there is no pact in effect in any of the last three quarters. All other pacts are coded as renegotiations. While this rule is not too restrictive, two instances might be questionable. First, are successive Italian pacts in the 1990s separate or really renegotiated versions of the same thing? Given the political turmoil during the 1990s in Italy each of these pacts seems better considered separately. Second the pacts in Spain in

3Rerunning the models on datasets including both new and renegotiated pacts as “failures” does not alter the findings for either the electoral cycle or partisanship.
the late 1970s and early 1980s might all be considered of a piece since they each involved bringing unions into the policy discussion as the country transitioned from the Franco dictatorship to new political and economic institutions. Excluding these cases from consideration does not alter findings reported below.

I should note one consequence of my coding and analysis decisions. By my definition and coding scheme the 1982 Wassenaar and 1994 “New Course” agreements in the Netherlands fail to qualify as pacts, even though there are several observers who treat both as important social pacts (Hamann and Kelly 2007; Hemerijck Van der Meer, and Visser 2000; Pochet and Fajertag 2000; Visser 1998). I justify this decision on the grounds that there was no evidence that government made public statements of support for either accord; indeed, both agreements were concluded under government threats of unilateral legislation (Visser 1998). Neither accord made demands on the government. Although there is a consensus that the government was deeply involved in brokering these Dutch deals, this is distinct from the logic of publicly contracting over policy that I argue is the sine qua non of a social pact. Re-running the analysis below including both of these instances does not alter the substantive interpretation of the statistical findings below, though the magnitude of some coefficients alters.

### Covariates

In the statistical models I include a slate of covariates. Variables for the electoral cycle and partisanship are included to evaluate the empirical hypotheses generated by the model. I include others included to “control” for arguments in the pacts literature.

**elections.** Two variables address the central concern of electoral cycles. Following Kayser (2005), I use the time since the last election as proportion of the constitutional interelection period, TSLE/CIEP, as a cross-country measure of both the proximity to previous elections and latent pressure to hold elections. This measure accounts for differing electoral calendars across countries. As a check on the appropriateness of TSLE/CIEP and to account for the fact that elections can be set endogenously in several countries, I employ a dummy variable taking the value of 1 if an election will be held in any of the
the notion of a “crisis” as inducing a publicly negotiated policy response. The debate has largely centered around what constitutes a meaningful or sufficient “crisis.” Several possibilities have been proposed.

Poor economic conditions, especially high unemployment and inflation, are the most commonly cited sources of crisis. This makes intuitive sense since unions’ wage bargaining activities lie at the nexus of the two in highly unionized economies. Virtually every case study of pacts mentions both unemployment and inflation as highly salient problems. I account for these arguments by including unemployment (OECD 2005), inflation (the GDP deflator from the WDI), and per capita GDP growth from the Penn World Tables (Heston, Summers, and Aten 2006), henceforth PWT. The latter two variables are interpolated to the quarterly level using cubic splines.

Rhodes (2001) argues that pacts are a response to the pressures of “globalization,” specifically the need to ensure export competitiveness and macroeconomic stability. He argues that pacts are more likely as countries become more exposed to the international economy, especially through trade. I therefore include total trade as proportion of GDP taken from the PWT. Other fiscal and macroeconomic variables hypothesized to matter are the government deficit and the current account balance, both taken from the World Bank (2006). These variables, too, are available only at annual levels, so I interpolate quarterly values using cubic splines.

I account for the previously discussed constraining role of the Maastricht treaty with a dummy variable equal to 1 for each quarter after Maastricht adoption.

Models and results

I model pact onset as an event-history process. In each quarter a country not currently under a pact is considered to be at risk.4 The probability of “failure”, i.e., a pact, is governed by a baseline hazard rate which is then modified through time as a function of covariates. Since countries can (and do) experience

4In the models below, I use elapsed time (quarters since 1974:I) to measure the counting process rather than gap time, i.e., each [start,stop] interval cumulates for the whole observation period rather than restarting at 0 in the first period in which a country reenters the risk set after a spell under a pact. I am unwilling to make the assumption that the baseline hazard rate, \( \lambda_0(t) \), is independent of calendar time, as required if the counting process is structured as gap time.
repeated spells under pacts and all covariates are
time-varying, each country contributes numerous
correlated observations. There may also be unmod-
eled country-specific factors that make a country
more or less prone to have social pacts. To address
these dependencies across observations, I employ a
so-called frailty model. This is achieved by including
a random effects term in the linear predictor. For-
mally, in the Cox frailty model each individual \( i \in \{1, \ldots, n\} \) is a member of one and only one group \( j = 1, \ldots, q \). In this application, each \( j \) represents one of
the 20 countries in the sample. Each \( i \) is an observa-
tion of a country-quarter. The hazard for \( i \) at time \( t \) is

\[
\lambda_i(t) = \lambda_0(t) \exp(X_i(t)\beta + Z_i\omega)
\] (16)

where \( \lambda_0(t) \) is the unspecified baseline hazard rate, a
function of time, and \( X_i \) is the vector of covariates
with associated coefficient vector \( \beta \). \( Z \) is matrix of
dummy variables encoding whether \( i \) is a member of \( j \)
and \( \omega \) is a vector of the to-be-estimated random
effects. To identify the model we assume \( \exp(\omega_j) \) are
distributed as i.i.d. Gamma or Gaussian, both with
unit mean and estimated variance \( \theta \). There is little
reason to prefer one over the other but inference can
be sensitive to the choice of distribution. I fit all
models using both specifications but findings did not
substantively differ. I only report Gaussian frailty
models.

**Pact onset**

*The Maastricht effect.* As expected, exploratory data
work turned up a strong association between
time periods in which a country is committed to
the Maastricht criteria and the hazard of a pact. In
Figure 1, I plot the survival curves generated by
simple Cox models with no covariates. In the upper
panel, all countries are included whereas in the lower
panel the model is stratified by the Maastricht
indicator variable. There is a clear increase in the
risk of a pact among Maastricht signatories after
1991; the downward slope of the survival curve is
precipitous, particularly when compared to the rate
of pacts in non-Maastricht country-periods. This
association is so strong (no pacts after 1990 were in
non-Maastricht countries) that the (penalized par-
tial) maximum-likelihood estimator regularly fails
to converge in models including the Maastricht
indicator variable.

Substantively, I show that the Maastricht criteria
are strongly associated with the emergence of social
pacts. Put another way, the Maastricht criteria
appears to have effectively constrained the policy
tools available to governments. A complementary
interpretation would be that Euro convergence re-
quired European central bankers to become more
hawkish towards inflation—an increase in \( \iota \) in terms
of the theoretical model. An increase in \( \iota \) yields a
bigger reductions in unemployment under a pact
relative to no pact, all else equal.\(^5\) Thus EMU criteria
makes pacts more attractive to unions and voters
than before. But while this Maastricht relationship is
an important finding, Maastricht in itself is not
sufficient for the emergence of a pact.

Methodologically, this relationship poses a co-
nundrum: to find unbiased estimates for other para-
eters we would like a correctly specified model, i.e.,
one accounting for the Maastricht effect, however the
(more) correctly specified model is preventing con-
vergence of the estimator. To get around this prob-
lem I stratify the models below on the Maastricht
indicator variable. In so doing, country-quarters sub-
ject to the Maastricht agreement have a different base-
line hazard rate than for those not under the treaty.
While this strategy prevents us from directly recover-
ing a coefficient estimate characterizing the magni-
tude of the Maastricht effect, that is not my primary
goal with this analysis.

**Models.** In Table 2, I display the results from a
series of models using different variables to measure
the electoral cycle and partisanship of government.

\(^5\)See Adolph (2006, 211–12) for a derivation
The actual $\hat{b}$ are on the difficult-to-interpret log hazard scale. For ease of interpretation, I report the exponentiated coefficient estimates with 95% confidence intervals. Values greater than one indicate a percentage increase and those less than one indicate a decrease in the hazard of a pact. As an example, the estimated coefficient of 1.22 on unemployment implies that a 1% greater unemployment rate is linked with a 22% greater risk of a pact, all else constant.

Looking first at the economic covariates, only unemployment consistently appears as a significant predictor of pact onset across specifications. Contrary to the discussions in the case study literature, inflation shows no systematic relationship with pact onset across countries and time. Deficits, the current account balance, growth, and trade have no significant impact, once other factors are accounted for.

Political variables, the electoral cycle, in particular, shows a strong influence on pact onset. As the pressure to hold elections increases (models 1 and 2), so does the risk of pact onset. If we substitute a dummy variable indicating whether an election will take place in any of the subsequent six quarters for TSLE/CIEP (model 3), the strong relationship between the electoral cycle and pact onset remains.

Models 1 and 3 measure partisanship using the proportion of governing coalition seats controlled by Left parties, as reported by Swank. A government with a Left parties controlling 1% more of the government-held seats, will increase its risk of a pact by about 3%, all else equal. Model 2 substitutes an indicator for the partisanship of the executive as taken from Beck et al. (2001) in place of the governing seats measure. I find that a country with an executive who is a member of a Right party has a 59% lower hazard of a pact when compared to similar countries with Left or centrist leaders. However this relationship only significant at the 0.11 level. Taken together, I interpret these findings as consistent with our hypotheses.

Other political explanations do not fare so well. Contrary to the arguments of Baccaro and coauthors, the majority status of the government is signed in the wrong direction and has wide confidence bands that cover zero. The partisan fragmentation of the legislature is equally uninformative.

To get a better idea for the magnitude of the estimated relationships, I focus on TSLE/CIEP, government partisanship, unemployment and inflation and use parameter estimates from model 1. For TSLE/CIEP, I estimate the effect of going one additional quarter

---

### Table 2  In Cox frailty models for pact onset stratified by Maastricht, unemployment, electoral cycles and Left government increase the hazard of a pact

<table>
<thead>
<tr>
<th>Covariate</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>exp $\hat{b}$ [95% CI]</td>
<td>exp $\hat{b}$ [95% CI]</td>
<td>exp $\hat{b}$ [95% CI]</td>
</tr>
<tr>
<td>Inflation</td>
<td>0.995 [0.84,1.19]</td>
<td>1.00 [0.84,1.19]</td>
<td>1.05 [0.91,1.20]</td>
</tr>
<tr>
<td>Unemployment</td>
<td>1.22 [1.01,1.48]</td>
<td>1.21 [1.00,1.44]</td>
<td>1.17 [0.99,1.39]</td>
</tr>
<tr>
<td>Deficit</td>
<td>1.18 [0.95,1.46]</td>
<td>1.12 [0.93,1.36]</td>
<td>1.12 [0.94,1.36]</td>
</tr>
<tr>
<td>Currt. acct.</td>
<td>0.93 [0.75,1.15]</td>
<td>0.91 [0.73,1.12]</td>
<td>0.91 [0.74,1.13]</td>
</tr>
<tr>
<td>Growth</td>
<td>1.06 [0.77,1.46]</td>
<td>1.09 [0.78,1.49]</td>
<td>1.01 [0.75,1.37]</td>
</tr>
<tr>
<td>Trade</td>
<td>0.99 [0.95,1.02]</td>
<td>0.99 [0.96,1.02]</td>
<td>0.98 [0.95,1.01]</td>
</tr>
<tr>
<td>TSLE/CIEP</td>
<td>1.02 [1.00,1.05]</td>
<td>1.02 [1.00,1.04]</td>
<td>3.03 [1.09,8.40]</td>
</tr>
<tr>
<td>Elec in next 6Q</td>
<td></td>
<td></td>
<td>1.02 [1.00,1.05]</td>
</tr>
<tr>
<td>Left gov.</td>
<td>1.03 [1.00,1.06]</td>
<td>0.41 [0.13,1.27]</td>
<td></td>
</tr>
<tr>
<td>Right executive</td>
<td>0.51 [0.06,5.06]</td>
<td>0.61 [0.07,5.34]</td>
<td>0.73 [0.10,5.45]</td>
</tr>
<tr>
<td>No. parties</td>
<td>1.51 [0.41,5.54]</td>
<td>1.66 [0.46,5.94]</td>
<td>1.42 [0.45,4.48]</td>
</tr>
<tr>
<td>Majority gov’t</td>
<td>1738</td>
<td>1738</td>
<td>1743</td>
</tr>
<tr>
<td>$N$</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>$\hat{\theta}$</td>
<td>0.38</td>
<td>0.17</td>
<td>0.11</td>
</tr>
<tr>
<td>Goodness of fit</td>
<td>0.02 of 0.056</td>
<td>0.017 of 0.056</td>
<td>0.016 of 0.059</td>
</tr>
<tr>
<td>LR $\chi^2$ (df)</td>
<td>34.8 (11.1)</td>
<td>29.2 (10.7)</td>
<td>28 (10.5)</td>
</tr>
</tbody>
</table>

Note: All economic variables are lagged one quarter. Entries in italics are significant at the 0.1 level while bolded values are significant at the 0.05 level or better using two-tailed tests. All models with Gaussian frailty using the AIC maximization criterion to estimate $\theta$. For goodness of fit, the first quantity is $(1 - \exp(2 \times \text{average change in log likelihood of fitted vs. null model}))$, whereas the second is $(1 - \exp(2 \times \text{average change in log likelihood of a saturated vs. null model})).

6This finding is robust to substituting other similar measures from differing sources such as the Left party seat share (Huber et al. 2004; Swank 1999) or percentage of cabinet portfolios going to Left parties (Swank 1999).
without an election (or a pact); on average this constitutes 1/16 of an interelection period. For Left government I use the median change in the percentage of Left government seats across elections (4.3). For inflation and unemployment, I use the median quarter-on-quarter change. Figure 2 displays the estimated percent change in the hazard of a pact for these changes in the covariates. It is immediately apparent that the electoral cycle and government partisanship play a substantively meaningful role in the onset of pacts, notwithstanding the modest size of the coefficients.

To summarize, I find consistent evidence across model specifications that pacts are related to the electoral cycle; as the pressure for elections builds, pacts become more likely. There is a significant partisan effect in pact emergence. Pacts are more likely when the Left has a larger role in government. On the economic side, pacts are more likely during times of high unemployment and in countries aspiring to comply with the Maastricht criteria. Other plausible variables mentioned in the literature do not show a consistent relationship with the onset of new pacts.

**Conclusion**

Governments in several of the world’s rich democracies have attempted to manage major areas of economic and social policy by striking widely announced policy agreements with peak associations of economic actors. This paper poses the question of how these social pacts can be enforceable. I argue that pacts come about primarily in response to the electoral incentives facing policy makers. Equilibria exist in which the unions and governments comply with the terms pacts, provided that unions are sufficiently patient, governments are sufficiently able to direct resources to unions, and voters are capable of holding the government accountable. In these equilibria, pacts are a focal point sustaining the trigger strategies that make the terms of the pacts self-enforcing. If we assume that parties of the Left are substantially better at redirecting resources to unions than those of the Right and that public policy statements made closer to elections are more salient to voters, new pacts should occur close to elections and be more likely the bigger the Left’s role in government. Using an original dataset of social pact onset, I find evidence that pacts are politically driven. Unemployment, electoral cycles, government partisanship, and Maastricht are the most important predictors of pact onset amongst 20 OECD countries, 1974–2000. Thus pacts are one way in which electoral incentives are refracted through partisan structures to generate policy in ways that might displace direct partisan electioneering.

This paper situates the specialist literature on social pacts in the broader literature on political control of the economy and electoral cycles in economic policy and outcomes. The findings here provide insight into the disconnect between evidence linking partisanship and bargaining centralization with economic performance on the one hand and the weak empirical support for the partisan electioneering on the other. A government need not be forced to choose between inflationary policies and unemployment when they can bargain over policy directly with interest groups and garner electoral benefits. If pacts are successfully implemented in equilibrium—which I show they can be—we may avoid some undesirable macroeconomic outcomes that are assumed to go along with the Left’s policy preferences (e.g., increased inflation).

The findings point the way to a number potentially fruitful areas for continued research. Due to restricted data, this paper has focused on the onset of pacts. Future work should examine the extent to which other equilibrium behaviors are related to pacts. Under what circumstances do voters actually find pacts meaningful and credible? Ultimately we would hope for a complete theory of pact onset, renegotiation, and collapse.
Second, how might party systems influence pact timing? The model here has focused on what looks like two-party systems. Might multiparty, coalition systems moderate the electoral value for a pact? When? Third, can we begin to parse the organizational linkages that might enable some parties to work more effectively with peak associations than others? Some work has already begun here (Ahlquist forthcoming). Finally, recent work on partisan electioneering focuses on the degree of budgetary transparency (Alt and Lassen 2006). Might pacts therefore be more electorally useful the more transparent the budgeting processes and goals?

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