

OPPORTUNITIES AND CONSTRAINTS IN THE GAME FOR PUBLIC GOODS: The Political Economy of Military Spending in Finland and Sweden, 1920—1938

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ABSTRACT

This paper concentrates on exploring the complex phenomena of the demand for military spending and the ensuing decision-making in two small countries, Sweden and Finland, in the interwar period. As noted in the introduction, there are essentially two trends of thought that one can follow in estimating the demand for military spending, either via the theory of pure public goods or a variety of micro-economic models. In this paper, both are utilized in the estimation procedures. In both of these cases, the basic military expenditure demand equation was found to be insufficient as such. The results indicate that proxy variables, relating to e.g. electoral competition or rent-seeking in the political markets, such as the party fractionalization index seem to have had a profound impact on the aggregate demand for military expenditures. Thus, especially the hypothesis that increased party fragmentation and increased electoral competition exerts a negative influence on military spending was clearly confirmed. The interest groups that operated in the political markets for public goods consisted of political parties, state bureaucracies, and economic (namely producers) interest groups. The first two groups were largely constrained by the formal (especially the legislative immobility) and informal rules of the game in the period. However, there were more opportunities available for the economic interest groups to achieve their aims with the military establishment's acquisition policies. The industrial federations in these two countries, representing domestic market interests, were particularly active in attempting to secure concrete benefits and price advantages as well as participating in the various public-private sector forms of cooperation. There were more opportunities available and they also achieved tangible results in the Finnish case, as the Finnish system of governance was still in its formative stage, especially in the 1920s.

INTRODUCTION: Theoretical Concerns

This paper concentrates on exploring the complex phenomena of the demand for military expenditures and the related military spending decision-making in two small countries, Sweden and Finland, in the interwar period.¹ As such, they were both different and similar, thus enhancing the general observational value of the comparison. Firstly, we will endeavor to bring forth in this introduction the various possibilities in analyzing the demand for military expenditures, beginning with

¹ The title of the dissertation is 'The Demand for External Security by Domestic Choices: Military Spending as an Impure Public Good among Eleven European States, 1920—1938'. The countries the thesis focuses on, with the reliability of both economic and military spending data as a rigorous inclusion criteria, are: (European Great Powers) France, UK; (transitional democracies) Portugal, Spain; (small states) Belgium, Denmark, Finland, the Netherlands, Norway, Sweden, and Switzerland. See Eloranta 2000a for some initial data concerns.

the concept of pure public goods and proceeding toward the inclusion of pressure group activity (i.e, military spending as an impure public good). In Chapter 2, we will analyze the military spending behavior of these two countries first with the basic military spending demand function presented below. As argued in the introduction, this basic demand function, however, offers only preliminary insights into these countries' military spending behavior. Thus, we will analyze the military spending demand of Sweden and Finland respective of variables, as few as there may be available, representing certain aspects of their political economies, especially competition in the "political market" and the economic impact of interest groups. In Chapter 3, we will then explore the structures of these political economies, in relation to military spending decision-making, further by examining the role played by economic interest groups, by themselves and within the political markets. This qualitative, archive-based analysis will complement and clarify the findings achieved through the quantitative analysis. The paper will be concluded with a summary of the key findings.

First it is necessary to review the implications of analyzing military expenditures as a public good. What is a public good? Does military spending or, more accurately, national defense qualify as pure public goods? One of the first more comprehensive definitions of a public good can be found in *Paul Samuelson's* seminal works on the topic. He defines "collective consumption goods" as goods whose consumption by an individual leads to no subtraction of that good from another individual. Individuals also consume these goods according to their own preferences.² This definition of a public good has been modified and improved upon by many over the years. For example, *James Buchanan* defined this nonexclusion principle as such that additional consumers may be added at zero marginal cost. This kind of polarized definition, as acknowledged by him, seems quite restrictive and has received ample criticism. Actually, no good or service can fit this kind of a definition of a public good, although Buchanan cites national defense as coming close "to the descriptive purity".³

In current research, a pure public good is nonetheless defined as having two essential features: 1) *nonexcludability* of benefits; 2) *nonrivalry* of benefits. Nonexcludability refers to the aspect that the good is available to all once provided and its benefits can not be restricted. Nonrivalry means that a unit of the said good can be consumed by one individual without detracting from the further

² Samuelson 1966a, 1223. See also Samuelson 1966b.

³ Buchanan 1968, e.g. 49.

consumption of the good by someone else.⁴ There are also different types of "publicness" among public goods, depending on the extent of congestion in consumption and the costs of excluding the good from others. This means that they can perhaps be distinguished further into pure public goods, quasi-public or impure public goods (exclusion is feasible, yet there are strong social externalities and incentives governing its public provision; or, the benefits can be distributed unevenly), and merit goods (goods about which individuals are not sufficiently informed to assess the true private benefits which can be derived from their consumption or for which individuals have defective preferences) produced in the "political markets."⁵

Thus, certain goods have to be produced publicly in modern societies. Individuals as group(s) demand some goods publicly, through governmental-political processes, which differ from those of regular market exchanges. These goods are financed with compulsory taxes. If we accept the rather heroic assertion that military spending is a (pure) public good, there should be a standard way of assessing the demand for such a public good. There are several factors that distinguish the demand for a public good theoretically from the demand for a private good. Firstly, the demand for a public good is susceptible to spillins or contributions of others. It also means that an agent's public good demand is dependent on the contributions and actions of others. Secondly, the identity of the decision maker is an important factor in estimating public good demand — for example, the decision maker can be an oligarchy, a bureaucrat, a median voter, interest group, or a combination of these — whereas the agent is known in estimating the demand for a private good. Thirdly, the price of a public good is difficult to ascertain, especially in the case of military goods, since there is rarely relevant statistical information available.⁶

If we attempt to represent military spending in a (supply-)demand framework, it is possible to isolate several factors influencing this process from macroeconomic perspective. Based on the utility maximization of an individual between a private good and a public good⁷, we can write the demand for a public good for agent i in period t as:

⁴ Sandler-Hartley 1995, 4; Hummel-Lavoie 1990, 38.

⁵ Hjerpe 1997, 14—15.

⁶ Cornes-Sandler 1996, 485—487.

⁷ For the appropriate derivation of this demand function, see Sandler-Hartley 1995, 53—60, and Cornes-Sandler 1996, 484—487.

$$q_t^i = q_t^i(I_t^i, p_{qt}, Q_{t-1}^i, E_t) \quad (1)$$

where q stands for the public good, I represents income, p equals the price of the public good, Q signifies lagged spillins (assuming that an agent responds to the preceding period's spillins), and E denotes environmental factors affecting the demand for the public good.

In the case of military expenditures ($=ME$), we can adopt, following *Sandler-Hartley* (1995), the subsequent basic (single-equation) linear function for the demand:

$$ME_{it} = b_{i0} + b_{i1}INCOME_{it} + b_{i2}PRICE_{it} + b_{i3}SPILLIN_{i,t-1} + b_{i4}THREAT_{i,t-1} + e_{it} \quad (2)$$

in which ME stands for military expenditures for agent i in year t ; $INCOME$ for example GDP per capita; $SPILLIN$ (lagged) for spillovers from both actual defense alliances and free-riding based on perceived increased security; $PRICE$ for the price development of military goods; $THREAT$ (lagged) is the perceived defense expenditure of a potential enemy or enemies.⁸ In this paper, we will use this demand function as the *basis* for the statistical tests, as defined further here and in Chapter 2.

Nonetheless, it is considerably more reasonable to argue that *national defense* is a “pure” public good than to extend this argument to military spending. In particular, there are additional theoretical concerns that this formulation of military spending demand fails to capture, especially arising from supply-side influences, such as the principal-agent problem. It is also fruitful to include the influence of political/economic agents and the impact of group dynamics in the analysis. The principal starting points for the study of bureaucracies and public-good decision-making processes are *Mancur Olson*'s ‘The Logic of Collective Action’ (1965) and *Anthony Downs*'s ‘Inside Bureaucracy’ (1967) on the internal dynamics of political and economic groups, especially bureaucracies.⁹ This type of analysis of economic development focuses namely on the internal dynamics of different

⁸ For further details, see e.g. Sandler-Hartley 1995, 60—62.

⁹ There are two distinctly different research traditions relating to bureaucracies. The older organizational tradition is based on sociology and the thoughts of Max Weber (e.g. Mouzelis 1975; Blau 1973), whereas the newer Anglo-American tradition is strongly rooted in the public choice tradition. In the latter, the actors and bureaus are seen as utility maximizers, which act according to their own notion of rationality. See Downs 1967, 1—2; Lane 1987. For other studies relating to the bureaucracy research, see especially Niskanen's (1971) seminal study; also, de Bruin 1987; Peters 1978.

groups, which respectively influence the outcome of political decision-making and state formation. This aspect becomes even more pronounced in the analysis of such a politically volatile public good as military expenditures. Groups with more homogenous structures and stronger selective incentives are more likely to succeed in influencing decisions, due to the free-rider problem, than large, heterogeneous groups.¹⁰ According to Olson, the larger the number of individuals or firms (or other organizations for that matter) that would benefit from a collective good, the smaller the share of gains from a particular line of action. This also leads to the conclusion that large groups are less likely to act in their common interest — for example to pay X amount of money for national defense — than smaller ones.¹¹ Additionally, this type of behavior can also apply to formal or informal alliances (such as *NATO* for example) between nations.¹²

There have been fewer attempts to model the demand for military spending in terms of decision-making opportunities and constraints. Macro-models of public expenditures, arising out of the assumption of a particular type of rationality on the part of an individual, and respectively the demand for military spending, attempt to explain the development of the dependent variable in terms of a range of aggregate independent variables. In contrast, a second class of models can be labeled microeconomic or decision-process models, which are strongly rooted in the public choice tradition and institutional economics. In these models, the underlying characteristics of the decision-making process are linked to the analysis of the demand variations.¹³

Accordingly, for example *Keith Hartley* has indicated three key determinants in the formation of military spending levels: political (such as political markets), strategic (such as technical progress), and economic (total available resources) factors. Respectively, the groups involved in the decision-making for military spending levels include: 1) voters/consumers; 2) political parties; 3) state bu-

¹⁰ Olson 1971; see also Olson 1982. The free-rider dilemma relates to the fact that there are always persons who benefit from a particular public good or goods without paying for it. For example, it is in everyone's interests to have a national defense, yet it is difficult for an individual to establish how much funds to invest for this purpose. Thus, a rational individual would wait for others to pay for a national defense, which does not have direct pay-off potential except in crisis situations. The end result would be that nobody invests in national defense.

¹¹ Olson 1971, 9—16; Olson 1982, 25—34; Johnson 1991; Buchanan 1968, 84—86.

¹² See the seminal paper by Olson-Zeckhauser (1966); also, refer to the relevant discussion in Sandler-Hartley 1995, e.g. 19—51.

¹³ See more Brown-Jackson 1978.

reauracies; 4) interest groups, especially representing producers; 5) international community of foreign nations and international agencies.¹⁴ Political markets resemble other markets in that they contain buyers and sellers pursuing certain interests by undertaking mutually beneficial exchange according to the formal and informal rules. The actual decision-making as how the demand for a public good, for example military spending, is estimated takes places within the decision-making system of the country in question. A bureaucrat chooses the levels of defense, for example, to present to the decision-makers, often choosing to maximize the discretionary defense budget. A decision-maker(s) and/or the different organs involved then make the assessment on the "necessary" level (=demand) of military spending. During this process the various groups and other interested parties attempt to influence this decision, according to their complex motives.¹⁵

Interest groups have been a topic of intense scrutiny in the post-war period, especially among political scientists. Research has mainly been channeled into three schools of thought: 1) *pluralism*, in which groups are considered central to the political process and the policy is the outcome of various group pressures; 2) *Marxism*, in which interest groups in general are of little importance except the representatives of labor and representatives of capital; 3) *corporatism*, in which the increased complexity of industrial society is interpreted to eventually force the state to incorporate groups into the policy process in order to promote economic growth and stability.¹⁶ Here we will employ theoretical insights arising especially from the pluralist school of thought.

Providing a definition for an "interest group" is instrumental in clarifying one's analytical perspective. Following *Graham Wilson*, interest groups can be defined as organizations, separate from government, attempting to influence public policy. Thus these groups — be they unions, producers' groups, or for example corporations — are seen as an institutionalized linkage between the state and the major sectors of the society.¹⁷ However, the state should not be understood to be a cohesive, unified actor; rather, the sectors and departments within the state apparatus have the ability to act autonomously in particular situations, depending on the availability of resources and the respective bargaining strengths of the bureaus. Thus, here, similar to Hartley, bureaucracies and political par-

¹⁴ Hartley 1987, 404—406; Hartley 1991, 42—52.

¹⁵ Buchanan 1968. See also Sandler-Hartley 1995, 54—58; Eloranta 1998.

¹⁶ See Smith 1993 for further discussion and review of these research trends.

ties are also considered interest groups, not merely objective administrators or legislators.¹⁸ Equally, as suggested by *Martin Smith*, we can improve the above definition of an interest group by emphasizing that both the groups outside and within the decision-making sphere, in order to achieve their goals, are dependent on policy networks: the government needs the assistance of other groups in the development and implementation of policies, whereas those groups are equally dependent on the administrators and legislators for “rents”.¹⁹

Here we will first consider bureaucrats as a potential interest group in this decision-making process. If they are to behave in a fashion predicted by public choice theorists, they tend to overextend the budget beyond “required” limits and favor producers more than consumers.²⁰ The latter assumption seems particularly reasonable in the interwar period, since voters/consumers, unlike the other groups mentioned by *Hartley* previously, were rarely organized as an interest group in Western countries until after Second World War. Even though it is difficult to find descriptive variables to represent bureaucratic influences, especially in a comparative fashion, here we will test two hypotheses on bureaucratic influence. First, we will attempt to see whether military expenditures were influenced by the preceding year’s military spending total (ME_{t-1} , *additional independent variable number 1*). Thus, it would reveal whether the previous year’s budget was the basis for either similar or differing levels to come. Second, we will test whether the military budget’s immobility, respective of either central government spending during the same year or in the preceding year (GOV or GOV_{t-1} , *additional independent variable number 2*), affected the military spending path. Aggregate budgetary immobility has been suggested to be one of the key *public* spending features of the interwar period.²¹

Competition within the political markets, especially among officials selected for a limited term, can also have a profound effect on a nation’s military spending policy. As *Michelle Garfinkel* has ar-

¹⁷ Wilson 1990, 8—9.

¹⁸ See e.g. *Hartley* 1991. On modeling the regulators as an interest group, see e.g. *Crain-McCormick* 1984.

¹⁹ *Smith* 1993, 50—61.

²⁰ See e.g. *Sandler-Hartley* 1995, 119. As *William Niskanen* has hypothesized, most bureaus, unless constrained by the aggregate demand, have a budget-maximizing incentive in the short run. Most of this spending also tends to be capital-intensive by nature. *Niskanen* 1971, Part IV, section 12.

²¹ All variables outside the basic demand function outlined previously are tested as omitted variables in the statistical tests. On the aggregate budgetary immobility argument, see especially *Webber-Wildawsky* 1986.

gued cogently, electoral uncertainty associated with competition between political parties, each representing a certain part of the electorate, should theoretically impart a negative bias on the said country's military budgets. Her key argument is — in comparing democracies, containing multiple decision-makers, and dictatorships, with supposedly a single decision-maker — that decision-makers consider military spending as security for future consumption, yet they feel the burden of military expenditures in lower current consumption. The incumbent, unless elected for another term, cannot enjoy the benefits of the security achieved through military spending.²² Here we will, instead of focusing on comparison of authoritarian versus democratic systems, take the argument further in a different direction and test whether increased party fragmentation, implying more electoral confusion and increased political competition, lowers military spending levels. We will use a party fractionalization index (*additional independent variable number 3*) to proxy this effect:

$$F = 1 - \sum_{i=1}^n (t_i)^2 \quad (3)$$

where t_i is the proportion of members associated with the i th party in the lower house of the legislature. Thus, the higher the F , the more fragmented the political field is.²³

In politics diverse non-governmental interest groups, especially groups representing the different production sectors, attempt to influence political decisions especially through campaign financing, different types of networks, and outright bribery. As *Juha-Antti Lamberg* has indicated in the Finnish context, the interest groups attempt to "buy" politicians by awarding them direct campaign contributions or offering people/organizational resources at their disposal. In Finland, similar to most of Europe, it is not illegal to accept campaign funding from corporations, which differs at least in principle from the current American system. Nonetheless, the various American interest organizations have been able to channel campaign financing to their candidates through specific political action committees (*PAC*).²⁴

²² Garfinkel 1994, e.g. 1294—1295. To be more precise, as John M. Mbaku argues, in dictatorships the dictator usually controls the supply of legislation, yet interest groups can participate in the functions of the governmental apparatus. Mbaku 1991.

²³ This type of data can be found e.g. in Banks 1976.

²⁴ Lamberg 1997, 148—150. On the American campaign financing system, see e.g. Coleman 1985, 50—54, 101—104; Eloranta 2000b.

When do situations arise that the interaction between the public and the private sectors increases? Immoral or even criminal activity becomes rational action when the benefits to be acquired exceed the risks (for example, moral condemnation, punishment, economic consequences) involved. According to *Douglass C. North*, increasing returns to be had from political participation and imperfect markets are prerequisites for private sector investments in political markets.²⁵ The concept of a *corruptive contact surface* describes this collision of interests. It refers specifically to the increasing **opportunities** of corruption and rent-seeking as the interaction between the public sector organizations and private firms (or their representatives) increases. Yet, most of the activities on this surface are only morally reprehensible, not illegal. The extension of this contact surface can take place, for example, due to societal crises or changing economic conjunctures.²⁶

How is the rent-seeking of interest groups limited in the political markets? Following North's notions, the constant interaction between institutions and organizations, within an established system of **constraints** (formal, such as laws and statutes, and informal, such as codes of behavior, rules), are crucial in order to understand and explain the paths of different economies. The formal, governmental groups in the political market (for example, political parties) and the informal, non-governmental groups (for example, economic interest groups) form the "players" that limit the actions of their members but also act as collective entities in shaping societal development in interaction with each other. This activity by the organizations, within an institutional and cultural framework, shapes economic performance.²⁷

It has also been suggested, in the context of analyzing war initiation by democratic states, that aggression, or in our case military spending, might be linked to election cycles in these political markets. Some evidence links aggression to early phases in a country's election cycles, perhaps related to preceding weak economic performance.²⁸ Here we will investigate this hypothesis in a crude format by employing election year dummies as possible omitted variables (=additional independent variable number 4). Additionally, we will concentrate on measuring the impact of one producer

²⁵ North 1994, 94—96.

²⁶ North 1994; Hrebener-Scott 1982, 9—12; Isaksson 1997, 130; Eloranta 2000b.

²⁷ North 1994, 17—27; North 1997, 8—12. Organizations can be defined broadly as political, economic, social, and educational groups.

²⁸ Gaubatz 1991; Geller-Singer 1998.

group in the economy, the industries as an interest group, by testing the development of real industrial value added as an omitted variable (*additional independent variable number 5*). This is also linked with the archival analysis of the industrial federations in Sweden and Finland in this period.

It is nonetheless difficult to proxy the influence of different groups in the process of military spending decision-making. The economic interest groups in particular exert their influence, as discussed previously, in a multitude of ways, and they also receive the rewards of their actions in many forms (such as tariffs, quotas, informal favors etc.), often almost impossible to measure comprehensively. For example, the cooperation networks of firms are aimed at competing in the political markets for formal and informal “rents”, in which the so-called insider groups have the advantage of participating in many of cooperative forms existing or being created between the public and private sectors, such as various committees. These networks and diverse forms of cooperation are created also due to a need on the part of the public sector to utilize the expertise offered by the private sector and/or rely on its political support.²⁹ As Downs intuitively has pointed out, “committees to study the situation and recommend possible action are almost always used whenever substantial changes in a bureau’s organization are required”.³⁰ This perspective is adopted in this paper through review of some of the committees in which such cooperation took place. We will also attempt to assess the significance of the involvement of interest groups, especially the federations of industries in the respective countries, in committees dealing with military spending issues, especially military acquisitions and the domestic market.

The definition of military expenditures utilized in this paper (and the respective dissertation) follows *Frederick L. Pryor’s* (1968) definition quite closely. Military expenditures by his definition include all expenditures for the recruiting, training, and maintenance of an army, navy, air and rocket forces, and national security troops. He also excludes on the basis of his selection of nations such items as expenditures on civil defense, veterans, military research and development, interest payments on war debts, reparations, military assistance abroad, and military construction. In this paper (and the dissertation) we have also included civil defense measures, if they are strategically

²⁹ Colli-Rose 1999, 27—28; Smith 1993, 4—7, 60—61; Eloranta 2000b.

³⁰ Downs 1967, 207.

vital (as in the case of the Civic Guards in Finland), and military construction.³¹ In certain cases, such as Belgium, it is possible to employ an economically more precise definition, arising out of national accounting procedures. Using the expenditure approach in classifying the GNP, military consumption includes all elements of military expenditure: wages and government pensions (not war pensions), the purchases of non-durable goods and services (such as heat, lighting, food, clothes), and the purchases of durable military goods (such as armaments). However, studies providing a breakdown of government consumption are not available for most countries concerning the interwar period.³²

The archival sources include various public and private archives in Sweden and Finland. These will be utilized critically in conjunction with the existing literature and earlier efforts by this author. A great deal of this material has not been used in linking the military spending decision-making with interest group influences, which provides a fresh outlook of the processes more traditionally covered by political and military historians.³³ Moreover, the private archives of federations of industries in these two countries have not been utilized, excluding efforts by this author, to study military expenditure decision-making. These two sample countries, Sweden and Finland, offer both commonalities and dissimilarities for the analysis of their political economies. Similarities between these nations arise from a joint political heritage, institutions, and similarly structured economies. Dissimilarities are equally abundant: whereas Finland perceived to be severely threatened by the Soviet Union, the Swedish position was geographically more advantageous. Also, Sweden and its industrial base by the 1920s was a mature one, whereas Finland was a newly independent, agrarian nation with a need to develop key armaments industries and the armed forces in general. These factors had a profound impact on their respective military spending decisions and especially for the game between the different actors. However, we will begin with an overview of the military spending patterns of Sweden and Finland, in comparison with other small states, and follow up with quantitative analysis of their demand for military expenditures.

³¹ Pryor 1968, 85—86.

³² On classifications of government consumption, see Clement 2000, 22—35. Studies on government consumption concerning the states selected for the dissertation exist e.g. for Sweden and Belgium. On further time series data concerns, see Eloranta 2000a. Military expenditures can be further defined into current (wages and ordinary pensions, and purchases of non-durable goods and services) and capital expenditures (purchases of durable military goods).

³³ See especially Eloranta 1998 on the historiographical trends of (Finnish) military history.

MILITARY SPENDING IN INTERWAR SWEDEN AND FINLAND

After the First World War, especially in the 1920s, although the defense shares (*=percentage share of military expenditures of central government expenditures*) of large democracies dropped noticeably, their respective military burdens (*=percentage share of military expenditures of GDP*) stayed either at similar levels as before or actually increased — for example, the French military burden rose to a mean level of 7.2 per cent. Also, the British mean defense share dropped to 18.0 per cent, yet the average military burden actually increased, despite efforts to cut military spending. For these countries, the mid-1930s marked the beginning of rearmament, although their authoritarian challengers had begun earlier. Hitler's Germany increased its military burden from 1.6 per cent in 1933 to 18.9 in 1938, a rearmament program promising both “guns and butter”. Mussolini's efforts in Italy were less successful, producing a military burden of four to five per cent in the 1930s. The Japanese rearmament drive was perhaps the most extensive, relative of its economic base, amassing a military burden as high as 22.7 per cent in 1938.³⁴

Among the smaller Western democracies, Finland invested more on her national security than for example her Nordic neighbors. The Finnish defense share was circa twenty percent during the entire 1920s. The only years that noticeable drops occurred were 1923 and 1928. During the Great Depression this share rose significantly above the twenty percent level for some of the years. For the rest of the 1930s, the defense share stayed close to the twenty percent level until the last few years before the war. Of the Nordic countries, Norway maintained a ten percent level throughout the 1920s and 1930s.³⁵ The Swedish defense share, respectively, stayed close to twenty percent for most of the 1920s. At the turn of the decade this share started to decrease rapidly, which was partly a result of conscious disarmament — at least as far as state budgets were concerned — policy in the 1930s. In Denmark, the defense share rose in the 1920s but did not reach the twenty percent level. For the Danish military the 1930s was a time of shrinking budget shares like in most of the Nordic countries, with Finland being an exception.³⁶

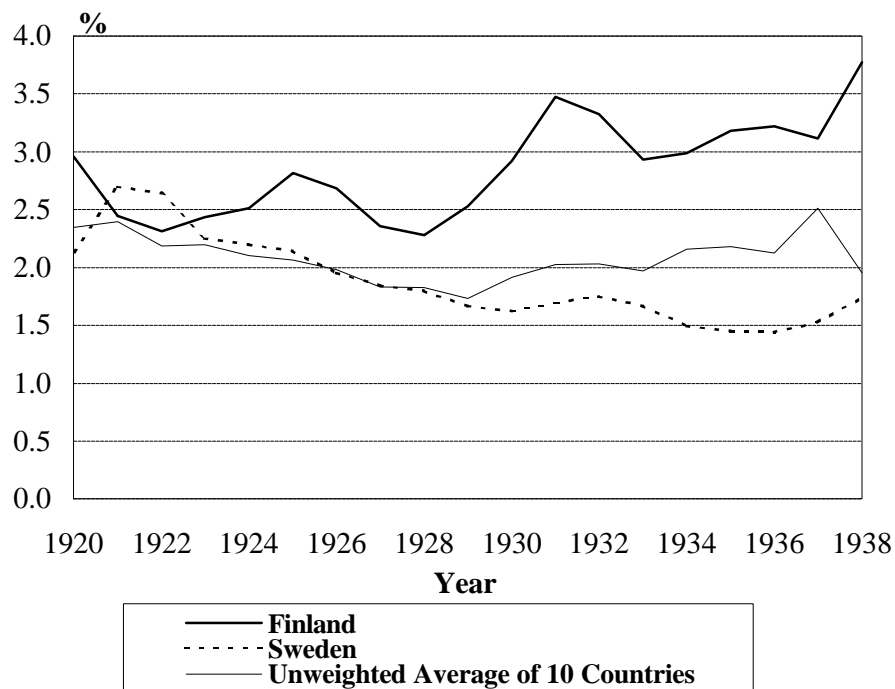
³⁴ Eloranta 2001b and the sources in it.

³⁵ Eloranta 1998; on Norwegian military spending in the long run, see Gleditsch 1992.

³⁶ Eloranta 1998.

The same features emerge from Figure 1 on the military burden levels. Whereas both Sweden and Finland maintained similar levels as other Western small states in the beginning of the period, the Finnish level was significantly higher for the rest of the period than the ten-state average or the Swedish military burden. It is also noticeable that the Swedish military burden dropped considerably below the mean level in the 1930s, especially after the middle of the decade.

Figure 1. The Military Burdens (=Military Expenditures of GDP) of Sweden, Finland, and Ten Small States on the Aggregate, 1920—1938



Sources: the sources used in Eloranta 2001c. Additionally: the ME of Czechoslovakia was obtained from Singer-Small 1993 data instead; the ME of Sweden was obtained from Krantz 1987 instead; also, Denmark was included in the average, with data obtained from Johansen 1985. The ten countries: Belgium, Czechoslovakia, Denmark, Finland, the Netherlands, Norway, Portugal, Spain (“weak state” as defined in Eloranta 2001c), Sweden, and Switzerland.

Political power shifts within small countries had profound impacts on the levels of military spending; in general, left-wing parties opposed high military outlays yet favored state-owned production. The situation changed somewhat in for example Finland, due to structural political shifts within the

nation and the rise of external threats. It is also important to compare whether unstable domestic politics had an impact on military financing. Respectively, a divided political field dominated by a single party or parties within a country could have a profound effect on the military establishments. Also, the growth of government involvement in the sphere of economic matters made the rise in military expenditures at least partially possible — equally, the measures meant to lessen the depression often involved funding military rearmament by favoring domestic industries in the acquisitions as well as directly from the employment projects.³⁷

The aim of the Finnish economic policymakers, especially in the 1930s, was to reduce the overall amount of public spending. These aims were only partially met. All in all, though, central government expenditures continued to rise almost annually from their low point on in 1932. During the first year of war, 1939, the percentage share of these expenditures reached an all-time high of 22,3 percent.³⁸ The other Nordic countries — Denmark, Sweden, and Norway — acted similar to Finland in this respect: there was a modest rise in central government expenditures to a higher level after the Great Depression. Significant is also the abnormally high percentage share of these expenditures of GDP after the First World War. In Norway, actually both the volume and the percentage share of central government expenditures decreased in the 1930s. Overall, however, the central government spending increased among the smaller nations in the 1930s, especially toward the end of the decade.³⁹ As *Webber and Wildawsky* (1984) have argued in the context of the interwar period, the public spending of Western democracies tended to be static and immobile. The Great War enhanced pre-existing tendencies to spend more for social purposes, the levels of bureaucracy were difficult to decrease, and the war had been instrumental in getting people used to paying higher, particularly income, taxes. Thus, the public spending of most of these countries remained either at similar levels or increased, with increases occurring during the early 1920s reconstruction phase or during the Great Depression.⁴⁰

³⁷ Eloranta 1998.

³⁸ Pekkarinen-Vartiainen 1993, 96—102; Ahvenainen-Vartiainen 1982.

³⁹ Eloranta 1998.

⁴⁰ Webber-Wildawsky 1984, 445—451.

In Sweden, the 1920s was a period of instability and minority governments with unemployment as the main issue in political discussions. This situation changed in 1932, when the Social Democrats and the Agrarian Party began cooperating with each other. The first coalition government was formed in 1936 and the first of the corporatist agreements between the trade unions and the Employers Federation was reached in 1938. The 1930s represented a new period in the development of the Swedish public sector — among the new policies, there were state employment creation programs, state subsidies to voluntary (trade union) unemployment benefit societies, and a housing program for families with many children. The level of state involvement was unprecedented compared to the previous decades. At the outbreak of the Second World War, the Social Democratic/Agrarian government was replaced by a broader coalition with *Per Albin Hansson*, the creator of the Swedish "folkhemmet"-ideal, still as the prime minister. Four of the five parties represented in the parliament were involved in the cabinet with support of over 95 percent of the electorate. The Social Democratic party reached practically a hegemonic position in the Swedish society by the end of the 1930s.⁴¹ This integration of the Swedish society enabled some cooperation between the state and the private industries in the rearmament effort of the late 1930s.⁴²

The Finnish "welfare state" building, which may be an overstatement in regards to Finnish development in the 1930s, was slow during the interwar period. The political and social division caused by the Civil War of 1918 affected social policy legislation as well. Among the few developments of the 1920s was an act prescribing a compulsory eight-year period of education, although it was not implemented until the late 1930s. In financial terms, social legislation was not extensive. In the 1930s, the role of state increased, especially in economic policy matters, only to decrease late in the decade.⁴³ The more cooperative stance of the Social Democratic Party (for example, toward military legislation) as well as the re-integration of the Finnish society were much more influential features of the 1930s Finland than the welfare state measures.⁴⁴

⁴¹ Olson 1986, 5—6; Rojas 1991, 70—73. On longer term comparisons, see especially Eloranta 1997a.

⁴² See especially Olsson 1982.

⁴³ Alestalo-Uusitalo 1986, 200—201.

⁴⁴ See especially Tervasmäki 1964; Eloranta 1998.

On the security policy front, Sweden, a member of the League of Nations from the beginning, was an active pursuer of international disarmament. All of the interwar Swedish governments worked for international disarmament vehemently, like the other Nordic governments did as well. The goal of the Swedish disarmament policy was to persuade other nations in the League to adopt radical disarmament measures, such as reductions in the tonnage of war ships and a prohibition of chemical and biological warfare. The Swedish governments of the 1930s (until 1936) continued to put their faith in the League despite the increasing tensions. The main motivation behind the Swedish disarmament efforts was a commitment to humanitarian and democratic policies as well as belief in the League as the only means of maintaining peace in the world. The basic principles in the Swedish interwar foreign policy were the maintenance of neutrality and non-commitment. This also induced lower military spending in the 1930s.⁴⁵

The Swedish disarmament began with the Defense Act of 1925, a result of the recommendations of the parliamentary Defense Revision committee appointed in 1919 and motivated by the League of Nations standards. Although the reductions in military expenditures were still modest and were not met for the most part, it still represented a significant effort toward conscious disarmament. The Swedish government strove actively to achieve disarmament measures both domestically and in the League conferences in the 1930s.⁴⁶ Of the other Nordic countries, Norway and Denmark made similar commitments: Norway passed acts reducing the size of the Armed Forces and the officer corps in 1927 and again in 1933; Denmark in 1922 and 1932. Norwegian governments of the interwar period felt secure and beyond military threats, which limited their foreign policy interests largely to foreign trade issues. Danish governments, however, were convinced that even large military outlays would not secure the country against an invader.⁴⁷

Finland, on the contrary, did not follow the example set by its neighbors, both in military build-up as well as foreign policy, rather than followed the example of the Eastern European countries like Czechoslovakia, due to geopolitical disadvantages. The aim of the Finnish foreign policy in the

⁴⁵ Eloranta 1999; Trönnberg 1985; Paasivirta 1987, 194—195; see also Agøy 1996.

⁴⁶ Trönnberg 1985, 33—73; Böhme 1988; Paasivirta 1987.

⁴⁷ Agøy 1996, 478; Paasivirta 1987, 194—195, 225—227. On the Danish case, see Wiberg-Jensen 1992, 353—354.

1920s was for the most part to join forces with other small nations such as the Baltic states and Poland, thus providing security against a Soviet invasion. One of the unsuccessful schemes of the early 1920s was to form an alliance with the neighbors of the Soviet Union: the Baltic nations and Poland.⁴⁸ In the late 1930s, the Finnish foreign policy was focused on achieving an alliance with Sweden, which turned out to be impossible.⁴⁹

What about the demand for military spending in these two countries; did it respond to the basic demand equation variables, such as threat, outlined in the introduction? Here we tested the basic military spending demand equation — $ME=f(PRICES, INCOME, THREAT, SPILL)$ — on two military spending variables for these two nations, the defense share (DSHARE) and the military burden (MILBUR). The price variable was the combined world military unit price (WORLDPRICE, coefficient either positive, implying immobility for military spending, or negative, implying cost cuts due to higher prices), the income variable was the GDP per capita (GDPCAP, hypothesized as having a negative coefficient due to its public good characteristics), the threat variable (THRTIND, hypothesized as exerting a positive response) was a combined index representing different threat scenarios⁵⁰, and the spillin variable (SPILL, hypothesized as encouraging free-riding behavior, inducing a negative coefficient) was constructed on similar basis, with the UK and France as being the preconceived sources of spillovers. All of these were based on the sources and methods described in *Eloranta* (2001c). Additionally, we tested also British and French defense shares for spillins, and Soviet and German defense share for threat, all possibly indicating direct budgetary response.

⁴⁸ Paasivirta 1984, 256—258, 262, 265—267; Tervasmäki 1964, 23—24.

⁴⁹ Eloranta 1998; Paasivirta 1984, 272—273.

⁵⁰ Threat was here calculated as a combined index. First, the individual countries representing the threat were assumed to be Germany and the Soviet Union for these two countries. Thus, for each of these “hostile” countries, the development of their defense share and the number of military personnel were both turned, separately, into volume indices (1931=100), and then combined on country-basis to form the threat index of a single country. If a value was missing from one of these series, only one of them was used for that particular year. A German-weighted index (the combined aggregate index of all countries (Germany, Italy, Soviet Union, Austria) 1/2, Germany’s threat index 1/2 of the weighting), a German-Soviet-weighted index (the combined aggregate index of all countries 1/3, Germany’s threat index 1/3, and the Soviet Union’s threat index 1/3 of the weighting), and a Soviet-weighted index (the rest 1/2, the Soviet Union’s threat index 1/2 weighting) were all tested. See Eloranta 2001c for further details. On hypothesized coefficient signs, see e.g. Hewitt 1996, especially 527—529. Hewitt also uses political regime variables in his models.

Furthermore, the military demand regressions of these two countries were tested with an omitted variable test in cases where specification errors were indicated by the regressions statistics. The tested additional variables were, as explained in the introduction, the one-year lagged military spending variable (DSHARE or MILBUR, $t-1$, with a positive coefficient indicating successful budget-maximizing), the central government spending share of GDP (GOVOFGDP, expected to have positive sign due to increased overall availability of resources), the party fractionalization index (PCONC, a negative sign as hypothesized in Chapter 1), the election year dummies (set to equal 1 for a parliamentary election year, PELECT, with possibly a negative coefficient similar to PCONC), and the real industrial value added (INDUSTRY, with either a positive coefficient, implying externalities, or a negative coefficient, implying an adjustment of government spending targets due to economic development, such as the Great Depression). All variables were transformed into logarithmic form. Before the regressions were run, the variables were tested for unit roots and differenced if necessary. The regression was first run with the basic demand variables and tested for redundant variables. If the result on the level indicated specification errors, the variables were also regressed with a lag of one year against the dependent variable, and subsequently the additional variables were appraised by employing omitted variable tests.⁵¹ The results had to pass the *Breusch-Godfrey* LM serial correlation test⁵² for them to be accepted. The best fitting models, including only statistically significant variables, are displayed in Table 1.

In both of these cases, the basic military expenditure demand equation (Equation 2) was found to be inadequate in its simplest form. The results arising from the Swedish case indicated the validity of certain variables from both the basic equation and from the sample of additional variables, with the regressions as a whole producing excellent fits. The income variable and the threat variable (Germany and the Soviet Union) were found statistically significant in the Swedish case. GDP per

⁵¹ The results of the tests on the stationarity available from the author by request. These tests on stationarity of the series were either Augmented Dickey Fuller (see Dickey-Fuller 1979) or, in case they indicated nonstationarity, Phillips-Perron (see Phillips-Perron 1988). For details on these procedures, see especially Harris 1995. Details on the redundant variable or omitted variable tests can be found in standard econometrics textbooks, such as Gujarati 1995. All regressions were corrected with the Newey-West covariance estimator, a covariance matrix estimator that is consistent in the presence of both heteroskedasticity and autocorrelation of unknown form. See *EViews 3.1* software manual for further details. Regression sample years were adjusted to fit the country data in question.

⁵² The Breusch-Godfrey LM serial correlation test is used to test the null hypothesis that there is no serial correlation up to lag order p , where p is a pre-specified integer. See Godfrey 1988 for further details.

capita had sizable negative impact on the military spending variable, which indicates growing military spending during the 1930s depression years. Quite surprisingly, the Swedish military spending also declined in the 1930s respective of the growing German/Soviet threat, perhaps due to extensive trade links and persistent disarmament.

Table 1. Estimation Results on the Demand for Military Spending in Sweden and Finland, 1920—1938

| DEPENDENT VARIABLE | INDEPENDENT VARIABLES | COEFFICIENTS | REGRESSION FIT |
|--------------------|-----------------------|--------------|------------------|
| <i>SWEDSHARE</i> | SWEGDPCAP*** | -1.13 | $\bar{R}^2=0.96$ |
| | GERTHRTIND*** | -0.29 | |
| | SWEGOVFGDP*** | -0.56 | |
| | SWEINDUSTRY*** | 0.65 | |
| | FINDSHARE* | 0.19 | |
| <i>SWEMILBUR</i> | SWEGDPCAP*** | -0.83 | $\bar{R}^2=0.92$ |
| | SPILLUKFRA(-1)*** | 0.41 | |
| | SOVDSHARE(-1)* | -0.05 | |
| | SWEPCONC** | -1.95 | |
| | DUMMY4** | -0.04 | |
| <i>FINDSHARE</i> | FINGOVFGDP*** | -0.97 | $\bar{R}^2=0.62$ |
| | FINPCONC*** | -3.31 | |
| | SOVDSHARE*** | 0.07 | |
| | MA(1)*** | 0.54 | |
| <i>FINMILBUR</i> | FINPCONC*** | -3.37 | $\bar{R}^2=0.76$ |
| | FINPELECT** | -0.03 | |
| | SOVDSHARE*** | 0.09 | |

Sources: world arms unit prices from Eloranta 2001c; real GDP per capita data from Maddison 1995; nominal central government spending from Mitchell 1992; threat indices, German and Soviet defense shares, and British and French defense shares (on the aggregate, as an average = SPILLUKFRA) from Eloranta 2001c and the sources listed in it; industrial value added data based on Eloranta 1997b and the sources in it; election data and the party fractionalization indices from Banks 1976. **Finland:** nominal GDP from Hjerppe 1988, nominal ME from Tervasmäki 1964; **Sweden:** nominal GDP from Krantz 1997, nominal ME from Krantz 1987⁵³.

Note: All variables are in logs. Differencing: world arms unit prices, all threat indices, and Swedish industrial value added were $I(1)$; UK defense share was $I(2)$. On variable definitions, see the text for details. Only statistically significant independent variables were listed in the table: * = significant at the ten per cent level; ** = significant at five per cent level; *** = significant at the one per cent level. MA(1) = first order moving average error term.

⁵³ Regressions using another Swedish nominal ME series (see Eloranta 2001c on application of this series) display largely similar results, although the party fractionalization index arises as a significant variable for both of the military spending variables utilizing this alternative series.

The Swedish defense share also responded to decreases in central government spending (or vice versa) with increases in military spending (at least relative of GOV or GDP), which indicated, instead of increasing available resources, the tendency of military expenditures to resist changes in their achieved levels. Thus, the military budgetary immobility hypothesis is at least superficially confirmed, pending further analysis, in the Swedish case. The party fractionalization index (PCONC) was also found statistically significant, with a negative sign and a large coefficient. Thus, the hypothesis that increased party fragmentation and increased competition in the political markets exerts a negative influence on military spending was clearly affirmed. In the case of Swedish defense share, the value added of Swedish industries was additionally found to increase military spending, implying perhaps domestic market externalities in military acquisitions.

In the Finnish case, the basic military demand equation fared even worse than in the Swedish case. Despite earlier findings on the interdependency of Finnish economic development and military spending⁵⁴, here the best representation was achieved using mostly the alternative variables listed earlier. The Soviet threat, emerging via the Soviet defense share, had a small but positive impact on the Finnish military spending levels, similar to the Swedish case. Central government spending had a similar impact also on the Finnish case, with again the tendency of military spending shares to resist changes confirmed. For the Finnish defense share, increased parliamentary fragmentation was again found to exert a strong negative influence on military spending. This is also reflected on the military burden, with election years having a slight negative impact on military spending levels. Thus, in both the Swedish and Finnish cases, the political markets were found to be influential in the military spending decision-making. In addition, as seen in Table 1 (Appendices), parliamentary fractionalization was found to be an important additional explanatory proxy variable for other European states as well (with at least one of the military spending variables showing strong correlation on the level, except in the case of the UK).⁵⁵ Nonetheless, in order to clarify the implications of the competition in the political markets, we need to look further into the actions and achievements of interest groups, especially industrial federations, in this process of give and take. As it turns out,

⁵⁴ Eloranta 2001a.

⁵⁵ However, the regressions resulted in both positive and negative coefficients for the statistically significant independent variables. Thus, before undertaking multivariate analysis, these results should be considered preliminary.

the domestic market industries were particularly interested in the military establishment's acquisition policies, yet not so much on the level of military spending as a whole.

POLITICAL MARKETS, ARMS PRODUCTION, AND INDUSTRIAL FEDERATIONS IN SWEDEN AND FINLAND: The Drive Towards Domestic Market Protection

The impact and success of domestic market economic interest groups varied greatly in these two countries, due different historical and economic environments. As observed earlier, Finland was an import-dependent country and did not develop military exports until the 1930s, and even then only modestly. Sweden, in turn, developed into a major military exporter especially in the 1930s. Sweden, nevertheless, like Finland was dependent on military imports as well. There were several factors that contributed to the Swedish "path" of arms production in this period. Firstly, it must be emphasized that Sweden had a long tradition of producing arms domestically — for example, *Bofors* was a large company even by international standards. Secondly, in Sweden the industrial breakthrough took place significantly earlier than for example in Finland, thus providing the country with a functioning industrial base. Especially the engineering industry was quite advanced and versatile in Sweden by the 1920s.⁵⁶ Equally, even though the industries had potential to expand their production volume and content, there were significant hindrances to such development. For example, the role of the state in armaments production remained ambiguous. The industrial interest groups were strong enough to resist Social Democrats in order to change the ownership status of this type of production. Only in a case like the aircraft production, and even that just before the war, the government and the interest groups managed to come to an agreement. The ratio of state to privately-owned armaments production remained at ten percent throughout the 1930s. Further difficulties to efficient rearmament were caused by disagreements between the Armed Forces and the domestic producers in armaments acquisition policy.⁵⁷

In Sweden, the rearmament began in the middle of the 1930s. The new defense plan of 1936 increased Swedish military expenditures considerably. The emphasis in the rearmament was on the acquisition of more modern and more mechanized equipment, as *Ulf Olsson* has pointed out. He regards the mid-1930s as a "qualitative turning point in the history of Swedish rearmament". The

⁵⁶ Krantz 1995, 91—99; Olsson 1982.

⁵⁷ Olsson 1982, 63—64; Månsson 1976.

rearmament drive was mainly met with domestic production, which was an important trend among the other Nordic countries as well. The biggest arms firm in Sweden at the time, Bofors, was placed almost entirely to serve the purposes of the Swedish rearmament. The most important importers, focusing on heavy armaments, before the outbreak of the Second World War were the continental European countries (Great Britain, France, Holland, Belgium), and afterwards, Germany.⁵⁸

The Swedish military establishment, however, maintained quite a high material readiness by European standards, even with the disarmament measures in place. For example, the fixed limits set by the Defense Plan of 1925 were based on the loose calculations of military experts as far as material needs were concerned. Due to state-owned small arms and ammunition production and the availability of a strong supply of privately produced military goods, the material status of the Swedish defense forces remained adequate.⁵⁹ Also, in the early 1920s Sweden could be characterized even as being one of the leading naval powers in the Baltic Sea with her three battleships, four battle cruisers, seven torpedo boats, and 16—18 U-boats.⁶⁰ Even though the armaments acquired in the 1920s aged quickly, they still provided a solid basis for a functioning national defense in Sweden in the 1930s as well.

Swedish private aircraft industry practically disappeared after the First World War. Attempts were made to initiate state production as well as state-supported private production, but there were no real results in this sector in the 1920s. Finally, in 1930, an agreement was reached to start the manufacture of aircraft in Linköping, Stockholm, and Gothenburg by various producers. However, these efforts still met with only modest successes. In collaboration between political leaders and the leading financial groups, the aircraft industry began to expand after the 1936 rearmament measures. *Svenska Aeroplanaktiebolaget* (SAAB) was established with the government's cooperation and thus a monopoly of aircraft production was created in Sweden just before the Second World War.⁶¹

⁵⁸ Olsson 1982, 59—62; Olsson 1973. For comparative figures on Swedish military expenditures just before and during the war, see Olsson 1973, e.g. 21—23. On Swedish economic defense readiness, see Månsson 1976.

⁵⁹ Böhme 1988, 25; Olsson 1982, 59—61.

⁶⁰ Niklander 1996, 33.

⁶¹ Böhme 1988, 63—64, 116—118; Olsson 1982, 62—63.

As far as material funding was concerned, the Defense Plans of the 1920s and 1930s set a fixed plan for defense expenditures: every year the *Riksdag* could either accept it, reduce it, or increase it. Moreover, the minority governments during 1925—1935 were reluctant to increase military funding and the Social Democrats wanted the level of funding established in the 1925 plan to be maintained or reduced (which had not included all items of expenditure and had been measured in fixed prices). This resulted in a compromise that provided the military establishment with steady funding; a declining military burden yet a higher per capita share of military expenditures than in most small countries.⁶² The organizational disputes and a well-established political system with considerable interest group influence, as well as a political compromise between the most influential parties, provided Sweden with its distinct armaments production "path": strong privately-owned domestic armaments production, based on the strong industrialization of the 19th century, and a steady flow of government funding.

What about the Finnish case? As *Riitta Hjerppe* among others has stressed, Finland was still largely an agriculturally dominated country during the interwar period, even though services became for the first time the largest productive sector at the end of the 1920s. This slow structural change was halted by the Great Depression. The 1930s was characterized by an increased dominance of the domestic markets, especially due to tightening protectionism, as well as greater government involvement in, for example, military production.⁶³ The resulted increases in domestic demand also enabled strong growth in industrial production. Also, labor productivity in the manufacturing sector increased remarkably, even actually nearing fast the other Nordic countries' levels. The percentage of industries and handicrafts value added of GDP grew from 19.6 to 22.9 percent between 1920 and 1940.⁶⁴

How did the Finnish armaments production development differ from the Swedish case? The Finnish Armed Forces were created out of almost nothing on the basis of war booty material after the Civil War of 1918. Mostly this material was confiscated from the occupying Russian troops during and immediately after the Civil War. These materials consisted of solid defense barriers, forts and bar-

⁶² Böhme 1988, 46—47; Eloranta 1998.

⁶³ Hjerppe 1988, 60—62; Vehviläinen 1967.

⁶⁴ Hjerppe 1995, 44—51; Eloranta 1997b and the sources in it.

racks, artillery, rifles, and other basic equipment. These materials were either adapted for use by the peacetime Armed Forces or stored in mobilization storage depots. The handling of the storage and issues relating to the worth of the war booty materials caused many disagreements between the Ministry of War and the Diet in the 1920s. *Vilho Tervasmäki*, for example, has estimated that these materials aged quite quickly and were less valuable than the contemporary politicians thought them to be.⁶⁵ The Ministry of War, from 1922 onwards the Ministry of Defense, was created after the Civil War on the basis of the German example. The organizational problems of the interwar Armed Forces reflected the fact that the high command structure was not defined strictly to begin with. This situation was similar to the organization of foreign trade during and after the Civil War. The official public machinery needed to undertake military decision-making and administrative tasks was relatively divided, which in turn left room for other organizational influences.⁶⁶

The Finnish military budget proposals were based on the requests by the specific units and departments, which in turn informed the Central Section of the Ministry of Defense of their needs. These requests by the specific parts of the military establishment needed to be quite detailed: For example, the different material acquisition proposals had to include precise quantities and estimated price levels in current prices as well as whether they should be purchased from Finnish producers or foreign suppliers. The different production facilities of the military establishment were required to issue their own budgets. The Ministry of Finances ultimately controlled, especially during the Great Depression, the funding requests of the Armed Forces by, for example in 1929, "urging economy in financial matters".⁶⁷

Several government defense factories, despite the reigning *laissez faire* ideology, were established in the 1920s and 1930s, which further affected the Finnish military establishment's material development. The ordnance section of the Ministry of War estimated as early as 1918 that the most important supplies and materials for military readiness should be manufactured mainly domestically.

⁶⁵ Terä-Tervasmäki 1973, 72—76; Hietanen 1989, 82; Tirronen-Huhtaniemi 1979, 238.

⁶⁶ Eloranta 1999.

⁶⁷ MA, Archive of the Ministry of Defense, The Central Section, General Letters 1929, F 107. 51. The compilation of the budget. See also MA, Archive of the Ministry of Defense, The Minister and Adjutancy 1918—1937. Documents relating to the budgets 1922—1923, 1934. Hc 4; MA, Archive of the Ministry of Defense, The Central Section, General Letters 1930, F 114. 51. The compilation of the budget; 52. The regular budget; 55. Special budgetary items; 56. Budget proposals to the Diet; 57. The issuing of funds.

The first plans to be realized concerned the idea of a gunpowder factory. Private factories offered to establish the factory with the condition that the government would support the enterprise. The Cabinet issued a proposal to the Diet in order to establish a gunpowder factory on 21 March 1922. One important aspect of the proposal changed in the Diet: The military committee of the Diet supported the founding of the factory as a government venture. The Diet followed the advice of the committee and decided on 29 May 1922 to justify the State Council to proceed in the matter of establishing the State Gunpowder Factory. The factory commenced its production at Vihtavuori in 1926.⁶⁸

A private cartridge factory, *Oy Suomen Ampumatehdas Ab* (SAT), established toward the end of 1918, ended up technical and financial difficulties in the beginning of the 1920s. Ministry of Defense proposed an entirely new and solely government-owned cartridge factory to be established at the end of 1922. Within the Diet, a majority of Social Democrats supported the founding of another government factory and funds were granted during the years 1923—1925. Production of cartridges started in Lapua in 1924.⁶⁹ In the establishment of domestic governmental production, the Social Democrats held the key position in the Diet. They favored domestic defense production to be initiated by the government, even though they were generally opposed to laws relating to military acquisitions.⁷⁰ Other government-owned armaments factories that were created in this period included a State Rifle Factory, which the Diet granted the required funds in 1925, and a State Cannon Factory, which started production in Jyväskylä in 1938.⁷¹

These factories, as well as other business costs, actually caused quite a strain on the Finnish military establishment: 881 million Finnish marks (=FIM) were directed for this purpose in 1932—1939, which was over 25 percent of the capital military expenditures of these years. The founding of domestic, state-owned defense factories also caused most of the military acquisitions to be concentrated in these facilities. As the international tensions heightened toward the end of the 1930s, war materials were more and more difficult to come by in the international markets; thus some of

⁶⁸ Terä-Tervasmäki 1973, 126—129; Eloranta 1999.

⁶⁹ Terä-Tervasmäki 1973, 131—132; Tervasmäki 1964; Kuisma 1985, 102—103; MA, Archive of the Ministry of Defense, Minutes of the State Council, introduced by the Ministry of Defense, Ca 11. Minutes 1923, e.g. 25.1.1923, 9.1.1923; Eloranta 1999.

⁷⁰ Tervasmäki 1964; Tiihonen-Tiihonen 1984, 181; Mylly 1978.

the funds reserved for acquisition purposes were actually not even spent before the Winter War in 1939. In effect, the Finnish material readiness before the Winter War was far from adequate in certain units.⁷²

Also, it must be noted that in the politically divided Finland of the 1920s and 1930s, the current military expenditures, requiring a legislative majority in the Diet, were in practice impossible to alter, thus leaving aggregate military spending at a comparatively high level. The depression of the early 1930s reflected on the funding of the Finnish military establishment as well. The material deficiencies in the Armed Forces received attention with the first of the so-called Emergency Programs in 1930. The Diet appropriated only a portion of the funds that were asked — 75 million FIM for 1931, and 125 million FIM for the next five years. These aims were only partially met in the following years. However, it must be noted that, as Minister of Defense *Jalo Lahdensuo* emphasized, two thirds of the acquisitions in 1931 were directed to domestic producers. Equally, a great deal of funding was directed to various private and public production facilities in the form of military contracts in the depression years.⁷³ The deficits in the first Emergency Program, created by the more stringent budgets of the early 1930s, were finally compensated in the additional budget of 1934, which was accepted by the Diet.⁷⁴ This significant change in the political backing for military funding led to the appointment of a large basic acquisitions committee in 1935. The recommendations of this committee were largely adopted as a basis for the military expenditures before 1938. The additional basic acquisition measures in 1936 and 1937 amounted to 210 million FIM each year. In 1938, this sum was increased to 460 million FIM annually. However, as *Kari Selén* has noted, "the acquisition funds could not be spent in the same increasing pace as they were granted".⁷⁵

⁷¹ Kronlund 1990; Terä-Tervasmäki 1973, 192—193.

⁷² Eloranta 1998; Terä-Tervasmäki 1973, 200—203; Nummela 1993.

⁷³ Terä-Tervasmäki 1973, 173—180; MA, Archive of the Ministry of Defense, The Central Section, General Letters 1930, F 114. 51. The compilation of the budget; 52. The regular budget; 56. Funding proposals to the Diet; MA, Archive of the Ministry of Defense, The Central Section, General Letters 1931, F 123. 51. The Compilation of the budget; MA, Archive of the Ministry of Defense, The Central Section, General Letters 1932, F 131. 52. The regular budget. See also Selén 1980.

⁷⁴ Selén 1980, 119.

⁷⁵ Selén 1980, 119—131; Terä-Tervasmäki 1973, 185—200. See also Nummela 1993. On the changing views of Social Democrats, see e.g. Tervasmäki 1964.

In the Swedish case, the role and the impact of the domestic producers and their representatives were constrained by the Swedish “path” mentioned earlier. The Federation of Swedish Industries (*Sveriges Industriförbundet*, FSI) was established in 1910 to represent the interests of domestic producers and export industries in “areas which were not represented by the employers’ federations”.⁷⁶ The members of the board of the Federation participated actively during the years of the First World War in managing government acquisitions, especially the imports of war materials. Thus, a basis for government-industry cooperation was established during the critical war years.⁷⁷

The FSI took an active role in promoting government acquisitions to domestic producers for the first time in 1921, which resulted eventually in a Royal Circular Letter to the government authorities stating that Swedish products should be awarded preference in acquisitions. After that, the Federation insisted upon its renewal yearly and also obtained it until 1935. In the interim, they made numerous proposals in order to improve the preferential status of domestic producers. These attempts, however, failed. Subsequently, the Federation pursued the establishment of permanent acquisition rules throughout the depression years, but in vain. In the absence of more encompassing acquisition rules, one of the main ideas of this interest group was to tie the domestic preference – rule to the aggregate performance of the economy — thus, in the event of an economic downturn, stronger measures of domestic preferences would be introduced. Therefore, the Federation attempted the restoration of the Circular Letter after 1935 perhaps with less enthusiasm than before; after all, business was booming anyhow.⁷⁸

Another aspect of military acquisition matters in which the SFI was active concerned private production and its protection. For example, the Federation was strongly opposed to the less than competitive nature of the Army Barracks Administration (*Arméns Kasernebyggnadsnämnd*), a government-owned unit, which in the Federation’s opinion was favored in the government contracts con-

⁷⁶ Sveriges Industriförbund 1910—1920, 8—9, 42; Ullenhag 2000.

⁷⁷ Sveriges Industriförbund 1910—1920, 43—47; Sveriges Industri 1948, 76—79.

⁷⁸ Industrihuset (Infocenter), Archive of Sveriges Industriförbundet, (Board) Protocols 1923, work commission 8.3.1923 and its appendices; Protocols 1928, board meeting 28.2.1928; Protocols 1929, work commission 23.2.1929 and its appendices; board meeting 18.12.1929 and its appendices; Protocols 1930, work commission 23.1.1930 and its appendices; Protocols 1933, work commission 19.10.1933 and its appendices; Protocols 1936, work commission 28.2.1936 and its appendices; Protocols 1937, work commission and its appendices.

cerning the Armed Forces' building projects. In the early 1920s, they opposed the activities of this Administration by accusing them of sub-standard workmanship and quality.⁷⁹ Another example of the Federation's ardent support of private production surfaced in 1925—1926, when they were asked for an opinion concerning the League Nation's efforts to ban private manufacture of arms and ammunition. At first, the Federation simply viewed this disarmament measure as impossible to accept before assurances were given by the bigger armaments producing countries on ratification. In 1926, they took a stronger, opposing stance in the matter: they viewed such restrictions on private entrepreneurship as "alien" for Sweden and Swedish laws. As in other matters, the Federation acted in cooperation with other organizations to block such measures, especially in the Diet. Eventually this measure, similar to other attempts of controlling arms trade in the interwar period, failed in the League of Nations.⁸⁰

As we can see in Figure 2, the Swedish military import share⁸¹ remained fairly steady, proving our earlier observations on the mature level of Swedish arms production and the relatively unremarkable performance of the SFI in its activities in this area. Swedish military exports, however, increased steadily up until the mid-1930s and the beginning of the hectic international rearmament.⁸² Contrasts to the Finnish case are copious. The Finnish rearmament program of the 1930s, although by necessity also relying on imports and the establishment of government-owned production to an extent, was based heavily on domestic private production due to significant pressure activity by their representatives and the establishment of government-owned military production. As seen in Figure 2, the Finnish military import share declined steadily since the late 1920s, to level off in the mid-1930s, despite Finland's extreme dependence on military imports. This was hardly due to the Finns becoming less and less reliant on the external markets as a result of the drive towards self-sufficiency in military production; on the contrary, it was the extensive hold on the military acquisition obtained by the domestic market producers that generated this outcome.

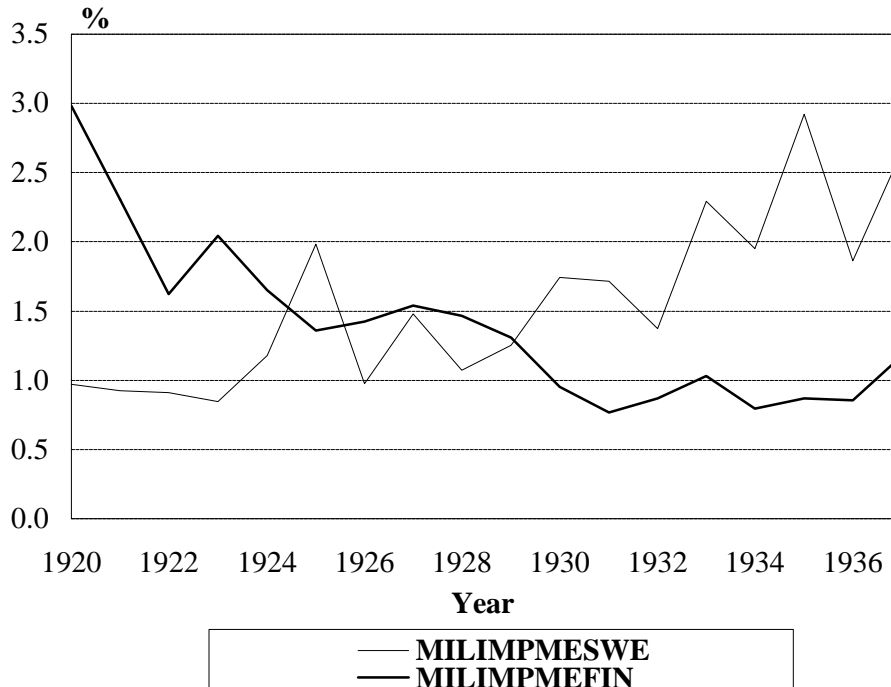
⁷⁹ Industrihuset, Archive of Sveriges Industriförbundet, Protocols 1922, work commission 10.8.1922; Protocols 1923, work commission 13.2.1923 and its appendices.

⁸⁰ See especially Industrihuset, Archive of Sveriges Industriförbundet, Protocols 1925, work commission 15.10.1925 and its appendices; Protocols 1926, work commission 9.6.1926 and its appendices. Also, Eloranta 2001c.

⁸¹ Here all military import and export shares are calculated by using the League of Nations data solely on small and medium size armaments. See Eloranta 2001c for details.

⁸² Eloranta 2001c.

Figure 2. Swedish and Finnish Military Import Shares in Comparison, 1920—1937



Sources: see Eloranta 2001c and the sources in it. MILIMPESWE = the Swedish share of military imports of military expenditures; MILIMPMEFIN = the Finnish share of military imports of military expenditures.

A historical situation in which institutional factors make it possible for smaller groups to participate in political decision-making also explains the organizations' interests in investing in political action. In the case of interwar Finland, both the division of the political field, the "official" organizations — establishing the relatively high level of military spending for the period — as well as the internal conflicts of the military establishment left room for smaller groups and powerful individuals to act to ensure their own interests.⁸³

The Federation of Finnish Industries (*Teollisuusliitto*, FFI) was established in 1921 to protect the interests of the domestic industries. Some of the central principles in the activities of the Federation were, in addition to duty issues, to influence trade agreements and to protect the vitality of domestic

industries in Finland. Thus, the interests of the FFI were intricately linked to the allocation of defense contracts. The State Council had appointed in 1921 a separate Board of Experts in Government Acquisitions. The Federation was able to push through a principle in the Board, which naturally affected the Board of Acquisitions in the Ministry of Defense as well, that even twenty per cent price advantages were to be given to domestic products in government acquisitions compared to foreign products. The Federation attempted to push through this principle as early as 1921 but failed at first. This principle was adopted a few years later. The Federation's grip on government contracts was temporarily lost at the end of the 1920s, but with the coming depression the same principle was reintroduced. During the depression years the more lenient attitude of the State Council and the Ministry of Finances solidified the practice of favoring domestic producers. In the 1930s, the interests of the FFI emerged not only through the Board of Acquisitions but through other government committees as well.⁸⁴

The influence of the Federation was thus extended to the actual decision-making on the military acquisitions. The members of the Board of Acquisitions in the Ministry of Defense, which continued to function throughout the interwar period, consisted of the representatives of the different industries within the Federation of Finnish Industries. Of, for example, the chairmen of the Federation, *Finn Feiring* and *Robert Lavonius* acted also as the chairmen of the Board of Acquisitions in this period.⁸⁵ The Federation's activities were characterized by a right-wing ideological base in their actions, which fit well with the idea of emphasizing domestic self-sufficiency in the development of military resources. Thus, this was a case of ambivalence of sorts in dealing with the military establishment: on the one hand, the Federation tried maximize the profits of its members; on the other hand, they wanted to secure the self-sufficiency of the defense industries in case of a crisis. The latter dimension of the actions of the Federation became more pronounced in the 1930s.⁸⁶

The favorable disposition of the Board of Acquisitions towards domestic production became more pronounced in the mid-1920s. However, the members were in general against government-owned

⁸³ Eloranta 1997c.

⁸⁴ ACFI, minutes of the Federation of Finnish Industries 1920—1925, 11.12.1920, 28.1.1921, 28.5.1921, 9.11.1921; minutes 1926—1929, 7.2.1928; minutes 1934, 2.11.1934; Eloranta 1999; Pesonen 1992, 9—10, 14; Finlands industriförbund 1946, 85—88; Lamberg 1999.

⁸⁵ MA, Board of Acquisitions, Minutes 1919—1926; Pesonen 1992, 14—15.

armaments production and monopolizing military acquisitions. For example, in the case of the gunpowder factory, the Board made specific remarks that "the state should not itself start to establish a gunpowder factory rather than leave it to a private company".⁸⁷ On this issue, the domestic production interests represented in Board clearly failed to have an impact. The attitude of the Board on acquisitions changed significantly after the first years of independence. Some of the aspects of this change included a more lenient opinion of Ministry of Defense's acquisitions in its own right as well as providing more long-term contracts for Finnish producers.⁸⁸ In the 1930s, the expanding market for military goods and the security threat arising from the Soviet Union guaranteed also the support of the FFI for both government-owned as well as private production of armaments, although for production solely based on the Finnish soil.⁸⁹

In general, what were the essential components in the Finnish armaments production "path", especially in comparison with the Swedish case? Firstly, we must note that the Finnish material readiness before the Second World War was lacking, despite quite favorable funding. Secondly, the Finnish military establishment, contrary to the Swedish case, had to be created almost out of nothing on the basis of war booty materials. Thirdly, the military acquisitions in Finland were largely, due to the influence of domestic industrial interests, based on costly domestic production, which was also connected to the founding of public armaments production. Domestic private production facilities were additionally awarded significant price advantages compared to their foreign competitors.

The role played by the smaller organizations, such as committees and interest groups, in the allocation of military funding was also central in both countries. The organizational rent-seeking of economic interest groups, especially in Finland, was made possible by the internal power struggles within the larger political entities as well as within the military establishment. For example, the Board of Acquisitions in the Ministry of Defense, which maintained a tight control of military acquisitions, consisted of members of economic elite and interest groups, such as the Federation of

⁸⁶ See Lamberg 1999 for further details.

⁸⁷ MA, Board of Acquisitions, Minutes 1919-1926, minutes 1919 (SArk 2137/8), 18.6, 11.9.1919; minutes 1920 (SArk 2137/9), 23.4.1920; minutes 1921 (SArk 2137/10), 31.5.1921; minutes 1921 (SArk 2137/11), 16.12.1921, 20.12.1921; minutes 1924 (SArk 2138/9), 13.8.1924, 24.9.1924.

⁸⁸ MA, Board of Acquisitions, Minutes 1919-1926.

Finnish Industries. The influence of the domestic interests in the Finnish decision-making led to an emphasis on domestic military production, which "path" was further strengthened by the establishment of government-owned military production facilities supported by the Social Democrats, otherwise averse to military spending.

CONCLUSIONS

The estimation of the demand for military spending is a complex exercise, with many theoretical options to consider. The main conflict seems to stem from the choice of either a basic macro military spending demand equation, via the theory of pure public goods (Equation 2), or competing hypotheses arising from various micro-economic models. There are indeed a plethora of estimation possibilities. Here we have chosen to begin with the basic military spending demand equation, yet to also test proxy variables relating the political markets and the various groups participating in the game for public goods in Sweden and Finland in the interwar period.

In both of these cases, the basic military expenditure demand equation was found to be insufficient as such. The results arising from the Swedish case indicate the validity of some of the basic demand variables (income, threat) and some of the alternate variables (central government spending, party fractionalization index, value added of industries). The income variable had a sizable negative effect on the military spending variable, which implies growing relative military spending during the 1930s depression years. The German and the Soviet threats seem to have been downplayed by the Swedes. Additionally, Swedish military spending responded to declining central government spending with increased military spending. Thus, the military budgetary immobility hypothesis seems to have some merit in the Swedish case. The party fractionalization index was discovered to have a large negative influence on Swedish military spending. Thus, the hypothesis that increased party fragmentation and increased electoral competition exerts a negative influence on military spending was confirmed. Moreover, the value added of Swedish industries seemed to increase relative military spending, with domestic market externalities in military acquisitions being a possible explanation.

⁸⁹ See e.g. Eloranta 1998 for further discussion.

In the Finnish case, the best results were achieved using the alternate variables. The Soviet threat had a small but positive impact on the Finnish military spending levels, similar to the Swedish case. Central government spending, again similar to Sweden, had a negative impact also on the Finnish case. Both Finnish military spending variables were strongly affected by the party fractionalization index: increased parliamentary fragmentation exerted a strong negative influence on military spending. With the military burden, election year dummies also had a slight negative impact on the military spending levels. In the Swedish case, political party fragmentation declined noticeably in the 1920s, until the depression era again increased it. Later in the 1930s, this index waned slightly. In the Finnish case, party fragmentation increased sharply in the beginning of the 1920s, only to begin a long decline for the rest of the period. Thus, in both the Swedish and Finnish cases, the political markets were found to be highly influential in the military spending decision-making.

The interest groups that operated in the political markets for public goods, defined loosely, consisted of political parties, state bureaucracies, and economic (namely producers) interest groups. It seems evident from the quantitative analysis that stronger consensus, implying declining party fragmentation, among political parties fostered higher relative military spending. Although in the Swedish case, on the rare occasion that the major parties agreed on the necessity of disarmament, such decisions were reached after lengthy negotiations. State bureaucracies had only limited opportunities to maximize their budgets, especially in the Finnish context of newly created organizations. Yet, in both countries the military spending shares seemed to behave opposite to central government spending, thus indicating immobility on the part of military spending levels. This implies that the military bureaucrats were able to maintain the spending levels relatively unchanged despite changes in the GDP or central government spending. The opportunities of influencing military spending policymaking by both political parties and bureaucrats were severely limited by the division between the parties in the political field and the difficulty of fundamentally changing the existing laws on the military's current expenditures, especially concerning conscription.

However, there were more opportunities available for the economic interest groups to achieve their goals in this game. These groups representing the producing sectors were primarily interested in the level of military capital expenditures and to whom the respective contracts were awarded. Often

these groups even favored lower public and military spending on the aggregate. The industrial federations in these two countries, representing domestic market interests, were particularly active in soliciting concrete benefits and price advantages as well as participating in the various public-private sector forms of cooperation. They had more opportunities available in the Finnish case, as the Finnish system of governance was still in its formative stage. Thus, the Federation of Finnish Industries obtained specific price advantages in their fight for more contracts to be given to domestic producers. Furthermore, the military import share of Finland declined in the 1930s, despite extreme dependence on foreign military goods. The Federation of Swedish Industries was more constrained in its rent-seeking, since the more established Swedish political markets did not provide room for similar successes as in the Finnish case. They were not able to obtain fixed contract rules on state military acquisitions, only a loosely drafted recommendation. Nonetheless, the Swedish armaments industries equally able to resist efforts to nationalize this production branch in the 1930s. Also, the active participation of Swedish armaments industries in the international markets ensured the survival and growth of these industries. Sweden, along with Czechoslovakia, became one of the leaders in the production and exporting of small and medium size armaments in the 1930s.

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APPENDICES

TABLE 1. The Impact of Party Fractionalization on the Military Spending of Nine European States, 1920—1938

| DEPENDENT VARIABLE | INDEPENDENT VARIABLE | COEFFICIENT | REGRESSION FIT |
|--------------------|----------------------|-------------|---------------------|
| <i>BELDSHARE</i> | BELPCONC | 2.39** | $\bar{R}^2 = 0.38$ |
| <i>BELMILBUR</i> | BELPCONC | 0.70 | $\bar{R}^2 = 0.45$ |
| <i>DENDSHARE</i> | DENPCONC | 2.73 | $\bar{R}^2 = 0.53$ |
| <i>DENMILBUR</i> | DENPCONC | 3.73* | $\bar{R}^2 = 0.27$ |
| <i>FRADSHARE</i> | FRAPCONC | -4.98* | $\bar{R}^2 = 0.37$ |
| <i>FRAMILBUR</i> | FRAPCONC | -5.77*** | $\bar{R}^2 = 0.84$ |
| <i>NEDDSHARE</i> | NEDPCONC | -10.68** | $\bar{R}^2 = 0.37$ |
| <i>NEDMILBUR</i> | NEDPCONC | -0.13 | $\bar{R}^2 = -0.07$ |
| <i>NORDSHARE</i> | NORPCONC | -13.02** | $\bar{R}^2 = 0.13$ |
| <i>NORMILBUR</i> | NORPCONC | 2.37*** | $\bar{R}^2 = 0.54$ |
| <i>PORDSHARE</i> | PORPCONC | 0.43* | $\bar{R}^2 = 0.17$ |
| <i>PORMILBUR</i> | PORPCONC | 0.68*** | $\bar{R}^2 = 0.44$ |
| <i>SPADSHARE</i> | SPAPCONC | -14.88 | $\bar{R}^2 = 0.76$ |
| <i>SPAMILBUR</i> | SPAPCONC | -2.95* | $\bar{R}^2 = 0.01$ |
| <i>SWIDSHARE</i> | SWIPCONC | -0.76 | $\bar{R}^2 = 0.88$ |
| <i>SWIMILBUR</i> | SWIPCONC | -3.83** | $\bar{R}^2 = 0.35$ |
| <i>UKDSHARE</i> | UKPCONC | 0.02 | $\bar{R}^2 = 0.65$ |
| <i>UKMILBUR</i> | UKPCONC | -0.05 | $\bar{R}^2 = -0.06$ |

Sources: see Eloranta 2001d for details. Party fractionalization indices from Banks 1976.

Note: All variables in logarithmic form. *Countries:* Belgium, Denmark, France, the Netherlands, Norway, Portugal, Spain, Switzerland, and the United Kingdom. All of the regressions reported in the table passed the Breusch-Godfrey LM serial correlation test up to five lags and were corrected, when serial correlation was encountered, with autoregressive (AR) and moving average (MA) error terms. DENPCONC, SPAPCONC, SPAMILBUR, SWIPCONC, UKDSHARE all were found to be $I(1)$. NEDMILBUR and UKMILBUR were found to be $I(2)$. Detailed results available from the author by request. * = null hypothesis of no correlation rejected at 10 per cent level; ** = null rejected at 5 per cent level; *** = null rejected at 1 per cent level.