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# Technology, National Identity and the State

## Rise and Decline of a Small State's Military-Industrial Complex

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# Technology, National Identity and the State: Rise and Decline of a Small State's Military-Industrial Complex[1]


## 0. Abstract

The following paper traces the emergence of a Swedish military-industrial complex, through its heydays and to its eventual decline. The notion of a military-industrial complex is heavily based on American research and it is the American politico-industrial system which has been the model for the 'theory' of a military-industrial complex. The object of the paper is to identify those factors which distinguishes the Swedish case and which have made possible the growth of an exceptionally strong alliance between military, political and industrial forces around the ideal of a strong defence almost exclusively based on a domestic arms industry.

The paper argues that three factors have been particularly important to the emergence of Sweden's military-industrial complex. First, the Cold War shaped the identity of the Swedes. Sweden was neutral, free from the superpower alliances and this provided a need for neutral technology, visibly free from superpower allegiances. Second, the corporative political culture of Sweden provided possibilities for an interest alliance between the government, the military, the industry and the unions around the defence issue. Third, the corporative interest alliance succeeded, at an early stage, to elevate the defence issue over the political agenda, to a level where it was up to military and scientific experts to determine the level of the country's military needs. Not until the 1970's was the defence issue politicized again.

**Sammanfattning**

Denna artikel följer framväxten av ett svenskt militär-industriellt komplex från dess uppkomst efter andra världskriget, genom dess storhetsperiod fram till dess nedgång med början under 1970-talet. Begreppet militär-industriellt komplex är tungt baserat på amerikansk forskning och det är det amerikanska samhället som har stått modell för "teorin" om det militär-industriella komplexet. Syftet med denna artikel är att urskilja de faktorer som är utmärkande för det svenska fallet och som har möjliggjort en exceptionellt stark allians mellan militära, politiska och industriella krafter kring ett starkt försvar nästan uteslutande byggt på en inhemsk försvarsindustri.

I artikeln hävdas att tre faktorer har varit särskilt viktiga för framväxten av Sveriges militär-industriella komplex. För det första det kalla kriget som formade svenskarnas identitet. Sverige var neutralt, fritt från supermaktsallianser och detta skapade ett behov av "neutral" teknik, tydligt fri från band till någon supermakt. För det andra möjliggjorde den svenska korporativa politiska kulturen en intresseallians mellan regeringen, militären, industrin och fackföreningarna kring försvarsfrågan. För det tredje lyckades den korporativa intressealliansen i ett tidigt skede att lyfta försvarsfrågan över de politiska motsättningarna till en nivå där det blev en fråga för militärer och experter att bestämma landets militära behov. Inte förrän under 1970-talet blev försvarsfrågan en politisk fråga igen.



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## 1. Introduction

Small countries are not supposed to have military-industrial complexes. Yet when a country possess a quite considerable arms industry sector, has developed political structures that are capable of securing procurement from domestic manufacturers and is nurturing common ideals capable of justifying a strong military forces we are dealing with a formation that should not be described in any other way. This article will focus on showing how an exceptionally strong arms industry has developed in Sweden and in which ways it has become embedded in the political system. Attention will be paid to the development of industrial and technological structures and conditions as well as to the political and ideological institutions that has made Sweden's military-industrial complex possible.

The notion of 'Military-Industrial Complex' has a long history that will not be dealt with here.[2] It is sufficient to point out that the term has not commonly been used to describe defence-industry relations in Sweden.[3] An overwhelming majority of titles that has made use of the MIC-notion has dealt with the United States.[4] The MIC-thesis is thus heavily dependent on American social, economic and political conditions. Among such conditions is of course the fact that the United States has possessed among the strongest armed forces in the world and been in an almost permanent state of hot and cold war since 1941.[5] 'Viewed dispassionately', writes Roland, the military-industrial complex was an alliance between the defense industry and the Department of Defense to shape public policy.'[6] Other definitions

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[2] C.f. Roland, Alex, *The Military-Industrial Complex*, (Washington: American Historical Association, 2001).
[3] Dörfer (1973) performed a study of the Swedish fighter-bomber project *Viggen* where Sweden was labelled a *Scientific State* following Gilpin. Holmström & Olsson (1983) somewhat *en passant* considered the applicability of the notion but rejected it on the ground that it was "abstract and ambiguous in nature", p 164. Ikegami-Andersson (1992) actually compared Sweden together with Japan as *Military-Industrial Complexes*.
[4] Galbright, John K. (1969), "How to Control the Military", Signet; Melman, Seymor (1970), *Pentagon Capitalism: The Political Economy of War*, (McGraw-Hill, 1970), Perlo, Victor (1963), *Militarism and Industry* (London: Lawrence & Wishart); Baran & Sweezy (1966), Rosen, Steven (1973) *Testing the Theory of the Military-Industrial Complex* (Lexington Mass: Lexington Books); Sarkesian, Sam C. (1972), *The Military-Industrial Complex: A Reassessment* (Beverly Hills: Sage), Koistinen (1980); Galloway, Jonathan F. (1973) "Multinational Corporations and Military-Industrial Linkages" in Rosen (ed) *Testing the Theory of the Military-Industrial Complex* (Lexington Mass: Lexington Books), Slater, Jerome & Nardine, Terry (1973) "The Concept of a Military-Industrial Complex" in Rosen (ed) *Testing the Theory of the Military-Industrial Complex* (Lexington Mass: Lexington Books); Cooling, Benjamin F. (1977), *War, Business and American Society. Historical Perspectives on the Military-Industrial Complex*, (National University Publications); Koistinen, Paul A. C. (1980), *The Military-Industrial Complex: A Historical Perspective* (New York: Praeger); Roland (2001).
[5] Sherry, Michael, *In the shadow of war: the United States since the 1930s* (New Haven: Yale University Press, 1995).
[6] Roland (2001), p 6.

may include the Congress or Pentagon. Such definitions are obviously not valid for Sweden simply because the political system is different as is the society in which the military, industrial and political institutions are embedded. Hence, the purpose of this article is to determine the extent to which the concept is applicable to Swedish conditions. This means an attempt to identify the institutions, the interrelations and the ideals that have made possible the growth of Sweden's exceptionally strong military sector.

Sweden's defence industry has been sparsely researched to say the least. The few existing studies have, with one or two exceptions, employed an exclusively industrial perspective and focussed on the companies and their production. Little attention has been directed to the decision-making structures of Sweden's weapon production and procurement and their political legitimacy. Nevertheless there are good reasons to examine the nature of Sweden's structures of political-industrial-military cooperation in terms of a 'military-industrial complex'. First, the aim for self sufficiency and the extraordinary size of Sweden's MIC distinguishes it from every other small state in the world with the possible exception of Israel.[7] Second, the weapon-producing industry, as well as the decision-making structures surrounding it, has been extremely well integrated into Swedish society, both economically and politically. It is thus probable that an analysis of its MIC will also tell us something significant about Swedish society. Third, Sweden's arms industry experienced a development similar to other major industrial sectors between 1945 and 1975; in fact, the defence industry appears to be an almost over explicit example of state led industrial development. Thus, it can be argued that it is a suitable case for comparison with other sectors where the state does not necessarily act as sole initiator and buyer. A fourth reason to focus on the military-industrial complex would be that this sector is highly technology intensive. A successful military industry requires exchange of technology with other countries and a heavy state commitment to research. If know-how from military research proliferates to other sectors it means that the military-technology sector is leading industrial development. This was often the case during the Cold War.

[7] The concept of Military-Industrial Complex has also been employed on the israeli procurement system. Israel, however, like the U.S., but unlike Sweden, has been in a more or less constant state of war from 1948. Alex Mintz (1985), 'The Military-Industrial Complex. American Concepts and Israeli Realities' in *Journal of Conflict Resolution*, Vol. 29 No 4, pp 623-639.

Ikegami-Anderson is one of few researchers that have actually employed a military-industrial complex perspective on Sweden. She identifies five different versions of the MIC-thesis.[8] Common for all of them is that they are critical to formal decision-making models for the dynamics of arms production and seeks to define how such decisions are really made. Decisions over armaments are assumed to be irrational, leading to military over-spending, excessive arms production and over-sophistication of arms technology. If this was the case for the United States, has it also been true for the Swedish case?

Arms production requires the development of formal and informal institutions that coordinate decision-making, military needs and industrial and scientific capabilities. Weapons, as opposed to many other commodities, are not produced for a market in the normal sense of the word. Traditionally, the only buyer is the government and the demand is subject to military and political considerations which are nationally defined. Even when military equipment is exported, decisions to export or not are subject to political and military considerations rather than economic. Moreover, the technology involved in arms production is considered a national asset and as such subject to national security considerations. Technological capability is not just company property. It is also a military property and a national property which requires hedging and nurturing through national strategies for research, investment and technology exchange.

Coordination of this complicated web of technological and economic assets, and political and military considerations, requires the development of an informal institutional structure which we call military-industrial complex. Such institutional structures take different shapes in countries with different political cultures. How, then, was Sweden's military-industrial complex institutionalised, and what was its peculiar characteristics?

The purpose of this article is not to point to the important role of the Swedish state in military procurement. The fact that the state is the dominant actor is important, but at the same time rather obvious in all military procurement systems. Nor is the point to show that the size of

[8] The 'Power Elite' model emphasizes the collaboration between military and arms industry as the driving force behind the MIC. Furthermore, it purports that the MIC controls the government. According to The 'Weberian bureaucracy' model the state bureaucracy is the controlling entity of a 'state capitalist' MIC. The Marxist model perceives the giant arms corporations as determinants of the MIC whereas in the Techno-industrial model technology is a force that spurs the development of MICs. According to the Resource mobilisation/Big science mobilisation model MICs emerges because modern war technology needs to mobilised in terms of large scale

Sweden's military commitment during the post-war period has been exceptional, if compared to other small states. Several other studies have done that.[9] Rather the point is to try to show how the level of state commitment in defence and military technology was politically, ideologically, and socially determined, and how Sweden's arms industry was embraced by virtually all parts of society from 1945 up until the late 1960's. The country's armed defence, firmly rooted in a domestic defence industry, enjoyed strong public support. The level of the defence grants were never questioned, despite the fact that Sweden, a country with a population of between 7 and 8 million, in the 1950's and 60's built the fourth largest air force in the world. The Cold War provided the Swedes with an identity as neutrals, and 'non belligerents', and the defence costs were simply the price that had to be paid for that identity.

**2. An arms industry is created 1936-1945**

Like other European countries Sweden followed the general disarmament pattern of the 1920's. Following Germany's rearmament from 1933 and its violations of the Versailles treaty the general trend shifted to rearmament in the middle of the 1930's. The Swedish armed forces had undergone cutbacks during the 1920's, but in 1936 the trend was reversed with the parliamentary defence act of that year. A state-led reorganisation of industrial capabilities for the military needs was initiated.[10] The government pressed to merge the two largest firms within the aircraft industry; the Wallenberg controlled ASJA and Bofors controlled Nohab. A joint company, *AB Förenade Flygverkstäderna*, was formed that was evenly owned by the two ownership-groups. In early 1939 the two competitors were merged into SAAB (*Svenska Areoplanaktiebolaget*), which was owned in equal shares by the Wallenberg group and the Wenner-Gren group, who also owned the artillery and explosives manufacturer Bofors. This move was part of a conscious state policy with the aim to pool scarce national industrial resources. A multitude of competing producers was considered inefficient, and the

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projects and because of wars or war-like situations requires such systems to mobilise resources. Ikegami-Andersson (1992), pp 7-11.

[9] Dörfer, Ingemar (1973), *System 37 Viggen. Arms, Technology and the Domestication of Glory*, Universitetsforlaget; Olsson, Ulf (1974), *The Creation of a Modern Arms Industry 1939-1974* (Göteborg: Göteborgs Universitet); Holmström & Olsson (1983), 'Sweden' in Nicole Ball & Milton Leitenberg (eds), *The Structure of the Defence Industry.* (Croon Helm); Ikegami-Andersson (1992), *The Military-Industrial Complex: The Cases of Sweden and Japan* (Dartmouth).

[10] Ulf Olsson, *The Creation of a Modern Arms Industry. Sweden 1939-1974* (Göteborgs Universitet, 1977); Arvid Cronenberg, "1936 års försvarsbeslut och upprustningen 1936-1939" in Carl-Axel Wangel (ed.), *Sveriges militära beredskap 1939-1945* (Militärhistoriska förlaget 1982), pp 25-53.

government sought to create an arms industry with bigger units that would be better able to guarantee deliveries. Other producers were thus cut off from state orders.[11]

The outbreak of the Second World War fully disclosed the weakness of Sweden's armed forces. The military equipment was largely obsolete and war developments made the country totally isolated. Sweden's military rearmament had, thus, to rely on domestic industrial capability alone. Although the engineering industry was well developed in 1939, it was not well prepared to manufacture military equipment at the rate that was now demanded. A thorough industrial reorganisation was initiated, which was based on corporative participation from industrial organisations and their leaders.

Olsson (1974) has distinguished four phases in the rearmament programme after 1936. They are roughly divided by the years 1938, 1940, and 1942. The first phase, ending in 1938, was triggered by the darkening political situation in Europe and characterised by the long term planning of a strengthened defence laid down in the Defence Act of 1936. When the war begun, these plans were not altogether altered, but rather enforced in some certain areas. The wartime effort did not work well. It was limited by the size of the grants for military equipment, and a substantial civilian production was still allowed in industries of military importance. Not until mid-1940, after Denmark and Norway had been occupied, a concentrated rearmament effort took shape. Grants for military equipment were increased tenfold compared to the pre-war period, and the size of the grants ceased to be a limiting factor for what could be produced.[12]

Despite delays and bottlenecks the Swedish armed forces were built up so that in 1945 Sweden possessed one of the largest armed forces in Europe. Some of the rearmament was accomplished through imports mainly from Germany and Italy, and later from Great Britain and the U.S., but most was achieved through a thorough reorganisation of domestic industry.[13] The Swedes' conclusion from the Second World War experiences was that in times of crisis they had to rely on their own resources and capabilities.

[11] Ulf Olsson, *Att förvalta sitt pund. Marcus Wallenberg 1899-1982* (Ekerlids förlag 2000), s 292-293.
[12] Ulf Olsson, *The Creation of a Modern Arms Industry 1939-1974* (Göteborgs Universitet), pp 11-13.
[13] Merely thirteen percent of the mechanical military equipment acquired between 1939 and 1945 were of foreign imports. The rest was manufactured domestically. Ulf Olsson, *The Creation of a Modern Arms Industry 1939-1974* (Göteborg: Göteborgs Universitet: 1974), s 57.

## 3. Institutionalization of a Military-Industrial Complex

At the end of the war the newly mobilised defence industry was naturally expected to demobilise, demilitarise, and transform to civilian production. Military expenditures were expected to decrease, and this was thought to create problems for the arms-producing industries. For several reasons, however, demobilisation did not cause any dramatic cutbacks in the procurement of military equipment, and the industries that had been built up during the recent years remained largely intact.

The aircraft producer SAAB was heavily dependent on government orders. Since 1940 it had been working under a general government contract with payment in advance, and a profit guarantee. During the war SAAB produced bombers of Northrop-type under license, altogether 102 planes. The company furthermore produced 322 bomber/reconnaissance aircraft of its own design labelled B17 and S17 respectively. In 1944 SAAB started production of the bomber B18. Development had begun in 1939, and the bomber was obsolete already when the first planes were delivered. Between 1940 and 1946 SAAB produced altogether 900 aircraft for the air force. During that period the company had grown substantially, and by 1945 it employed over 4000 workers. The anticipation of diminishing demands of military aircraft made SAAB differentiate its production into civilian aircraft and automobiles.[14] The differentiation, however, was subject for antagonism in the company board. The Wallenberg ownership group wanted a proliferation into non-military ventures, whereas the Bofors ownership group wanted SAAB to remain a producer of military equipment.[15]

If the air craft industry was ambivalent concerning the possiblities to continue military production, the government did not signal any dramatic changes in its demand for military air crafts as a consequence of the peace. One reason for this was the difficulties that had been experienced during the war to supply the air force with aeroplanes. SAAB had only been able to provide a part of of what was needed and the technical standard of the Swedish air force did not equal that of Great Britain or the U.S. The modernisation of the Swedish air force had simply not been completed at war's end. Another reason was a more or less organized resistance from a ‘hawk lobby’ within the military establishment and in the government. The

[14] Olsson (2000)

[15] Kristoffer Stranqvist (2007), *Formativa moment för den svenska flygindustrin 1944-1951* [Formative moments for the Swedish Aircraft Industry]. Unpublished dissertation manuscript, (Stockholm: Handelshögskolan).

Social democratic party dominated Swedish politics both before and after the war.[16] Traditionally, the social democrats were anti-militarists. The war, however, had created a markedly more defence-friendly attitude among leading social democrats with a resulting rift within the social democratic party between 'hawks' and 'doves'. The older generation with names such Wigforss and Möller as well as the majority of the party including most of the social democratic MP:s, were anti-militarist, whereas the Prime Minister Hansson, his successor Erlander, and the defence minister Sköld, were more pro-militarist.[17] The attitude of the 'doves' was that the resources that had been spent on armament should now be used to build the welfare state, whereas the 'hawks' saw a high level of defence expenditures as a means of protecting the welfare state and a way of maintaining the modern defence that had just been built up. The social democratic party had, during four decades from the beginning of the century, fought a bitter internal struggle over the defence issue. No one within the party leadership wanted to revive that conflict. This meant that members of the social democratic government were prepared to hedge the defence issue from the parliament and the party and manouver it in such a way that it would not provoke a public debate.[18]

Although 'the hawks' within the government and the military establishment both shared the goal of avoiding extensive cuts in the defence budget the communication between the two groups was somewhat strained. The differences, however, did not concern the level of defence expenditures as much as it did social background and Sweden's relations to the western powers.

In June 1944 defence minister Sköld ordered supreme commander Helge Jung to put together a military study over the needs of the armed forces in peacetime. The idea was that this study should be reworked by a parliamentary committee that the minister was going to appoint later on. Based on the report of the committee the government would formulate a bill to the parliament specifying the desired size and costs of the armed forces in peacetime. The 'defence decision' would be taken by the parliament in 1947 and replace that of 1942. Sköld

[16] During the war Sweden was governed by a coalition government comprising all political parties except the communists.
[17] Magnus Hjort (2004), *"Nationens livsfråga" Propaganda och upplysning i försvarets tjänst 1944-1963.* (Stockholm: Santérus förlag); Strandqvist (2007).
[18] Hjort (2004), p 121. The prime minister Tage Erlader wrote in his diary that the public statements of the supreme commander was contra productive in that it made it more difficult 'to pressure highest possible defence grants' through the parliament. Tage Erlander's diary November 28 1949 quoted in Hjort (2004), p 120.

told Jung that he wanted to secure the strength of the armed forces before 'an averseness against the defence gained ground'.[19]

The defence committee was appointed by the government in June 1945. It comprised 10 members from all the political parties represented in the parliament. It also contained one representative from the industry and four from the military forces. The task, formulated by the government, was to propose reductions in the defence expenditures and at the same time take into consideration the military technological development that had taken place during the war. The military representatives soon began to doubt that the committee would be able to produce a satisfactory proposition. Levels of funding were discussed that lay far below what the supreme command considered necessary. Instead of relying on the committee the supreme commander adopted the strategies of influencing the government directly and activating his 'propaganda team'. It has even been suggested that the work in the committee was purposely delayed by the military representatives with the object of preventing a new defence proposition altogether.[20] The strategies paid well off. In February 1946 prime minister Hansson told Jung that the social democrats would not require any rash cutbacks and in June the following year, the minister of defence, Allan Vougt, informed Jung that the results of the committee would not be 'of any major importance'. A day later the state secretary of defence told him that 'the government would, if necessary, go forward on its own'.[21] The committee had thus become somewhat obsolete, partly because 'the hawks' alienated themselves from it, and partly because of the development on the international scene where the Cold War was enveloping.

When the committee finally presented its proposal in November 1947 it did not lead to any immediate action on the part of the government. The proposal went, as usual, on circulation for consideration to a number of authorities. In the meantime the government sought to fill the most important gaps that the technical development had caused. The Battle of Britain as well as the strategic bombing of Germany had proved fighter aircraft to be more important than what had previously been acknowledged. Sweden lacked night-fighting capability altogether, as well as radar and aircraft equipped with jet engines. In April 1948 the government submitted a proposal to the parliament which actually reinforced the airforce considerably.

[19] Strandqvist (2007), pp 179-180.
[20] Ibid., p 199.
[21] Ibid., pp 185 & 190.

Still, the aim of the defence committee, a general defence agreement, had not been reached. New advanced equipment for the airforce was subsequently bought from Great Britain. However, the government was internally split between 'hawks' and 'doves', a situation that the defence committee had not resolved. In order to produce a proposition to the parliament these groups had to come to some sort of understanding. Moreover, prime minister Hansson had died unexpectedly in october 1946 and had been replaced by the rather unexperienced Erlander, who can also be labelled 'a hawk'. Erlander was prepared to make the investments in new equipment that the supreme commander and airforce commanders urged him to. In spring 1949 a new decision to reinforce the air force through foreign imports was taken. This time more of a resistance was put up from 'the doves' in the government and Erlander noted in his diary that 'it wouldn't be easy to achieve rearmament'[22]. When an agreement finally was reached Erlander was particularly proud of it and regarded himself as its architect.[23]

Three air squadrons were reinforced with 50% strength added. At the same time a defence committee was appointed. The chairman was Torsten Nothin, governor of Stockholm, respected within both social democracy and opposition and chairman of the board of SAAB. The directives of the defence committee of 1949 depicted the 'air force' as the 'first defence line', a formulation supreme commander Helge Jung perceived as unfortunate and he considered the entire directive to be heavily biased and pro-air force to the detriment of the other two arms services. When he pressured Erlander on this point he understood that SAAB needed orders in order to uphold production and that the air force commander Nordenskiöld and the chairman of SAAB Nothin had successfully lobbied the government in this respect.[24]

The supreme commander did not simply wait for political decisions that would affect the future of the armed forces. He actively sought to influence not only key members of the government but also public opinion at large. To this effect he organised around himself an informal group of opinion moulders with very good connections. Besides several members of the supreme commander's staff the group contained military experts working as writers in both of Sweden's major daily newspaper Svenska Dagbladet and Dagens Nyheter together with the managing director of the news agency TT. Funds for the propaganda campaign were raised under much secrecy from companies and industrial organisations, many of which had

[22] Tage Erlander (2001), *Dagböcker 1945-49*, (Hedemora: Gidlunds förlag), p 325.
[23] Strandqvist (2007), p 231; Erlander (2001), p 335.
[24] Strandqvist (2007), p 233.

been part of the armament effort.[25] The group's activities must be considered highly influential not least because they succeeded in setting the agenda by publishing books and reports furnishing arguments for high levels of defence spending. Nor did the airforce commander hesitate to use connections and propaganda in order to influence the government. The fact that Saab needed contracts in order to fill their order books seems to have influenced the government to expand the airforce.[26]

The defence decision of 1948 had specified defence costs to SEK 800 million, a figure slightly lower than the defence costs at the end of the war. The ad hoc decisions to reinforce the air force were taken in addition to the budget and brought actual defence costs up to a total of SEK 1100 million, a figure that shocked several MP:s when they learned about it.[27] Thus, it can be concluded that the 'hawks' within the military establishment and government were quite successful in defining the level of military expenditures in the early post-war period. The military experts were able to specify the level of needs and influence the decision making process, a process from which the 'doves', on the other hand were barred.

**4. Armed forces, Organised Interests and the State**

The rapid transformation of Sweden's domestic arms industry during the Second World War was accompanied by the establishment of an intimate co-operation between state and industry. Modern war made industrial resources a vital issue and, as a consequence, industrialists rather than soldiers were placed in the war administration to handle military industrial issues.[28] An extensive national emergency administration was formed where representatives of unions and business organisations were included.[29] 'As delegates they took part in decision-making, as experts they gave advice and in other ways influenced the basic data on which decisions were founded. In some cases they could, as civil servants in the administration or as employees of associations, handle policy implementation and the control of those policies being carried out.'[30] A system of corporatism was, thus, formed, where organised interests thoroughly penetrated official decision-making.

[25] Hjort (2004), passim. Especially pp 107-95 & 144-154.
[26] Strandqvist (2007), pp 233-234.
[27] Ibid., p 236-237.
[28] Olsson (1977), p 49.
[29] Friberg, Lennart (1973), *Styre i kristid: studier i krisförvaltningens organisation och struktur 1939-1945.* (Stockholm: Allmänna förlaget)
[30] DeGeer, Hans (1991), "Corporatism and neutrality: Sweden during the Second World War" i Grant, Nekkers & van Waarden (eds), *Organising Business for War. Corporatist Economic Organisation during the Second World War*. (Oxford & New York: Berg).

Sweden has been labelled a society of corporatism where central issues commonly have been decided in negotiations directly between state and interest organisations with little need to activate public opinion. Unions, voluntary associations and political parties have acted as inter-mediators, i.e. they have provided support in sensitive issues without opening that matter for public opinion. Sweden has been a 'society of negotiation' where important decisions have been reached through compromise between dominating interest organisations.[31] Politically, Sweden has been an extraordinary stable society because unions, voluntary associations, and other organised interests have enjoyed strong public support, and they, in turn, have provided legitimacy for existing power relations and policies in return for opportunities to affect policy and legislation in their respective interest spheres. Sweden's corporative social structure must therefore be taken into account as an important component in the military-industrial complex. First, the corporative system has provided legitimacy for the government's defence policy. Second, armament issues have been 'kept off' the political agenda. Decision-making has been lifted out of from fora where they might have been politically contested or open for public debate.

Support for a strong defence has been provided by semi-public organisations such as *Riksförbundet för Sveriges Försvar* (RSF) [The National Union for Sweden's Defence] and *Centralkommittén för det Frivilliga Försvarsarbetet* (CFF) [The Central Committee for Voluntary Defence]. When CFF was founded in 1940 it had 28 member organisations among them four of the youth branches of the major political parties, *Riksidrottsförbundet* [The National Sports Association], LO [National Labour Union], SAF [The Employer's Association] and numerous other voluntary organisations. The first President of the CFF was Thorsten Nothin, the governor of Stockholm and former minister in a social democratic government. Vice President was August Lindberg, president of the LO and the chiefs of the armed forces also occupied seats on the board of the CFF. The organisation embodied the 'the new cooperative spirit' in Swedish society symbolised by the compromises on the labour market between the union congress and the employers, further enhanced by the apolitical

[31] Bo Rothstein (1992), *Den korporativa staten: intresseorganisationer och statsförvaltning i svensk politik* (Stockholm: Norstedts); Leif Lewin (1992), *Samhället och de organiserade intressena* (Stockholm: Norstedts); PerOla Öberg (1994), *Särintresse och allmänintresse: korporatismens ansikten* (Uppsala: Uppsala University); Michele Micheletti (1995), *Civil Society and State Relations in Sweden* (Aldershot: Avebury).

spirit of the coalition government that ruled Sweden during the Second World War.[32] Its motto was: “When peace comes, the willingness to defend the country shall live on”.[33]

When peace finally arrived Thorsten  Nothin, the chairman of CFF, who was also a director of the board of Sweden’s biggest arms manufacturing company: SAAB, was chosen to lead the governmental defence commission of 1949. In his autobiography Nothin frankly states that he assured the Prime Minister of the commission’s intentions to keep the defence issue out of the parliamentary disagreements.[34] CFF, today under the name *Folk och Försvar* [People and Defence], has been active throughout the Cold War. The organisation is funded by the government and it issues a publication four times a year. The membership is made up of over 50 organisations, among them the most important unions, interest organisations and political parties. The purpose of *Folk och Försvar* is to inform about and to further debate on defence issues but also to maintain public support for a strong defence.[35] It is a visible communications channel between the Swedish defence and Sweden’s society of voluntary associations and interest organisations with the explicit aim to provide legitimacy for a strong defence. Initially the organsiation did not seem to have a clerar strategy except to provide opportunities for military and civilian leaders to meet and form trustful relationships. Later a strategy was formultated that aimed to educate and inform opinion-moulders such as the political youth organisations, journalists and teachers.[36] The Armed Forces headquarter has also used the *Folk och Försvar* as a channel for information, propaganda, and views that the headquarter in it self has not been able to present in order not to interfere in Swedish politics.[37]

The defence committees of 1945 and 1949 and their subsequent parliamentary defence decisions came to establish a pattern in Swedish post-war defence policy. All political parties were represented in the committees by a number of MP:s roughly corresponding to the party’s strength in the parliament. Attached to the committee were military experts selected by the

[32] Magnus Hjort (1998), *Folk och försvar och kampen mot den femte kolonnen. En studie i framväxten av övervakningssverige i slutet av 1950-talet.* (Göteborg: Göteborgs Universitet) pp 12-13.
[33] Torsten Nothin (1955), *Från Branting till Erlander* (Stockholm: Wahlström & Widstrand), p 234. [My translation.]
[34] Ibid., p 286. Similar statements about the desirability of the defence issue to transcend party politics and ' flickle parliamentary squabbles' was expressed repeatedly in the editorial of CFF's periodical *Folk och Försvar*. Andreas Ottonius (2004), *Folkrörelser i försvarets tjänst. En studie av "Centralförbundet Folk och Försvar" ur ett korporatistiskt perspektiv.* Unpublished C-level essay, Department of History, Stockholm University, p 27.
[35] http://www.cff.se/folkochforsvar/organ.html
[36] Ottonius (2004), pp 32-33.
[37] Hjort (1998), p 9.

supreme commander or the various military branches and in one case also a representative for a major industrial conglomerate. The defence issue was regarded as highly important so the MP:s selected to represent their party were often picked from the party leadership. Ingemar Dörfer has argued that the MP:s selected to represent their party in defense matters owed their allegiance to their party rather than to their constituency. 'If the party gave one the honor of representing it on a defence committee, there was little incentive to retaliate with eccentric and unpredictable behavior.'[38] The parlamentarians were systematically 'educated' in defence matters and hand picked for their reliability. In this way prime minister Hansson had been three times defense minister and chairman of the 1930 defence committee. Sven Andersson had been member of the 1945 defence committee before becoming defence minister in 1957. Similarly Torsten Nilsson had been defense minister before becoming chairman of the 1955 defence committee and Arne Geijer, chairman of the trade union congress LO, was member of the 1945 defence committee. Geijer had, as trade union leader particpated in and supported CFF through the membership of the trade uninon congress, the largest and most important member of the organisation.[39]

In 1958 a new defence decision was taken by the parliament. It was the most consequential of the post-war decisions. It was to shape the structure of the Swedish defence well into the 1970's. Again the airforce was prioritised at the expence of the other two services. The technological development led to successively increasing costs for a defense of unchanged capacity. According to the decision the defence budget would be subject to an automatic 2,5% annual increase. In 1959 an index was worked out to measure inflation in defense costs in order to keep expenditures at a constant level. Ingemar Dörfer has labelled this a 'welfare defence' and compares the the siutation with the introduction of the large scale pension system that took place the same year: "If everybody's minimum standard was to be tied to a system of indices, it seemed only fair that the defence have its standard adjusted as well."[40]

**5. The rise of military research and its impact on society**

Science is one of the most, if not the most, salient factors in the 20th century relation between the military and society. Science was a national asset that was mobilised like all other assets during the Second World War. This was only the beginning of a process that would be taken

[38] Dörfer (1973), pp 30-31.
[39] Ibid., p 31.
[40] Ibid., p 34.

even further during the Cold War. In essence, it was a double process that could be characterised as a 'scientification' of the military sector and a 'military bureaucratisation' of science. This was not true merely regarding the development of weapon systems. It affected the entire range of military activities from procurement to intelligence.[41] The military sector became a role model of rationality, a forerunner, or an example of what could be achieved if science was systematised, goal oriented, and mobilised for societal goals.

Sweden was no exception to this development. Before and during the war military research was dispersed among multiple units both within the armed forces and in civil society.[42] The situation was unsatisfactory and resulted in lack of planning and double work. The war administration required more co-ordinated and effective research and in 1945, following a power struggle between the military and civilian bureaucrats, a new military research institute was founded through an amalgamation of most of the smaller units. The new unit was FOA, The Defence Research Institute (Försvarets forskningsanstalt). Within months of the founding of the new institution the atomic bombs were dropped over Japan, indicating an entirely new area for military research, an area in which Sweden had no military research capacity.

When FOA started up in 1945 its staff amounted to 130, among whom 55 were researchers. The institution grew rapidly to 280 employees in 1947, 470 in 1950, 750 in 1955 and over one thousand in 1958. The growth continued to 1971 when FOA employed a staff of 1583.[43] Primarily, FOA continued in the same research fields as its predecessors during the war. Rocketry, jet engines, guided missiles, explosives and radiotechnology were such areas. The practice of putting all military research under one (i.e. FOA's) umbrella differed from the development in other countries. The international trend was towards systems were the different weapon branches each built up its own research institutions.

Parallelling FOA's activities was research carried out by private contractors. Among them were companies such as SAAB (aircraft designs and guided missiles), Svenska Flygmotor AB

[41] Agrell, Willhelm, *Vetenskapen i försvarets tjänst. De nya stridsmedlen, försvarsforskningen och kampen om det svenska försvarets struktur*, (Lund: Lund University Press: 1989), pp 58-59.
[42] Such units within the armed forces were The Military Physical Institute (Militärfysiska institutet), The Army's -Electro-Technical laboratory (Arméns elektrotekniska laboratorium), The Testing Institute of Aerotechnology (Flygtekniska försöksanstalten), The Testing Institute of the Airforce (Flygvapnets försöksanstalt), The Torpedo Workshop Central (Centrala torpedverkstaden). Two other research originated from civil research society were the Military-Physical Institute (Militärfysiska institutet) and The Government's Invention Agency (Statens uppfinnarnämnd). Agrell 1989, pp 100-101.
[43] Ibid., pp 134-135.

(aircraft engines), Bofors (artillery), Karlskronavarvet and Kockums (shipbuilding), LM Ericsson and Svenska Philiphs (telecommunication), Asea and AB Atomenergi (nuclear power).[44]

Also, research within the universities was militarised through a new research bureaucracy that was based on experiences from the World War. When the Natural Sciences Research Committee presented its results in 1945, it was thoroughly affected by anglo-saxon ideals of goal-oriented project research, of which the Manhattan project was a tangible example:

> The advances that the atomic bomb – despite its use hitherto – implies, have been won thanks to a tremendous deployment of manpower under leadership from an elite of prominent researchers, material and monetary resources. […] For effective research in our days, extensive investments of capital and human workforce is necessary, but if such an investment is made, sooner or later rich rewards in the form of valuable advances in different areas of society, will be gained.[45]

The military goal-oriented, socially, politically and economically prioritised Manhattan project thus served as a model for successful research in the eyes of the committee. The new research organisation that was built up following the recommendations of the commission was based on 'research councils', organisations that made priorities and allocated funds among plausible projects among universities and within the research community. The principles were goal-orientation, social relevance, and long term planning. New research institutes were founded and more funds were allocated to provide for them through the system of research councils.

According to one estimate the total state funds for research in 1960/61 amounted to SEK 560 million. After an average annual increase of 14% state funded research amounted to SEK 1074 million in 1965/66 and after a further average annual increase of 5% the state's research funding in 1970/71 amounted to SEK 1379 million.[46] From 1960 to 1970 the military share of the government's research funds decreased from an appalling 50% to just below 30%. This decrease was not an effect of lesser funds but rather caused by the emergence of a civilian state-funded research organisation.

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[44] Annerstedt, Jan, *Makten över forskningen. Om statlig forskningspolitik och forskningsplanering i dagens Sverige.* (Lund: Bo Cavefors förlag: 1972), p 30.

[45] *Naturvetenskapliga forskningskommittén. Den naturvetenskapliga forskningens behov av personal, anslag och lokaler* [*The Natural Sicences Reasearch Committée. The need of natural science research for personnel, funds and premises*], *SOU 1945:48*, p 11. Quoted in Agrell (1989), p 72.

Military research has been considered as the model for a new conception of research that developed during the 1960's.[47] In 1962 the Defence-Medicinal Research Committee presented its results. The committee suggested long-term planning as a means to meet the overarching problems of the defense sector. To acheive this, a permanent institution should be built up with the purpose of coordinating societal goals with research needs. This opened up for reforms in other sectors as well. Increased state intervention, and increased long-term planning, was introduced in area after area. In 1969 the Defence Research Committee presented results that brought state-control of research even further. The first detailed model of research management and organisation for an entire sector was presented.[48]

## 6. 'The Complex', Neutrality and Industrial Growth

The companies that comprised the corporate part of Sweden's military-industrial complex were relatively few, but nonetheless occupied a central part in the country's economic, social, and technological structure. In 1972/73 the four biggest companies alone made up for 72% of all procurement expenditures. These were the Wallenberg controlled Saab-Scania, Volvo, Bofors and the state owned FFV. The Wallenberg ownership group also controlled the companies LM Ericsson, ASEA and Hägglund & Söner, which were also among the biggest suppliers of defence material.[49] Altogether, the Wallenberg group alone produced more than 39% of all military equipment delivered to the armed forces in 1972/73.[50]

The Wallenberg ownership group was thus a dominant supplier of military equipment. This was also reflected in the political and industrial role played by its representatives. Jacob Wallenberg was appointed as industrial expert in the Defence Committee of 1945 and his brother Marcus, who was one of the leading actors behind Saab, had good connections with the defence ministers Nilsson and Sköld, the head of the air force's procurement department Nils Söderberg, and the Industrial commissioner for the air industry Uno Forsberg. Despite the ideological differences between business and social democratic leaders, Marcus Wallenberg also proved to be close to prime minister Erlander, minister of finance Sträng, and

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[46] Annerstedt (1972), p 25.
[47] Stevrin, Peter (1978), *Den samhällsstyrda forskningen: En samhällsorganisatorisk studie av den sektoriella forskningspolitikens framväxt och tillämpning i Sverige.*
[48] Agrell (1989), s 73.
[49] Hägglund & Söner was the fifth biggest supplier, LM-Ericsson the sixth and ASEA the twentieth. *Svensk försvarsindustri. Struktur, kompetens, utvecklingsbetingelser.* (Försvarets forskningsanstalt 1982), p 15.
[50] The ratios were almost exactly the same in 1979/80. Ibid., p 15.

minister of industry Johansson in the 1970's and 80's.[51] During the post-war period the Wallenberg brothers advanced to the position of Sweden's most prominent industrialists.

The second largest supplier of defence equipment, after Wallenberg-controlled Saab was Volvo. Between 1972 and 1980 Volvo supplied 16% of all equipment procured from Swedish producers. The company's military production was mainly composed of vehicles and aircraft engines, but apart from Volvo Flygmotor, the branch that worked with aircraft engines, only a small part of the production was defence equipment. In 1977 only 1% of the employees were occupied with defence production. Volvo Flygmotor, however, was almost entirely dependent on military orders.[52]

The third most important producer of defence material was Bofors. Between a quarter and half of the company's production between 1973 and 1979 was military. Bofors produced artillery, guided missiles and ammunition. As early as the 1930's the company succeeded in exporting its 40 mm anti-aircraft gun. Later, the piece became manufactured under licence by the allies, and it was one of the most frequently built anti-aircraft guns during and after the Second World War. During the 1970's the company still exported between 35% (1973) and 60% (1979) of its military production. This was exceptionally high figures for Swedish weapon manufacturers which mainly produced for the Swedish defence.[53]

*Försvarets Fabriksverk* (The Defence's Manufacturing Agency) was the fourth biggest supplier of defence equipment. The company was created as a part of the reorganisation of state owned defence production during the war, and had been founded in 1943 through the amalgamation of different ammunition and weapon manufacturers. In 1970 it was transferred to the Department of Industry and changed name to *Förenade Fabriksverken* (United Manufacturing Agencies). The company was divided into two branches: production and supplies. The production brach produced anti-tank weapons, firearms, mines, torpedoes, and ammunition, while the supply branch mainly modified and modernised equipment. The company almost exclusively produced military equipment and services. 70-80% of the company's production was sold to the Swedish Defence.

[51] Olsson (2000), p
[52] *Svensk Försvarsindustri* (1982), p 48.
[53] Ibid., pp 46-47.

The Swedish defence industry was composed of few companies that each has a monopoly-like position. Consequently, in most cases, there is only one buyer. This makes the production of defence material a very special market. Competition has been virtually non-existent and orders have been more or less guaranteed. Long-term relations has been formed between buyer and contractor, where the contractor knew beforehand that he would get his development costs covered, his products sold, and make a net profit. This type of relation has been labelled 'development pair'.[54] Intimate cooperation over long time enables the customer to affect the quality of the product he purchases. It also enables the producer to shift the risks involved in large development projects to the buyer. Development is carried out as a joint project where the producer know that his development costs will eventually be covered, and the buyer knows that the end product will meet his needs. This is especially important when it comes to big, technologically advanced development projects such as a new weapons system, where development costs are so extensive that a producer would not be able to take the risk all by himself. In fact, when it comes to the development of military equipment it has been the rule rather than the exception that the state cover development costs.[55] It has been argued that one of the reasons for the intimacy in the cooperation between the Airforce, the Air Board, and Saab was that the engineers working in the three organisations all had a common background in their education at the Royal Institute of Technology, and that it was common with career switches from one institution to another.[56]

Profitability within the production of military equipment was high. During the 1950's Saab was entitled to have all its production costs covered in addition to a fixed profit percentage which was simply added to the costs. Prior to 1978 Bofors', Volvo's, and Saab's military production, was more profitable than the civilian.[57]

Important for the development and maintenance of a Swedish defence industry complex has been the need for 'Swedishness', as perceived by most actors. The experiences form the Second World War, when defence equipment was not available to buy, may have played a role here. The fact that defence industries are strategic assets that must be mobilised as part of the war effort has also been important. A strong defence industry has been regarded as a

[54] Fridlund (1999).
[55] *Försvaret och den tekniska utvecklingen. Försvarets betydelse för landets teknisk-vetenskapliga kompetens.* IVA-rapport 97 (Ingenjörsvetenskapsakademien 1977), p 10-12.
[56] Dörfer (1973), pp 52-53.
[57] *Svensk Försvarsindustri* (1982), pp 47-51.

necessary part of a strong defence. The armed forces believed that it was necessary to maintain at least a sufficient domestic technical capability to be able to test, modify, or manufacture foreign products on licence.[58] In areas where Sweden lacked technological ability, such as guided missiles and radar in the 1950's and 60's, domestic research and development was performed nonetheless even if the equipment was bought from Great Britain and the United States.[59] A third argument for 'buying Swedish' was the idea that Swedish armed forces needed equipment that was designed for their special needs. Swedish manufacturers were better able to adjust to the technical specifications of the armed forces. This argument was popularly formulated as 'the Swedish profile'. Examples of such special needs are the abilities of the aircrafts 37 Viggen and 39 Gripen to land and take off from short runways. This ability has been used in tactical doctrine to relocate the planes to ad hoc bases using normal roads as runways. Another example was the Swedish guided missile system Robot 15, which was equipped with a uniquely designed homing device that made it necessary for an aggressor to develop special countermeasures against the Swedish system. Other ingredients in the 'Swedish profile' were the ability of weapon systems to work well under winter conditions, and the need for simplicity as the equipment should be handled by compulsory service men, who made up the bulk of Sweden's armed forces.[60]

The overriding argument for the production of defence material within the country, however, was that dependence on defence-related imports could not only threaten the country's ability to defend itself, but it could also open for political pressure and compromise Sweden's policy of non-alignment. It has been argued that Sweden's uniquely designed weapon systems became symbolic representations of the country's willingness to stay neutral in the Cold War. The most visible systems were of course the expensive military aircraft.[61] Ironically, increasingly more complex military technology made Sweden more and more dependent on foreign weapon technology. The degree of self-sufficiency decreased from 90% in the 1960's to 70% in the 1980's.[62]

## 7. The aircraft projects

[58] Holmström & Olsson (1983), 'Sweden' in Nicole Ball & Milton Leitenberg (eds), *The Structure of the Defence Industry*. (Croon Helm), p 147.
[59] Mikael Nilsson (2007), *Tools of Hegemony. Military Technology and Swedish-American security relations 1945-1962*. (Santérus Academic Press).
[60] *Fred och säkerhet. Svensk säkerhetspolitik 1969-89.* SOU 2002:108, pp 601-602.
[61] Dörfer (1973), passim.
[62] *Fred och säkerhet. Svensk säkerhetspolitik 1969-89.* SOU 2002:108, p 546.

The military aircraft were at the very core of the Swedish Military-Industrial Complex. So much so that it essentially could be called a Military-Aircraft-Industrial Complex. A succession of fighter-bombers were planned and built from the end of World War Two up until today. The acquisition of military aircraft was the single most salient post in the defence budgets. Saab produced the air frames, Volvo the engines, Saab & Bofors the armaments (when not bought from the USA), and Saab & Ericsson the electronic equipment (when not bought from the USA).

The first four Swedish post-war aircraft were planned within a time span of seven years between 1945, when the development of 29 Tunnan started, and 1952, when the development of 37 Viggen started. The level of path dependency in aircraft acquisitioning was thus considerable. Based on the 1945 defence committee report, published in 1947, a basic planning-cycle was established in 1948 with the introduction of the Air force's seven-year rolling hardware plans.[63]

'Viggen' [Lightning bolt] was planned while its predecessor, 'Draken' [Dragon], was developed 1952-58. In 1958 SAAB formed a project group with the purpose of developing 'Viggen'. In the following year, the Aircraft Technology Council, a corporative body composed of air force officers and SAAB directors, recommended the government to engage more intensively in aircraft technology development. When the parliamentary defence planning committee of 1960 negotiated over future defence costs, there was no mentioning of a new fighter-bomber. Only those experts that had handled the preceding military aircraft programmes were involved at this stage.

In June 1961 the supreme commander decided to go ahead with the development of 'Viggen', and in September the Royal Air Board and SAAB signed an agreement. The Air Board guaranteed that they would cover SAAB:s development costs over the next three years. The government was not informed about the ongoing development project until February 1962. At that point the defence minister publicly criticized the supreme command for not having informed the government earlier. In spite of this, however, the government retroactively approved the already signed agreements. The Parliament was not informed about the ongoing development project until 1963, and even then it was merely mentioned in a few lines in a bill

[63] Dörfer (1973), p 68.

to the Parliament. No size of the project or costs were specified. At this stage the project had already spent SEK 150 million (about $ 30 million) and more than 200 people were engaged in the development programme at Saab. In 1964 a crisis developed when it was discovered that the costs would surpass the original estimates manifold.[64]

The 'Viggen' project had thus proceeded for more than five years by the time the government was finally informed, and for more than seven years before the Parliament finally approved it. Not until one year later it became publicly known that Sweden was developing a new a fighter-bomber. At this point the costs were already so high that it was difficult for the government or the Parliament to do anything but accept continued development. The experts that had prepared the project were representing the very interests (i.e. industry and air force) that were the main beneficiaries of a new military aircraft.

**8. Decline and crisis**

The defence bill of 1958 had regulated the size and structure of Sweden's military forces for the following decade. With the defence bills of 1968 and 1972 a period of successive cutbacks was initiated. One reason for this was the development of the international security relations during the 1960's and the *détente* of the Cold War. Another reason was the popular protests against war in the wake of the Vietnam War. In the United States such protests had sparked criticism against 'the military-industrial complex'. In Sweden the high military development costs for the first time led to a political debate over the need for the military aircraft system 'Viggen'. Previous defence decisions had been reached unanimously but in the 1965 defence committee the non-socialists left the committee in 1968 just before it presented its results. The reason was that they resented the cutbacks that the majority had suggested. With this, the long period of political unanimity over the defence issue had been broken.[65]

In the defence decision of 1968 the defence costs were reduced by 10%. Even more importantly, the annual increase of 2,5% to compensate for rising costs for technological development, that the defence budget had enjoyed since the decision of 1958, was abolished. In the defence decision of 1972, the the armed forces had to chose between keeping the wartime organisation intact, or procuring the new Viggen aircraft. The latter alternative was elected and the time period for compulsory military service was reduced from ten to seven

[64] Annerstedt (1972), p 42-49.
[65] Cars, Skoglund & Zetterberg (1986), *Svensk försvarspolitik under efterkrigstiden*. Stockholm: Probus.

and a half months. However, the number of aircraft finally delivered was reduced significantly as a result of the two defence decisions. A further consequence of the cutbacks was that the wartime objects of the military forces were altered. Sweden's military resources were no longer considered strong enough to defeat an agressor. From now on it would be sufficient to hold him back. The aims were changed from 'a strong defence' to 'a for our purposes a strong defence'.[66]

During the past decades, the military expertise had had a significant influence over the defence decisions. The supreme commander's own strategic estimates had more or less directly formed the basis for the defence committees. From now on, however, the political decision makers, backed by civilian expertise, started to make such estimates of their own. In the beginning of the 1960's the American secretary of defence Robert McNamara introduced a cost control system in order to check rising defence costs. In 1970 the Swedish government decided to introduce a similar model: The Planning and Economy system of the Defence (FPE). The intention was to focus on long-term planning and precise goals. The military experts were to specify different scenarios, and it became a political task to chose between them. It allowed the political decision-makers greater influence over the development of the armed forces.[67]

Defence research was also redefined from the end of the 1960's on. In 1969 a defence research committee was initiated. Defence research had been growing continously since the Second World War and something needed to be done. Sweden had entertained a nuclear weapons research programme but without actually developing nuclear weapons. That programme was now put to an end. Technical defence research was relocated from the military authorities to the arms industry.

In 1976 a non-socialist government was elected, but this did not spell the end of the successive defence cost reductions. Even if the focus had shifted from 'how to build a strong defence' to 'how to maintain a reasonable defence with lower costs', the notion of a domestic defence industry still remained strong. When the decision was taken in 1983 to build a

[66] Ibid., p 39.
[67] *Fred och säkerhet. Svensk säkerhetspolitik 1969-89.* SOU 2002:108, p 535-536.

successor to the 37 Viggen system, rather than to buy it from abroad, the need to preserve a domestic arms industry was perhaps the most important argument.[68]

## 9. Conclusions

Sweden's arms industry was built up immediately before and during the Second World War. The country's military forces were totally inadequate in 1939, and six years of isolation left Sweden no other choice than to provide for itself. Concentrated efforts during these years meant that Sweden at War's end possessed an arms industry capable of supplying its armed forces with everything except perhaps the most modern technologies.

The isolation had taught the Swedes to rely on themselves. New conflicts might well lead to new periods of isolation, and an adequate defence needed to be backed up by industrial resources. The war had weakened the anti-militarist sentiments of the 1930's, and the country's leading political force, the social democratic party, was now divided between pro-militarists and anti-militarists. While the war experience remained fresh in memory, pro-militarists and military establishment succeeded in manouvering the defence issue in such a way as to make it a non-political issue.

The build up of Sweden's military capability continued during the 1950's, but the motives for keeping a strong defence shifted. As the war experience waned in memory, a new conflict loomed into the foreground. The Cold War acted as a powerful catalyst in shaping the Swedish nation state. Sweden needed to justify its non-participation in the Second World War. Especially the fact that Sweden had not contributed to the war effort or to the victory over Germany needed to be justified. Past experiences had thus to be arranged in a positive tradition. Neutrality became not just a lucky outcome, but a norm and an objective in itself.

The assertion of such a self image has necessitated a visual display of independence and capability. Perhaps the most important arena to do so has been within the field of military technology. Consequently, Sweden has invested disproportional amounts of resources in building 'neutral' weapons of own design. Sweden's independence in security policy matters was physically visible in aircraft, tanks, artillery pieces, naval vessels and small arms invented and constructed by Swedish engineers.

[68] Ibid., p 553.

Between the end of the Second World War and the end of the 1960's, Sweden's armed forces grew steadily in strength and in technological refinement. The development was never contested politically but carried out under unanimity. Military experts provided the estimates on which the defence decisions were built, and such estimates were accepted more or less without question. The members of parliament involved in defence issues were often chosen because of their reliability and long experience in defence matters. The costs were considered necessary for the assertion of a trustworthy policy of neutrality. The corporatist organisation of Swedish society meant that public support for the 'armed neutrality' was provided by voluntary organisations, trade unions, and political youth associations who organised themselves to support official policy. The strongest corporate interests – trade unions and industry – were both interested in a viable defence industry. During this period Sweden possessed the fourth largest air force in the world, and over 50% of public research funds went to military research.

The growth of Sweden's arms industry during the Second World War formed the industrial fundament for exceptionally strong armed forces but it was not until the early post-war years that a Military-Industrial Complex was institutionalised. Three factors have been particularly important for this institutionalisation. First, the Cold War shaped the identity of the Swedes. Sweden was neutral, free from the superpower alliances and this provided a need for neutral technology, visibly free from superpower allegiances. Second, the corporative political culture of Sweden provided possibilities for an interest alliance between the government, the military, the industry and the unions around the defence issue. Third, the corporative interest alliance succeeded, at an early stage, to elevate the defence issue over the political agenda, where it was up to military and scientific experts to determine the level of the country's military needs.

A combination of factors, such as the *détente* between the superpowers, the anti-militarist sentiments following the Vietnam War, the economic setback in the beginning of the 1970's, and the ever increasing costs of the military forces eventually put an end to Sweden's military industrial complex. Starting with the defence decision of 1968 the autonomy of the military expertise was checked. Political control over military expenditures was reasserted. The political concord over the defence policy was at first dissolved, but eventually it was clear that the military forces were regarded as too costly by all political parties.

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