

The Death of an Industry? The Decline and Fall of the Swedish Small Arms Manufacturing Industry 1973-2000.

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For centuries Sweden had a significant small arms industry, dominated by *Husqvarna Vapenfabriks Aktiebolag* in Husqvarna (founded in 1689) and *Carl Gustafs Stads Gevärsfaktori* in Eskilstuna (founded in 1812). However, at the end of the 20th century the industry (including both military and civilian production) was virtually gone, and only an insignificant number of artisan manufacturers remained. At the same time, small arms manufacturing continued to flourish in other countries such as the U.S., Germany, Italy, Japan and Finland, indicating that it was indeed possible to survive also where labor costs were high. At the same time the Swedish manufacturers chose not to introduce new labor saving machinery, e.g. CNC machines, metal injection molding, and, despite the increased competition, failed to introduce new attractive products (e.g. over-and-under shotguns).

In this paper it is explored why the Swedish manufacturers – in contrast to foreign competitors – failed to adopt new labor saving technology and how institutional factors, including new restrictions on the number of guns hunters may legally own, and restrictions on retailers (limiting competition and driving up prices) may have destroyed the home market. The paper also covers the role of the national small arms industry played in Swedish defense planning and how the end of the Cold War affected the industry.

The decline of the industry

For centuries Sweden had a fairly large small-arms manufacturing industry. *Husqvarna Gevärsfaktori* (Eng: Husqvarna Rifle Factory) was founded in 1689 and supplied the Swedish Armed Forces with small arms until the 1970s.¹ Some of the military rifles were of Husqvarna's own design but primarily the company manufactured licensed designs. The company also had a significant civilian small arms business. The civilian manufacturing actually survived the military and Husqvarna manufactured shot guns up until the cessation of small arms manufacturing activities in 1989 (Franzén 1996).

From 1812 the Husqvarna factory was complemented by a State arsenal: *Carl Gustafs Stads Gevärsfaktori* (the Rifle Factory of the town of [King] Carl Gustaf) – often referred to as CG, in Eskilstuna. In 1943 most of the state owned armaments companies, including CG, were merged into FFV.

Both Husqvarna and CG (and FFV) has been the subject to previous business history research (Göransson 1939; Mollstadius 1958; Björklund 1993; Böhme 1993; Fritz 1993; Glete 1993; Olsson 1993; Olsson 1993; Larsson, Larsson et al. 2008) as have the Swedish armaments industry in general and the products (Olsson 1979; Franzén 1996). However, the previous business history studies do not cover the small arms divisions more than briefly and the industry's decline and fall in the 1970s and 1980s even less so.

Why industrial scale small arms manufacturing disappeared from Sweden is a question that is yet to be answered. As Sweden, like other western countries, experience a general decline in manufacturing – mainly due to rising labor costs – are a basic hypothesis. However at the

¹ The name of the company is also the name of the town where the company had its factory.

same time that small-arms manufacturing continued (and even thrived) in other high cost countries such as Japan, Finland, Germany, Italy and the United States. The question is rather why the Swedish manufacturers failed to introduce the labor saving technology or production methods such as CNC-machines, metal injection molding when manufacturers in other countries did that.

The development after 1970

When the state owned Armaments Company FFV took over the rifle division of the venerable small arms manufacturer Husqvarna in 1971 this proved to be the beginning of the end of small arms manufacturing in Sweden.

Husqvarna at the time was a diversified metal working company who manufactured a wide range of products including motorcycles, chainsaws, lawn movers and small arms, both military and civilian.

Husqvarna and FFV (though its small arms division Carl Gustafs Stads Gevärsfaktori, CG) had shared the latest manufacturing order of the Swedish armed forces new battle rifle, the AK4 (a variant of the German Heckler & Koch G3). FFV wanted to be the sole supplier to the Swedish Armed Forces and acquired both the military and civilian rifle manufacturing divisions in order to take over the production contract. Husqvarna kept the shotgun division.

Both Husqvarna and GC had a long history as suppliers to the Swedish armed forces.

However, the Swedish companies (read: FFV) had been plagued by a long line of failed products. From the time of the second world war to the eventual demise of the industry in the 1990:s, CG (FFV) only managed to design one small arms product that went into

production – the very successful sub machinegun k pist m/45 (also known as “Swedish K” and widely exported) in 1945.

FFV did supply their own designs to the competitions the Swedish Armed Forces held before the selection of new small arms for military use. All FFV entries were however modifications of older, sometimes dated, designs. When the Army in the late 1950:s was looking for a new medium machinegun CG supplied a modified German MG42 of World War Two vintage – the order went to the then modern FN MAG (from the Belgian company Fabrique National).²

When the military at the same time was looking to replace the bolt action rifles (Mauser m/96) and the semiautomatic rifle AG42 (a copy of the Russian SVT 40) then in use, with a modern battle rifle, FFV proposed a modified version of the latter. FFVs bid was later changed to the GRAM which also was an updated version of the AG42 but unlike the previous entry had select fire capacity. The GRAM was initially designed for the full power round 6x55 Swedish making it more like the German FG42 than a modern assault rifle. The FFV entry was both cumbersome and expensive to manufacture and the order was given to the German G3. FFV and Husqvarna then acquired licenses to manufacture the G3. One major reason for sharing the manufacturing contract was that the Swedish armed forces wanted to avoid single supplier contracts and also wanted to have more than one manufacturer of small arms (Björklund 1993).

The story repeats itself when the Swedish Armed Forces in the 1970s takes bids for a new assault rifle (in caliber 5.56 mm NATO) to replace the aging m/45 sub machinegun. FFV:s entry is the FFV890 which again is a variant of an older design – in this case the Israeli Galil which in turn was based on the Russian AK47. The Military is again not impressed and selects

² Still in use and also adopted by the US military in the 1980: as the M/249.

the Belgian FN FNC (with some modifications). FFV gets the contract to manufacture the rifle.³

The failures to come up with successful designs for military small arms should be seen in contrast to the very successful heavier weapons that FFV designed and manufactured.

Among those are the recoilless anti-tank weapon grg/48 (also known as “Carl Gustaf” or “Charlie G”) and the AT4 (a disposable anti-tank grenade launcher) – both widely exported and in use by e.g. the United States, Canada, Britain and New Zealand and Australia.

Why FFV never came up with competitive small arms designs is not clear. One possible explanation is that the management of FFV believed that the Armed Forces would prefer an inferior design as long as it was Swedish and put as little effort in as possible. Another is that they did not really want to take part in the design process (they could count on being given the manufacturing contract regardless of which design was chosen) but were under pressure from the government to do so in order to increase the degree of competition and force prices down. This is however hard to determine. The competitors in the AK4 competition were the FN FAL, the G3, the M1A1 and the GRAM. The entry of the latter in the competition is not very likely to have pushed cost of acquisition down very much –especially since the GRAM was more expensive to manufacture).

The lack of small arms products of its own means that there are no potential for exports and the company is dependent on orders from the Swedish military. When these did not materialize FFV– first due to the armed forces priority on the acquisition of fighter aircraft (of Swedish design) and on emphasis on keeping the numbers under arms up though

³ In the 1950:s FFV try to convince the armed forces to adopt their new pistol (of a rather odd design) but no new pistols are acquired, neither from FFV nor from any other manufacturer until the introduction of the Glock 17 in 1988 (as Pistol m/88).

conscription (Sweden only abolished conscription in 2010) made the question of other armaments and materiel to stand back, and later the end of the Cold war, the FFV was hard hit.

The focus on fighter aircraft and the conscription did not only slow small arms acquisitions but also the introduction of other types of materiel such as ballistic vests and armored personnel carriers for the infantry. At the end of the Cold War Sweden had a large air force (and with that a profitable domestic aircraft manufacturing industry) and the ability to field a (conscript) army of 800 000 men. At the same time the infantry was supposed to ride into battle sitting on the beds of trucks or by bicycle, some of them still carrying Mauser m/96 bolt action rifles of 19th century vintage.

The failure to come up with successful designs did not only signify the military small arms section but also the civilian. Both Husqvarna and especially FFV – albeit some notable exceptions exist – generally fail to produce commercially viable products.

FFV did win the competition to provide a new standard rifle for the ISSF 300 m event in 1980. But again their entry was based on an older design (in this case the GC63 which in turn was based on the Mauser m/96). When the shooting associations in the Nordic countries took bids for a new standard rifle for the 300m event FFV lost to Sauer and ended the production of competition rifles.

The performance of the hunting rifle division (after 1971 FFV is the only large manufacturer of hunting rifles in Sweden) is somewhat less gloomy, but not much. The GG1900 rifle designed by Husqvarna but produced by FFV was an excellent design but was expensive to manufacture and was not a commercial success. FFV ceased the production in 1975 (it is still in production in Italy – using modern production methods - under the name “Zoli”). Instead

GC licensed the cheaper to manufacture German Sauer 80 and sold it as the CG 3000. The rather odd design (again!) with the locking bolts at the rear never became popular and was a failure for FFV.

The most notable commercial failure of the Swedish civilian small arms industry is however that it failed to offer any of the types of designs that proved to be among the most popular among hunters: Over and under shotguns and semi-automatic shotguns and rifles. The might be easily explained by the fact that semi-automatic center fire rifles was not allowed for hunting in Sweden at the time unless they were limited to a capacity of two shots, semiautomatics in .22LR was not allowed at all. The failure to offer over and under shotguns cannot however be explained by regulations on the home market, but must be seen as a commercial miscalculation.

The new modern products that were introduced were instead done so by small, primarily artisan producers. Even though the designs proved to be technically successful – such as the new revolutionary over and under shotgun design of Caprinus/Flodman (still in production) the designers lacked the financial muscles and organization to begin large scale production. The new designs were also mostly in the upper segment of the market and had due to the high prices limited appeal outside competitive shooters.

Institutional factors

In the 1970s and 1980s the regulations on gun ownership changed, primarily in the direction of making the laws on civilian gun ownership more restrictive. These regulations came to affect the demand for civilian small arms. The regulation that possibly had the most impact was the introduction of limits on the number a guns a hunter could legally own to six (among those maximum 2 center fire rifles and 2 shotguns, but this restriction was later relaxed). It

was also made mandatory to pass a “hunters exam” in order to be eligible for licenses for hunting rifles and shotguns. This however both restricted and expanded the group eligible for hunting licenses since the regulation was combined with the abolition of the previous requirement that you had to prove they you had access to a hunting area in order to be granted a license. New restrictions on retailers were also introduced, including requirements on costly storage facilities and minimum sales. These factors forced many smaller retailers out of business and reduced competition, resulting in higher retail prices.

On the military side the end of the cold war came to transform the industry, after the fall of the Berlin Wall the industry could not count of any new large orders (the previous orders of assault rifles had been in the hundreds of thousands). The government also shortly after the Fall of the Soviet Union left the armaments industry and FFV (now under the new name “Celsius”) was sold through a public offer (revisorer 1994). The end of the cold war also changed other aspects of industrial and defense policy. The policy had previously also been to spread out manufacturing among different suppliers in order to prevent that the destruction of one facility caused the production to stop. It was at least until the 1970s official policy that there should be competition (Olsson 1979; Björklund 1993; Curman 1993).

The competitors

Both West Germany and Japan was prohibited from small arms manufacturing in the first decade after World War 2. In the case of Germany the existing manufacturers had their equipment confiscated as reparations to the Soviet Union and had to start over. Many of the pre-war small arms manufacturers however reestablished themselves after the prohibition was lifted and assumed production of primarily civilian firearms. On the military side Heckler & Koch GmbH (which begun as a manufacturer of machine tool and bicycle parts) in 1956

entered a design in the German *Bundeswehr's* competition for a new battle rifle. Their offer, the G3, was adopted and the G3 entered service in 1959. Other manufacturers were Blaser (founded in 1957), Heym (founded in 1865 and reassumed production in 1952), and Mauser (owned by the industry group Rheinmetall and never ceased production). The former two were manufacturers of hunting weapons and the latter had mixed civilian/military production. The post war firms were in general fairly quick to adopt labor saving machinery and designs.

The Industry in Japan was dominated by Howa and Miroku Corp. Both were reestablished after the war and Howa (a industrial group) entered the arms production as a supplier to the American forces in Japan – producing American designs (the M1 an M1 Carbine) under license. Howa later (from 1964) began manufacturing their own designs for the both civilian and (domestic) military market. Miroku also begun as a manufacturer of licensed foreign designs (primarily from Belgian FN/Browning) but later started offering products of its own design. Both quickly adopted new labor saving machinery; Miroku especially stand out in this respect. The Finnish SAKO had major similarities with CG in that the company primarily was a state arsenal focused on the manufacture of licensed design of military weapons and manufacture of civilian in-house designs. SAKO was however a specialized small arms firm and as such had to modernize in order to stay in business. In contrast to GC SAKO also relied heavily on exports on the civilian side.

The main difference between the Swedish manufacturers and their foreign competitors their policy on investment in machinery and R&D. The latter had, when labor cost begun to rise already moved from labor intensive to capital intensive production modes or begun to do so

when they felt the competitive pressure. The German, Japanese and Finnish, surviving companies also invested in R&D and produced commercially viable new designs.

Concluding discussion

The most plausible explanation is possibly that since small arms manufacturing after 1970 was not core business for any of the companies, the small arms divisions was not prioritized when it came to investment in e.g. new machinery or product development. When sales fell they instead cut back on investment and boosted profitability temporarily.

That the future of the home market – both on the military and the civilian side – was uncertain made the companies even more reluctant to invest and modernize the production. Since the Swedish manufacturers relied heavily on domestic customers and due to lack of modern designs and high costs could not compete internationally the management chose to discontinue operations when the domestic market faltered- on the civilian side due to regulations and on the military side due to the end of the cold war.

The Japanese, Finnish, German and Italian small arms manufacturers however had small arms as their core business. This made it necessary for them to invest in new machinery and continuously invest in R&D and designs new products in order to stay in business.

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