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SWITZERLAND – THE PRAGMATIC APPROACH TO DEFENCE PROCUREMENT

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The Swiss approach to defence procurement has a number of distinct features. With modest levels of defence-related R&D, military acquisitions tend to be limited to proven and durable systems offering the user reliable performance over time as well as plenty of scope for future upgrades and adaptations. Long term cost-effectiveness is the key driver of the procurement process with the resultant high ratio of accumulated (military) capital per soldier but a relatively small share of defence in GDP. The Defence Procurement Agency acts as 'the-cradle-to-the-grave' system manager (i.e. it manages both the acquisition process and subsequent through-life support and final disposal). There is a strong commitment to domestic industry with high levels of local content in procurement (in part as a result of offsets) and support for exports. There is also a commitment to a mix of private and public ownership with the latter increasingly exposed to commercial business practices and standards. Most contracts are fixed price with an agreed 'fair' rate of return on capital invested by contractors subject to cost, performance and profitability audits. 'Managed competition' combines a high degree of openness to international trade in key sectors of the economy with protected market niches.

KEY WORDS: Procurement; Defence-related industry; Defence technology; Competition; Contracting; Offsets; Systems management

SWISS DEFENCE SYSTEM

Switzerland is a key natural crossroads, dividing northern and southern Europe, and a natural fortress centred on the *Reduit National* Alpine

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area. The traditional Swiss military doctrine has been that of 'fortress Switzerland' as well as that of deterrence. That is, in the event of the country being invaded, the doctrine has envisaged the deployment of a relatively large, mobile and well-equipped force over a small area, supported by extensive fortifications. This gives Switzerland the highest saturation of military power in the whole of Europe and makes invading the country a very daunting prospect (Milovojevic, 1990).

Recently, the concept of 'dynamic area defence' has been introduced as part of the 'Army 95' package of reforms. This replaces the previous ('static') concept of 'comprehensive area coverage', which involved the deployment of units to defend particular areas of the country. Under dynamic area defence, highly mobile, as well as stationary forces, are to be deployed flexibly to form 'local pockets of superiority' even when outnumbered overall by an invading force (Federal Assembly, 1992). To implement the new doctrine, the Swiss Army must be highly capitalised to combine mobility with superior firepower. Air defence, modernised with the introduction of F/A-18 fighters, is to be the backbone of dynamic area defence (Wicki, 1996). The Swiss Army must also maintain superior electronic warfare, intelligence, and reconnaissance capabilities; command, control and communications (C^3) systems; and logistic support.

Service in the Swiss Army is universal and obligatory, with a sliding scale of commitment for all able-bodied male citizens between the ages of 20 and 42. Following initial recruit training, reservists are called out periodically. In the late 1980s, the system of national military service involved some 1.1 million people (including the Civil Defence Force) out of a total population at that time of 6.7 million people (Milovojevic, 1990).

The 'Army 95' reforms have resulted in the reduction of the Swiss Armed Forces from 625,000 to 400,000 troops. The principle of the militia system and universal male conscription are retained under the new system but the duration of recruit and refresher training is shortened for privates and NCOs. However, the quality of training provided and its effectiveness are to increase. The smaller Army will be deployed more flexibly by means of a modular system with varying degrees of readiness, call up rates and allowing for a partial mobilisation in response to lower level threats.

Switzerland is said to be unique in the world as regards the peacetime control of its armed forces, which is an entirely civilian responsibility. During a wartime mobilisation, however, the Federal Assembly elects a Commanding General, who assumes full operational control of the Army and the Department of Defence (DoD).

The DoD would then become the Army's administrative and logistical arm. In peacetime, the Head of the DoD (Minister of Defence), who is a member of the seven-person Federal Council, has full day-to-day control of the Swiss armed forces.

Until the early 1990s, the DoD employed 10,000 civilians in military administration and logistics and 1,500 military regulars in operations and training. The 1995 reforms have also set out plans to centralise management functions and increase customer focus whilst slimming down the total defence bureaucracy. The principle of 'management-by-objectives' has been introduced. The political guidelines, for which the Minister of Defence is responsible, are transformed by the Chief of General Staff into military guidelines for the Land Forces, Air Force and the Defence Procurement Agency (DPA) (Huber, 1996).

Over time, defence expenditure as a proportion of GDP has declined from 2.5% (SFr 934 million in current prices) in 1960, 2.3% (SFr 2,052 million) in 1970, 2.1% (SFr 3,620 million) in 1980, 1.9% (SFr 6,053 million) in 1990 to 1.6% (SFr 5,856 million) in 1995 (personal communication from the General Secretariat, DoD). As a share of the Federal Budget, Department of Defence expenditure declined from 32% in 1960, to 22% in 1970, 18% in 1980, 15% in 1990 and 12% in 1995 (DoD, 1995b).[1] With a budget share of 32% , defence expenditure ranked first in Swiss budgetary priorities in 1960. It has since fallen back to be third largest in 1995. Projected DoD expenditure is expected to stabilise at 11% of the Federal Budget for the remainder of the 1990s.

Table 1 shows the level of defence expenditure in 1960–1995 (current prices) and its break-up by spending categories. A real and nominal decline in defence expenditure in the 1990s is quite apparent. Although the real cost of new weapons systems continues to grow, Switzerland, in accordance with its new defence philosophy, has been determined to capture a post-Cold War peace dividend (FC, 1990). In real terms, the defence budget declined by about a quarter between 1990 and 1996 (Ogi, 1996).

The Air Corps accounted for 27% of 1976–95 expenditure on defence materiel, infantry for 16%, mechanised units and mobile troops for 16%, anti-aircraft units for 12%, artillery and fortification troops for 9%, and other units for 20% (DoD, 1995b).

[1] Defence expenditure is higher as a proportion of the total expenditure of the Swiss Confederation, i.e., including expenditure on civil defence by cantons. Thus as a proportion of the total expenditure by the Confederation, defence accounted for 34.7% in 1960, 25.8% in 1970. 20.3% in 1980, 19.1% in 1990 and 14.4% in 1995.

Table 1 Swiss Defence Expenditure 1960–1995 (SFr million, current prices. In brackets, as a per cent of National Defence (=100%))

	1960	1970	1975	1980	1985	1990	1995
National Defence*	934.2 (100)	2051.6 (100)	2874.1 (100)	3619.8 (100)	5202.9 (100)	6052.5 (100)	5856.1 (100)
• Armed Forces	918.5 (98)	1882.6 (92)	2624.6 (91)	3411.2 (94)	4971.9 (96)	5797.5 (96)	5668.2 (97)
—Command	22.3 (2)	24.1 (1)	58.0 (2)	74.8 (2)	102.3 (2)	136.3 (2)	184.6 (3)
—Training	189.7 (20)	362.7 (18)	598.5 (21)	748.0 (21)	1037.3 (20)	1160.5 (19)	1152.3 (20)
—Infrastructure	66.9 (7)	132.2 (6)	208.2 (7)	275.2 (8)	280.3 (5)	438.2 (7)	391.4 (7)
—Logistics	177.6 (19)	440.4 (21)	597.1 (21)	695.1 (19)	955.6 (18)	1391.2 (23)	1344.7 (23)
—Procurement of Materiel	461.7 (49)	923.1 (45)	1162.8 (40)	1618.1 (45)	2596.4 (50)	2671.3 (44)	2595.1 (44)
• Civil Defence	15.7 (2)	169.0 (8)	249.5 (9)	208.6 (6)	231.0 (4)	255.1 (4)	188.0 (3)
DoD Expenditure	n.a.	1767	n.a.	3152	4576	5145	5084
Per-cent Share of Investment Expenditure (per cent)**	n.a.	59	n.a.	52	56	54	51

Notes: * Figures are rounded to the first decimal point. ** Defined as expenditure on construction, R&D, new system acquisition, equipment upgrades and adaptations.
Source: Swiss National Accounts 1995. Personal communication from The General Secretariat, DoD, DoD (1995b).

Based on 1990–94 expenditures, the USA was the source country for 37% of military imports, Germany for 24%, France for 17%, and the United Kingdom for 7% (DPA, 1996). Weapons systems purchased recently include: F/A-18, TOW, DRAGON and STINGER systems from the USA; MBT Leo 2 and short range AWS from Germany; the Hawk trainer from the UK; and communications equipment from France.

DEFENCE-RELATED INDUSTRIAL CAPABILITY

Despite its small size, Switzerland is one of the most industrialised nations in the world. About 375,000 people are employed in the engineering and metal-working sectors with annual exports of about US$ 35 billion.

The term 'Swiss defence-related industry' applies to all companies located in Switzerland, which are capable of developing, manufacturing or supporting defence systems. Defence enterprises owned by the Confederation are included under this heading. Although only 16,000 jobs (*0.5% of all those in industry*) depend directly or indirectly on domestic military procurement, and the Swiss are no longer involved in *ab initio* development and manufacture of complete large systems,[2] the industrial structure of the Swiss economy provides a very strong basis for self-reliant defence effort, especially the development of platforms and precision instruments (DPA, 1996).

With its militia-based defence force, Switzerland requires a variety of equipment that can be operated and maintained by a large but non-professional defence force. For these types of equipment, there is less dependence on technology force multipliers so that the combination of robust but not always state-of-the-art technologies with large volumes of equipment makes it easier to sustain viable sources of materiel in-country. Table 2 shows 1989–95 Swiss spending on defence equipment and its distribution between in-country production and imports. Over that period, in-country sourcing accounted for 52% of total spending on defence equipment, and imports the remainder. Whilst this shows a considerable degree of import penetration, Swiss industry is also a considerable exporter of defence products.

[2] The last Swiss tank was developed in the 1970s and aircraft in the 1960s. By 1992, only some 0.2% of the Swiss GDP was attributed to defence-related industries. Half of this output was for domestic use by the Swiss Army and the other half was exported (IDR, 1992).

Table 2 1989–94 Swiss spending on domestic and imported defence equipment (in current prices)

Year	In-country sourcing	Imports	Import substitution premia*
	SFr million**	SFr million**	SFr million***
1989	1,135 (61)	709 (39)	52 (7%)
1990	1,117 (98)	25 (2)	—
1991	1,215 (69)	555 (31)	35 (6%)
1992	311 (9)	3,184 (91)	146 (5%)
1993	1,361 (70)	586 (30)	—
1994	853 (64)	489 (36)	3 (1%)
1989–94 Total	5,992 (52)	5,548 (48)	236 (4%)

Notes: * An estimate of cost penalties incurred due to the substitution of in-country production for (mainly off-the-shelf) imports. ** Figures in brackets show the percentage of annual totals (combined in-country spending and imports). *** Figures in brackets show import substitution premia as the percentage of imports in the relevant year.
Source: DPA personal communication.

Table 2 also shows premia (on average, about 4% of the value of imports) paid by the Swiss Defence Organisation where imports are replaced by local co-production or other forms of import substitution. (Whilst these can be regarded as 'official' estimates, it is not clear what assumptions about product substitutability were made to arrive at these figures.)

Since the early 1990s, personnel reductions and expanding civilian and dual technology production are among rationalisation measures to have taken place in the private sector. Export-oriented companies such as Oerlikon-Contraves have re-focussed their product lines to concentrate on niche markets and secure orders through the membership of international business networks and marketing consortia. Smaller but highly innovative companies – such as MOWAG AG, the Swiss Industrial Company (SIC), the Sphinx Muller Group, Recta SA, Leica, and Omnisec AG – have been consolidating their niche markets (e.g. in developing wheeled and tracked armour vehicles, small arms, precision instruments, communications security and cryptology: IDR, 1992).

GOVERNMENT-OWNED FACTORIES

Until the late 1980s, the (then) six government-owned armament factories and a support plant were expected to refrain from direct

competition with private industry. The purpose of government ownership was to complement private sector defence-related capability to ensure a considerable degree of national armament autonomy as well as providing an independent means to evaluate and test potential defence acquisitions.

In the mid-1990s, the number of government-owned defence factories was reduced to four, and employment in these plants declined from about 4,500 in 1992 to 3,500 in 1995. The enterprises have been corporatised (i.e. retaining a 100% government shareholding but operating on a commercial basis). Future partial privatisation (with government retaining a controlling interest and foreign shareholding excluded) is also under consideration. With production and maintenance facilities scattered around Switzerland, the enterprises operate as general contractors, manufacturers and depot level maintainers of defence systems. They account for about 14% of the Swiss total procurement budget.

The reform of government-owned enterprises is aimed at making them more competitive – by allowing them to become active in related civilian areas so that existing capacities are better utilised and fluctuating demand in the defence sector can be neutralised through an active business strategy (DPA, 1996, p. 4). The reorganisation of government-owned factories should not be seen, however, as an attempt intended to privatise all armament production and support activities. Strategic control over the four companies is to be retained by the Federal government which, whatever the ownership mix, will have to be satisfied that strategic defence-related capabilities are being maintained and the long term viability of each company is not threatened.

DEFENCE PROCUREMENT ORGANISATION AND PROCESS

The Swiss Defence Procurement Agency (DPA) is part of the DoD. Its purpose is to manage defence equipment and infrastructure over the entire life cycle. That is, the DPA is responsible for R&D, early definition studies, evaluation, procurement, production (where applicable) and depot level maintenance of weapons systems and defence infrastructure as well as their eventual de-commissioning. Annual defence orders of about SFr 2.4–2.5 billion placed through the DPA go to about 6,000 domestic and foreign contractors. 80% of the total procurement budget is spent in Switzerland.

The DPA is structured as follows:

- Central Administration (CEA), responsible for personnel, finance and planning;
- Federal Office for Air Force and Command Systems (FAC);
- Federal Office for Weapon Systems and Ammunition (FWA);
- Federal Office for General Equipment and Infrastructure (FGI);
- SF Swiss Aircraft and Systems Company (Schweizerische Unternehmung für Flugzeuge und Systeme) in Emmen;
- SM Swiss Munitions Enterprise (Schweizerische Munitionsunternehmung) in Thun;
- SW Swiss Ordnance Enterprise (Schweizerische Unternehmung für Waffensysteme) in Thun; and
- SE Swiss Electronics Enterprise (Schweizerische Elektronikunternehmung) in Bern.

Figure 1 shows the structure of the DPA within the broader structure of the DoD.

The DPA's life-cycle approach minimises the number of baton changes. The military side of the DoD designates the project management team and appoints its manager at the outset and the project manager, most likely a civilian, continues to oversee the progression of the system through various phases of its development, production and

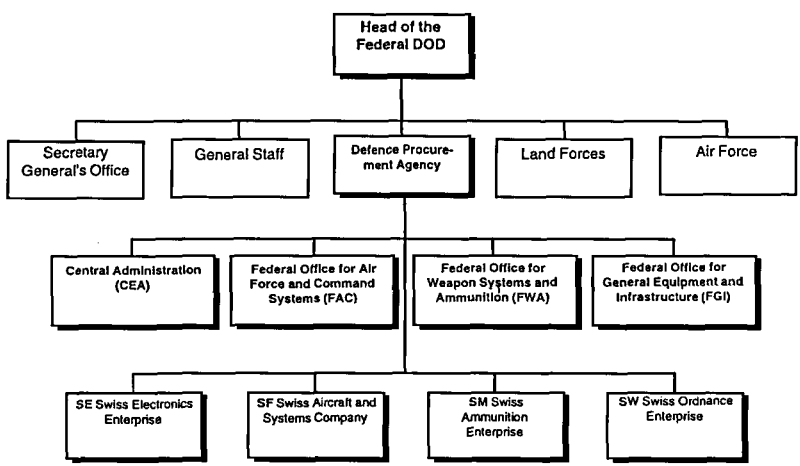

Figure 1 Swiss Federal Department of Defence and Defence Procurement Agency.
Source: DPA (1996).

operation. Figure 2 illustrates the system life cycle and associated management activities. The Swiss approach emphasises continuity of support and management and the system's operational availability.

The procurement process begins with a provisional (concept) requirement which, under the guidance of a DPA project manager, evolves into technical specifications. Technical standards and key costs drivers are identified at this system definition stage and a so-called 'long list' of potential suppliers is drawn up (Huber, 1996). Following an interim cost–benefit appraisal, the list of potential suppliers is reduced to two or three contractors (the 'short list') so that further development and evaluation of technical alternatives may proceed with each of the short-listed suppliers providing detailed proposals and technical demonstrations. After the evaluation stage, a supplier is selected, the contract signed, and the DPA establishes a very close working relationship with the contractor which is maintained for the rest of the system's life.

For a planned acquisition to enter the procurement pipeline, the following requirements must be satisfied (Kaelin, 1995):

- the system should be technically sound (e.g. tested and approved) and either already in production or in the final stages of pre-production evaluation;
- it should have already been field-tested by its future users;
- its through-life support requirements (e.g. maintenance, spare part provisioning, training, and testing) should be determined;
- personnel, training, facility support and costing implications of the system should have been examined;
- system options and enhancements should have been costed; and
- economic and armament policy aspects of the system should have been established.

For major projects, the potential prime contractors are asked to outline opportunities for Swiss industry involvement. Cost premia may be accepted if the benefits of Swiss industry involvement are thought to be significant (see below). There is also a strong emphasis on 'evolutionary' (step-wise) procurement process with each step or milestone involving extensive performance and cost audits. To increase operational availability, there is a strong preference for proven systems that require a minimum of further development and/or adaptation ('helvetisation') and, thus, shorten the lead time between the system's definition and commissioning stages.

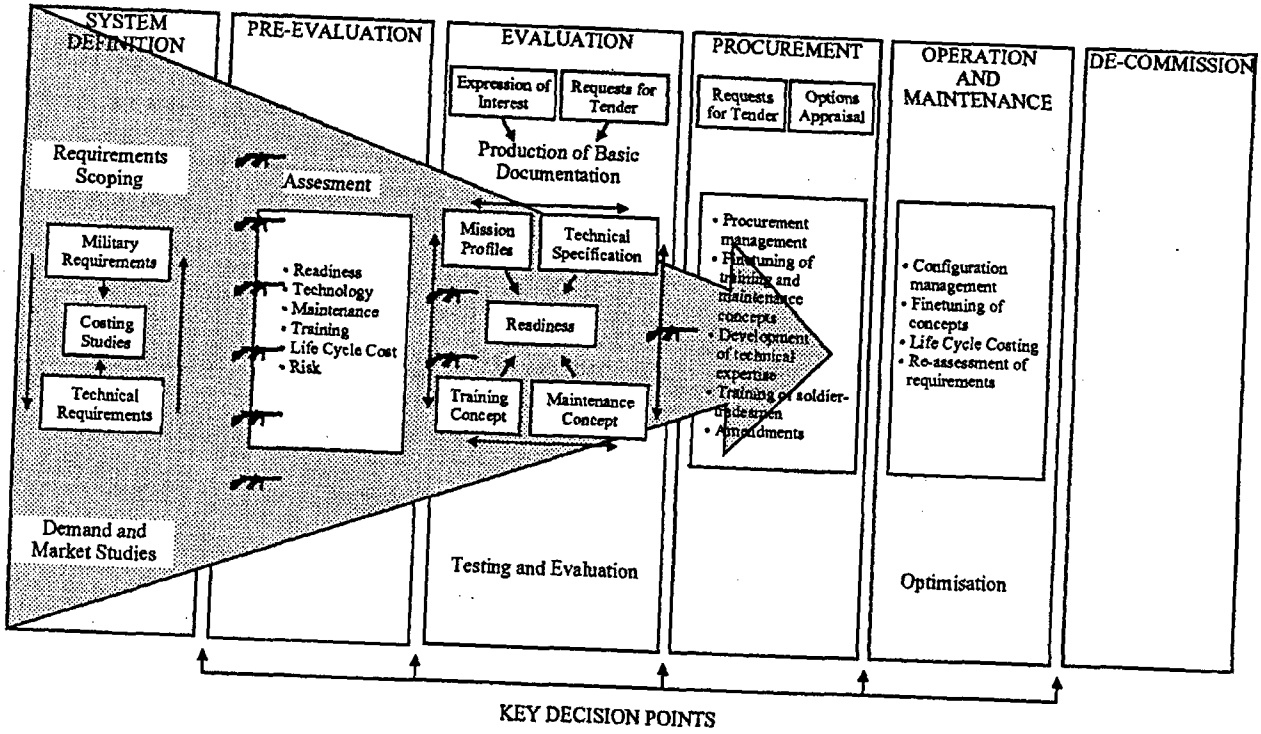

Figure 2 Procurement process and through-life system management. *Source*: Inanen (1995); p. 348.

THE SWISS ARMAMENT AND DEFENCE INDUSTRY POLICY

Swiss Armaments Policy

The armament policy is an umbrella term for a set of policies which are aimed at industry, procurement, competition, foreign trade and technology issues. It can best be described as a political statement of intent or a set of broad guidelines issued by the Federal Council (DPA, 1996).[3] The policy identifies the types of weapons system and defence infrastructure to be developed or procured in-country as well as the types of industrial capacity that have to be maintained in Switzerland to make domestic defence capability highly self-reliant. It also prescribes a set of rules to be followed when weapons systems are sourced from overseas and where local content and Swiss industry participation are to be determined.

A review of the current armaments policy has recently been undertaken and, at the time of writing, it is anticipated that a new policy will incorporate the following guidelines (DPA, 1996, p. 3):

- the main objective of defence procurement is to foster military capabilities rather than create jobs in industry or re-dress regional economic imbalances;
- defence procurement should be cost effective, using competitive tendering procedures, life-cycle costing and, where possible, focusing on standard or well developed products with short delivery cycles;
- the defence-related domestic industrial base should be internationally competitive. Given the close co-operation between the DoD and Swiss industry, domestic suppliers are likely to enjoy advantages over foreign competitors, in particular in relation to knowledge of DoD procurement "possibilities and intentions";
- when a suitable Swiss product is available on the market, or could easily be produced, its supplier should be encouraged to participate in defence tendering. When tender offers are similar in quality and value, suppliers located in economically depressed areas of Switzerland may be given preference over those located in more prosperous parts of the country;

[3] The foundations of the current armaments policy were laid down in a Federal Council Report of March 1983. Subsequently, the basic thrust of the policy was reinforced by other policy documents such as the 1990 National Security Policy Report (FC, 1990) and the Army 95 Defence White Paper (FC, 1992).

- the in-country sourcing of weapon systems is preferred but the DoD should finance the local *development* of complex defence systems only in exceptional cases;
- some uncompetitive but strategically important defence-related industry capabilities may be sustained with cost premia to be borne by the DoD;
- when a weapon system is to be imported, the desirability of *direct participation* (*operation de co-production*) by Swiss industry should be assessed. Cost premia may have to be paid in the case of co-production, providing that offsetting military and/or economic benefits are identified;
- indirect participation by Swiss industry (*operation d'imputation industrielle*) or offsets should also be considered "as an instrument to improve the market access for Swiss enterprises"; and
- successful prime contractors may be required to use Swiss sub-contractors and suppliers, if competitively priced or when specific cost premia are agreed with the prime contractor for local content.

To ensure a high degree of self-reliance in the event of disrupted supply lines, critical materials and components are to be stockpiled to allow continuity of domestic production. Stockholding policies have been particularly important in the past, given the historic preference of the Swiss Defence Organisation for long system life-cycles (25–30 years). Often weapons systems, especially platforms and artillery pieces, remain in use years after they were phased out by other countries and/or production lines were closed by the original manufacturers.

Defence Industry Policy

This policy aims to bring industry considerations into military planning and project management at an early stage. Regular discussions between industry and the DoD give industry the opportunity to incorporate defence investment and maintenance requirements into their long term company plans. It is also acknowledged that industry's technological know-how should be used to assist defence planners in specifying military requirements. However, since defence orders tend to be irregular and batches of equipment purchased small, local firms are not encouraged to depend excessively on domestic defence orders.

Although support for the local defence-related industrial base has been and is likely to remain one of the key aspects of the Swiss armaments policy, it is not normally intended that Swiss industry be

given preference over imports when domestic producers are clearly less competitive than their foreign counterparts. However, as in many other countries, there are pressures to use defence procurement as a means of job creation or regional redistribution of activity. In the Swiss case, direct and indirect offsets may provide a means of securing orders for Swiss firms (see below). On the other hand, there are external pressures to open up defence procurement to international competition. Such pressures may be found, for example, in WTO regulations on government procurement, and the proximity of the European Union Single Market (see below).

For a particular system or product to be considered for in-country production, the following aspects of local production have to be addressed (DPA, 1995):

- sustainability of an established and desirable industry capability;
- dependence on foreign sources of supply;
- future requirements for maintenance, support and adaptation;
- economies of scale;
- technological risks associated with small scale production;
- increased security achieved through the local control of system 'drivers';
- acquisition of intellectual property rights, especially in relation to dual use technologies, and the development of local know-how; and
- deterrence aspects of a sophisticated local, defence-related industrial base.

Whilst the potential advantages of Swiss participation in international, collaborative defence projects have been acknowledged, it is recognised that many forms of international collaboration are at variance with the Swiss policy of neutrality and that the standardisation of requirements is usually too difficult to achieve between countries that are not members of an international alliance.

Technology Policy

Switzerland has traditionally ranked among the most research-intensive OECD countries. In 1992, total expenditure on R&D amounted to some 2.8% of GDP, 75% of which was in the private sector (WTO, 1996).[4]

[4] There are signs of some erosion of Switzerland's attractiveness as a centre for R&D. According to a recent study by the Association of Swiss Industries, R&D expenditure by Swiss firms abroad increased by 35% between 1989 and 1992. This exceeded for the

However, Swiss spending on defence-related R&D has been very modest. A major policy objective is to ensure that Swiss defence systems (or components) made in-country are not technologically inferior to those produced overseas. The Swiss Defence Organisation has been reluctant to get involved in R&D-intensive projects, especially those requiring basic research in defence technologies. In the mid-1990s, in current prices, less than US$ 100 million (5% of the Swiss procurement budget) was spent on defence-related R&D. This is a fairly low figure considering the technological sophistication of the procured defence systems and the industrial strength of the Swiss economy.[5]

In principle, systems involving significant in-country R&D are evaluated with regard to :

- the domestic and foreign availability of close substitutes;
- future competitive advantages generated and any contribution to the sustainability of the Swiss defence-related industry;
- opportunities for dual technology applications;
- the share of R&D in the system's life cycle costs and expected future sales;
- R&D time frame; and
- whether the R&D effort is part of the requirement (Kaelin, 1995).

When a locally-sourced project involves significant R&D expenditures, the contractor is required to share the cost as well as the attendant risks of R&D. In return, the contractor is given an equity share in the intellectual property arising from the project. Subject to a further agreement with the DoD, the new technology may subsequently be used by the contractor in design/production of other defence systems or may be applied in the contractor's civilian product lines (dual technology).

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first time the funds devoted to domestic R&D, which had expanded by 4% during the same period. In the machinery, electricity and metalworking industries, which together account for nearly half of industrial employment, R&D expenditure in Switzerland declined by 13% during the period 1989–1992, while R&D abroad increased by 53%.

[5] In 1994, in current prices, Switzerland spent US$ 89 million on defence-related R&D whilst Australia spent US$170 million, Spain US$ 270 million, Sweden US$ 360 million, Japan US$ 770 million, Germany US$ 1.2 billion, the U.K. US$ 3.9 billion, and the U.S.A. (in 1995) $39 billion. In 1991, the share of Swiss R&D spending in defence expenditure was about 1% whilst it was 1.8% in Canada, 2% in Japan, 2.7% in Australia, 3.6% in Germany, 4.9% in Spain, 8.7% in Sweden, 8.2% in the U.K., 12% in France, and 14% in the U.S.A. (Arnett, 1996, Tables 9.1 and 9.3, pp. 383 and 387).

Contracting and Competition Issues

Switzerland's basic approach to business arrangements, including cartels, is rooted in the Federal Constitution (WTO, 1996), which guarantees freedom of commerce and industry, extending in principle to all forms of collaboration (Article 31). However, the Constitution also provides for federal legislation imposing constraints, if justified by the "general interest", to deal with potentially harmful consequences of cartels and other collusive arrangements. The Federal Law on Cartels and Similar Organisations of 1985 (Loi Fédérale sur les Cartels et Organisations Analogues) differs significantly from the competition laws of most other OECD countries. Rather than prohibiting anti-competitive arrangements as such, it focuses on those deemed to produce, on balance, economically harmful effects. That is, rather than requiring companies to justify their actions, the competition authorities must identify and evaluate uncompetitive market restrictions and assess their effects on the grounds of the "general interest" (WTO, 1996). This has significantly constrained the effectiveness of competition policy, further compounded by the fact that the Cartel Commission has no independent powers of prosecution.[6]

Growing emphasis has been placed in recent years on the liberalisation of Swiss government procurement markets, to enhance internal efficiency, lessen financial constraints and meet external negotiating requirements (WTO, 1996).[7] The Federal Law on Government Procurement (Loi Fédérale sur les Marchés Publics) covers most federal entities, as well as licensed public or private suppliers of water, energy, transport and telecommunications services. Procurement by military entities is not however covered by the Federal Procurement Law. In principle, purchasing entities are free to call open or selective tenders

[6] Depending on the outcome of an investigation, the Commission may make recommendations, for example to modify or terminate a cartel arrangement.

[7] There are no statistics available on the value and structure of public purchasing at all government levels (WTO, 1996). According to the government's financial accounts, public sector spending on current purchases (goods, services and works) and investment totalled SFr 28.5 billion, or 8.5% of GDP in 1993. Federal procurement data indicate total expenditure of SFr 7.6 billion in 1994, down from a record SFr 9.3 billion in 1991. The PTT is the Confederation's largest civil purchasing entity, accounting for one-third of federal procurement in 1994. The most important expenditure groups were electronic equipment (41%), vehicles (20%) and machinery (18%). Purchases by federal entities in areas covered by the Tokyo Round Agreement on Government Procurement reached some SFr 1.1 billion in 1994 (for details see WTO, 1996). The bulk of imported supplies was made up of specialised and office machinery (50%), furniture (13%), vehicles (10%) and instruments (6%).

and sole source procurement is restricted.[8] Contracts must be awarded to the supplier having presented the 'best value for money'. A supplier may be excluded if his selection could be shown to substantially restrict or eliminate 'effective competition' (WTO, 1996). In view of Swiss non-participation in the EEA, the Plurilateral Agreement on Government Procurement (GPA) constitutes the principal framework currently governing cross-border activities in the procurement area (WTO, 1996). The agreement, which currently has eight members, covers sources of over 95% of present Swiss imports. The GPA has been translated into Federal and Cantonal law and in that form aims at ensuring effective competition between bidders, providing for transparent tendering procedures and impartiality in the award of contracts.

Since 1975, competitive tendering practices have had to be adopted by all Federal procurement agencies, including defence. Value for money in defence procurement is assessed by reference to: system performance and quality; scope for future system enhancements and adaptations; expected service life-span; life-cycle cost; and other criteria (e.g. delivery lead times, manufacturer warranties). Fixed price contracts with no incentive fees or large contingency provisions are normally used. This reflects the apparent preference for procuring well developed systems, which are easy to cost-estimate, and for regular cost and profitability audits rather than building cost containment incentives into contracts. As noted above, when significant research and/or system development risks are involved, these must be shared between the contractor and the DoD.

If competitive procurement is not possible, as is usually the case when domestic industry develops large and complex defence systems, the (monopoly) contractor must demonstrate that the price charged is 'reasonable' (i.e. that no attempts have been made to capture monopoly rents). An acceptable rate of return on capital is then agreed between the DPA and the contractor. Sole source companies are expected to 'open their books' to defence cost and profit auditors to demonstrate that the agreed rate of return is not exceeded and, in the event of cost overruns, that there has been no 'cost-padding' or shifting of contractor-specific risks to the client.

Whilst the efficiency-enhancing effect of competitive pressure is acknowledged, the Swiss approach to competition has typically been pragmatic. On the one hand, Switzerland is an open and highly

[8] It is confined to special cases such as the absence of offers on tender calls, non-compliance with tender criteria, collusion, technical restrictions (for example, due to intellectual property legislation), or particularly urgent purchases (WTO, 1996).

competitive economy with a strong export orientation. It is recognised that Switzerland has no economic power to force other nations to buy its products and can only sell them overseas if they are cost and quality competitive.

On the other hand, competition is seen as a means to an end and as an end in itself. The DoD is quite unambiguous in its support for domestic industry and does not expect Swiss firms to produce only defence products that are internationally competitive. Some market niches are clearly protected whilst others are treated as infant industries which may one day become competitive exporters. Switzerland has a long tradition of supporting small firms by means of 'managed competition', that is, by imposing barriers to entry that allow small businesses to survive (e.g. highly regulated shop opening hours in retail trade). What is most important, however, is not the rhetoric of competition but the nature of contractual arrangements between the DoD and defence contractors. 'Managed competition' combines with industry's acceptance of its 'social responsibility' quite workably. But it is less clear how contestable these partnering arrangements are, that is, whether there is an implicit threat of business being taken elsewhere in the event a contractor is not seen by the DoD as being 'socially responsible'.

Defence Offsets

When defence systems are sourced overseas, the Swiss government expects reciprocal trade equivalent to 100% of the contract value to be generated. This may take the form of direct (Swiss) industry involvement in the production of imported systems (*direct participation*) or additional exports of goods and services (*indirect participation* or *offsets*). These additional exports may be unrelated to the project and should exclude highly 'tradeable' products (e.g. banking or insurance services). Indirect participation may include, though, marketing assistance to Swiss companies, technology licensing, R&D co-operation, and student and trainee programs. Policy aims to confine both direct and indirect participation to competitive Swiss suppliers and, thus, involves no import or export subsidies. As noted, however, subsidies may be paid by the DoD in the form of cost premia for locally coproduced systems. These premia are de facto import substitution subsidies.[9] In the past, these cost premia averaged about 4% of the relevant import value (Huber, 1996). See also Table 2 above.

[9] The present writer is not aware of any export subsidies that were paid in the context of indirect Swiss industry participation.

The initial split of reciprocal trade between direct and indirect participation may vary. For example, the F/A-18 project involved 10% local content work. Over time, though, the in-country work may increase as systems are upgraded and/or re-engineered. Thus, cost premia arising from the local content requirement may subsequently be offset by savings from in-country upgrades and through-life support. Large cost premia (in excess of 10% of the import value) are likely to be questioned in the Parliament.

The Swiss Offsets Policy has been justified on the following grounds (DPA, 1996):

- international markets for defence materiel are perceived to be distorted by foreign governments' interventions and offsets can be used to provide domestic producers with orders that would otherwise go to competitors overseas;
- it is hoped to reduce dependency on foreign suppliers by maintaining in-country know-how and intellectual property rights, as well as industrial capability to support and adapt or upgrade defence systems in use; and
- the political acceptability of defence budgets increases directly with the proportion of procurement spending going to domestic firms.

Overall, the main focus of offsets policy is on the provision of work for Swiss industry. The Ministry of Defence, through the DPA, is responsible for offsets administration.

CONCLUDING COMMENTS

The Swiss approach to defence procurement can be summarised as follows:

- military acquisitions tend to be limited to proven and durable systems offering the user reliable performance over time as well as plenty of scope for future upgrades and adaptations rather than a temporary advantage of 'the latest in technological sophistication'. What is the best in the short run may not be good enough in the long term;
- long term cost-effectiveness is the key driver of the procurement process with the resultant high ratio of accumulated (military) capital per soldier but a relatively low annual cost of defence as a proportion of GDP;

- a strong commitment to the domestic industrial base, high levels of local content, promotion of exports and import-replacement (by means of offsets);
- a commitment to a mix of private and public defence-related enterprise with the latter increasingly exposed to commercial business practices and standards;
- fixed price contracting with an agreed 'fair' rate of return on capital invested by contractors subject to cost, performance and profitability audits; and
- a pragmatic approach to 'managed competition' combining a high degree of openness to international trade in key sectors of the economy with protected market niches.

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