The Contribution of Private Shipyards to Israel's National Security

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Abstract

This chapter deals with the need for a private shipyard in Israel as an essential national infrastructure for building military surface vessels for the Israeli navy and for the use of the shipyard's essential infrastructure, with a horizon of more than a decade. In this context, the article discusses the concept of self-reliance, according to which a state relies on its own military industries and in particular in the maritime domain, including a discussion of the various motives for adopting this approach.

The article will discuss the Israeli case, based on a survey of the current and expected situations of the navy and a survey of the shipyard infrastructures of both the navy and the private shipyard (i.e. Israel Shipyards). The article then presents policy recommendations with respect to the need for a civilian private shipyard in Israel, based on the findings of a comprehensive study recently carried out for Israel Shipyards. The study examined the need for a civilian private shipyard in Israel as an essential national infrastructure for the building of military surface vessels for the Israeli navy and for the use of the shipyard's essential infrastructure.

The study recommends a strategy of long-term self-reliance in the construction of military surface vessels for the State of Israel. This will contribute to Israel's national resilience in the domains of security, the economy, industry, technology, education and social welfare. It is also recommended that this domain be based on a military shipyard, i.e. the naval shipyard, which will be responsible for the operational readiness of the vessels, and in particular their ongoing maintenance and their upgrading, and on a private shipyard, which will be responsible for ensuring the ability to develop and manufacturing vessels, systems and naval equipment according to the needs of both the navy and the civilian market (such as the expanding energy market), as well as to provide shipyard services and repair capabilities. Thus, it is recommended that in this context a policy will be defined whereby the maintenance needs of the navy are provided for by the private industry. These will include, among other things, the availability and compatibility of the infrastructures. Thus, it is proposed that the State will be responsible for encouraging this effort by means of two main policy tools. First and foremost, it needs to develop and build military vessels and systems for the navy at the local shipyards. The second is to introduce a component of local value (Offset) in international contracts (G2G) between the State and foreign contractors and primarily in

the maritime domain. At the same time, it is proposed that consideration be given to the approach of "surge capability", a defense strategy that views industry as a "dormant" strategic capability, awaiting a time of emergency. Finally, the study recommends examining the possible development of Haifa as a national maritime hub, in view of its unique elements. This will likely provide a lever for the economic development of Haifa and the North, the creation of a national center for knowledge and expertise and the promotion and advancement of technologies and products in this domain.

Introduction

The self-reliance approach is essentially the capability of the State to arm its military by means of its local defense industry, and thus to achieve autarky.[1] Nonetheless, this approach also allows the State to import weapons systems or armaments from reliable allies, primarily in order to close any gaps in technology and also in order to facilitate the production of modern and sophisticated weapons in order to deal with current threats.[2] In addition to strategic and operational considerations with the goal of defending and preserving the State's sovereignty, this approach also a variety of other motivations, including the encouragement of local industry and employment, the advancement of education and the development of human capital, where its function is to serve as a technological and economic growth engine, in addition to its role as a means of social development and as a component of national prestige.[3] Early on in the history of the State of Israel, a dual approach to acquisitions was adopted and over the years it became the foundation for Israel's defense policy. Thus, no effort was spared to exploit opportunities for acquisitions abroad and at the same time major resources were invested in creating a local defense industry that could supply weapons and military equipment to the IDF.[4] This has made a significant contribution to the State's security (and continues to do so), and the relations between these industries on the one hand

1 Burak Ege Bekdil, 2017. Going it Alone: Turkey Staunch in Efforts for Self-Sufficient Defense Capabilities. *Defense News* (23.4.2017): https://www.defensenews.com/land/2017/04/24/going-it-alone-turkey-staunch-in-efforts-for-self-sufficient-defense-capabilities

2 Timothy D. Hoyt, 2007. *Military Industry and Regional Defense Policy: India, Iraq, and Israel*. New York: Routledge.

3 Hon Lee et-al., 1993. U.S. Pricing Policy on the Sale of M60A3 Tanks. *The House of Representatives* (22.11.1993); Malta, 2016. *PQQ: Offshore Patrol Vessel for the Armed Forces of Malta*. CT3019/2016; page 51; Paul Iddon, 2019. Turkey's Ever-growing Indigenous Arms Industry. *The New Arab* (18.10.2019): https://www.alaraby.co.uk/english/indepth/2019/10/18/turkeys-ever-growing-indigenous-arms-industry; Ron Matthews & Alma Lozano, 2014. Evaluating Motivation and Performance in ASEAN Naval Acquisition Strategy. In G. Till, & J. Chan, *Naval modernization in SouthEast Asia: Nature, causes, and consequences* (pp. 52–73). New York: Routledge.

4 Herstyadi S. Condro, 2017. *Strategy to Improve Naval Shipbuilding Industry Self-Reliance in Indonesia*. Naval Postgraduate School (NPS).

and the defense R&D sector and the various parts of the IDF on the other have always been close. This has facilitated the creation of an essential and innovative operational capability, which is characterized by short development time once the operational need arises and until its use on the battlefield.[5]

In the context of the development and construction of military vessels, there has been a global trend in recent years toward the formulation of national strategies, plans and specialized models. These usually include a component of long-term government investment in the upgrading of the country's navy, as well as collaboration with industry. In this way, conditions are met for repeat investment by industry in infrastructure and technology. In some cases, a degree of foreign acquisition in the short term is also included, with the purpose of importing technology from abroad. All this constitutes a component of resilience within national security and an engine for socioeconomic development and prosperity, while at the same time increasing local economic growth and employment. Such strategies and plans have recently been formulated by some of the naval powers, such as Australia, Britain and Canada, as well as some of the developing nations, such as members of ASEAN.[6] They have traditionally relied on imports from leading global defense producers, in view of their low level of defense production capabilities. They are increasingly building up their national capabilities by mean of domestic production, with two goals in mind – reducing the dangerous reliance on imports while encouraging the development of their domestic industry. Accordingly, a model of strategic acquisition has been formulated and is depicted in Figure 1.[7] This is also the case for Turkey which is planning to achieve almost complete self-reliance, in accordance with its desire to increase its political influence in the region and worldwide. In 2002, Turkey's domestic industry supplied about 24 percent of its defense acquisitions while in 2017 it supplied about 64 percent.[8] The President of Turkey and its senior officials have recently even declared their intention to totally eliminate their dependence on foreign military systems and sub-systems.[9]

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5 Shaul Chorev and Nir Zarhi, 2019. *Examination of the Necessity for a Private Shipyards Industry for the Development, Building and Maintenance of Military Vessels from a National Perspective: The Case of Israel Shipyards*. Commissioned by the Israel Shipyards Company. Maritime Policy and Strategy Research Center (July, 2016). [Hebrew]; Timothy D. Hoyt, 2007. *Military Industry and Regional Defense Policy: India, Iraq, and Israel*. New York: Routledge.

6 Association of Southeast Asian Nations (Indonesia, Malaysia, Philippines, Singapore, Cambodia, Lao, Myanmar, Viet Nam, Thailand and Brunei Darussalam).

7 Richard A. Bitzinger, 2004. Offsets and Defense Industrialization in Indonesia and Singapore. In J. Brauer, & J. P. Dunne, *Arms trade and economic development: Theory, policy, and cases in arms trade offsets* (pp. 255–270). New York: Routledge.

8 Paul Iddon, 2019. Turkey's Ever-growing Indigenous Arms Industry. *The New Arab* (18.10.2019): https://www.alaraby.co.uk/english/indepth/2019/10/18/turkeys-ever-growing-indigenous-arms-industry

9 Burak Ege Bekdil, 2017; Paul Iddon, 2019.

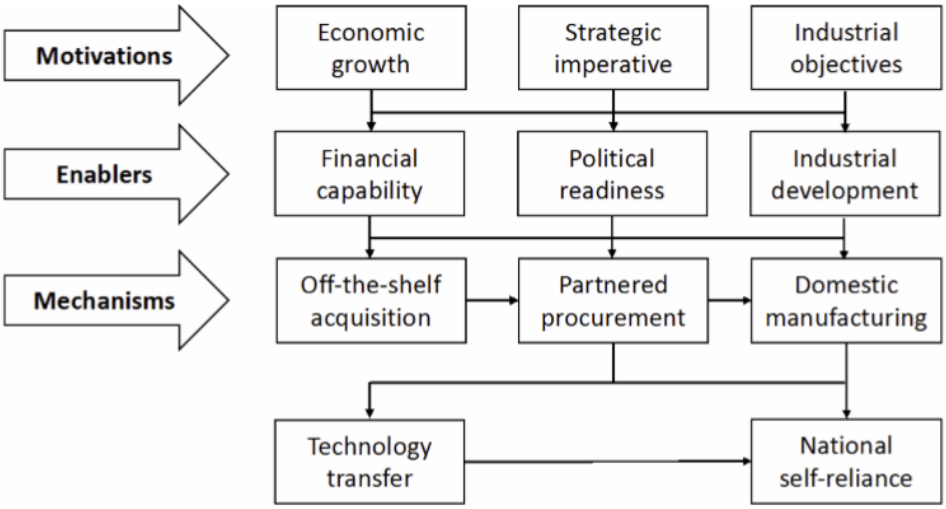

Figure 1 – Strategic acquisition model of the ASEAN countries

The Israeli case

The navy. The navy's role is to operate in the sea and from the sea in order to protect the State of Israel, its sovereignty and the security of its citizens, to protect Israel's national interests and also to be part of the effort to deter the enemy and prevent them from achieving its goals. The navy includes a number of operational units, including a squadron of missile boats, a fleet of submarines, the naval commando unit, patrol units, etc., as well the naval headquarters, the support units (including the naval shipyard) and the various naval bases.[10]

From the beginning of the 2000s until recently, the size of the navy remained basically unchanged. Nonetheless, in recent years, there has been a trend of renewal in the navy, which is expected to continue in the coming decade. The future vessels are characterized by greater displacement than the existing ones (which will almost double the total displacement of the navy). At the same time, there is an increase in the scale and diversity of the main systems operated and maintained by the navy and in particular the addition of fire control and weapons systems. Nevertheless, it is unclear whether this process of expansion and renewal is being carried out as part of a defined national strategy, which includes a component of long-term government investment which has as its goal collaboration with domestic industry.

10 Chorev and Zarhi, 2019.

Shipyard infrastructure. A method for classifying a state's navy and the capability of its domestic shipbuilding industry and the correlation between them is described in Todd and Lindberg (1996).[11] Accordingly, the Israeli navy is defined as a regional naval power. This category requires a shipbuilding industry that is characterized by complete or almost complete independence in the ability to plan, engineer and produce large surface vessels and partial to full capability with respect to submarines. In practice, there is partial suitability in the capabilities of the shipbuilding industry in Israel, which is currently limited to surface vessels only and which relies on Israel Shipyards.

The naval shipyard. The maintenance of ships is carried out at the naval shipyards, which is the technical-engineering body responsible for maintaining the ships and their systems and upgrading when necessary, according to a policy of "preventative maintenance". In wartime, the naval shipyard focuses on increasing the fleet's readiness – bringing the ships to full readiness and carrying out urgent repairs.[12] Some of the navy's maintenance needs, whether in peacetime or in wartime, are provided by external contractors, with the goal of regulating the workload, dealing with infrastructure constraints, and supplementing the professional abilities that are not available at the shipyard and in particular a lack of expertise, experience and infrastructure for the development and production of ships, ship components and various systems. In view of the expected expansion of the navy, it is not unlikely that it will seek to outsource some of the maintenance of ships to external contractors, particularly since it is the only player that can meet the maintenance needs of its submarines and systems.[13]

Private shipyards. From a historical viewpoint, it is important to mention that the need for a civilian private shipyard in Israel—as an essential infrastructure of the State for the building of military surface vessels for the Israeli navy and the use of the shipyard's essential infrastructures—has been discussed off and on and with varying intensity from the establishment of Israel Shipyards as a government company in the 60' until

11 Daniel Todd & Michael Lindberg, 1996. Navies and shipbuilding industries. Westport, CT: Praeger Publishers.

12 In such a situation, manpower, resources and infrastructures will be distributed among the various geographic sites in order to meet operational needs and to increase survivability. This situation is liable to have implications for the availability and efficiency of the response.

13 Chorev and Zarhi, 2019.

today, when it is already a private company.[14] During this period, the discussion has taken on different forms, with the connection between the shipyard and the defense sector becoming much stronger, starting from the beginning of 1970 and from the mid-1980s.[15] This connection weakened to the point that the Israel Shipyards were privatized in the mid-1990s. Although the navy continued to purchase ships from time to time from Israel Shipyards, it was no longer the main producer of Israeli missile boats. In 2002, Israel Shipyards delivered a Saar 4.5 ship to the navy but since then no missile boats have been ordered from Israel Shipyards. In 2015, and in processes that are currently being examined (and which we have no intention or desire of discussing in this article), the Israeli defense sector decided to sign a contract worth NIS 1.8 billion with German shipyards for the construction of four defensive ships based on the Braunschweig-class corvette.[16] Recently, the Ministry of Defense signed a contract with Israel Shipyards to plan the next generation of missile boats, which will replace the old Saar 4.5 Nirit. The planning will take a year and the agreement is likely to develop into a deal of more than one billion dollars, which will include large-scale acquisition

14 A similar case is that of the Beit Shemesh Engines company which was created in the late 1960s under the joint ownership of Yosef Shidlovski and the State, with the goal of producing engine parts. Later on, it became a government company and today it is a public company under private ownership. Over the years, the company has been the main supplier of engine parts to the IAF, including the development of the Lavi engine and also weaponry such as the Delilah missile. In recent years, the company has experienced huge growth in its framework contracts for the supply of jet engine parts to the civilian market, which amounted to $1.3 billion in the third quarter of 2018 (where the company's customers include engine producers such as Pratt and Whitney and parts producers such as MTU and ITP). The company has capabilities in the production of complex and technology-intensive parts by means of interactive manufacturing that involves molding and machining. These capabilities make the company a world leader in the field. Over the years, the company has employed hundreds of workers in the periphery and it is active in promoting technological education. Recently, the company inaugurated a state-of-the-art training center for the machining of metal for the aircraft industry, which was established together with the Ministry of Labor and Welfare and is operated within the Beit Shemesh factory in cooperation with the Atid network of technological colleges. Etti Swissa Ben Ami, 2018. Vocational Training is Initiated at the Beit Shemesh Engines Factory. *Ethika* (June 3, 2018). [Hebrew]; Boris Schneider, 2019. Warming up the Engines: Beit Shemesh Presents one of the Most Successful Growth Stories in Israel. *TheMarker* (March 17, 2019). [Hebrew]; Wikipedia, 2019. Beit Shemesh Engines: https://he.wikipedia.org/wiki/%D7%9E%D7%A0%D7%95%D7%A2%D7%99_%D7%91%D7%99%D7%AA_%D7%A9%D7%9E%D7%A9 [Hebrew]; Beit Shemesh Engines, 2015. *Presentation of the Company for 2015*. Beit Shemesh Engines Holdings Ltd. [Hebrew].

15 During this period, the Israel Aircraft Industry—with the blessing of the navy—became involved in the construction of small ships at the RAMTA factory in Beer Sheva.

16 The German government is meant to pay for about one-third of the cost of the deal.

of radar, missiles and electronic fire and control systems from the domestic defense industry.[17]

With respect to the export of military systems, weapons system developed by the defense industries have been proven on the battlefield ('Combat Proven') and this has opened up export markets around the world and has produced revenues for the State.[18] This capital has also been of use in the development of the next generation of systems for the IDF. In this case, Israel Shipyards has also exported its flagship brands – a patrol boat based on the Saar 4 and Shaldag-class patrol boats – to other countries, while enabling other defense manufacturers, such as the IAI, Rafael and Elbit to sell the systems, which were installed on Israeli ships, and in particular weapons systems, detection systems and control systems. At the same time, during the past decade the acquisition of the main platforms by the navy – missile boats and submarines – has been from abroad and financed from foreign aid. In this situation, it almost impossible to export, whether due to the choice of the navy not to rely on products developed and produced by the defense industries or because the products developed have not been combat proven or due to the prohibition on exporting systems whose development is financed from US aid.[19]

The need for a private civilian shipyard in Israel: policy recommendations. A comprehensive study by Chorev and Zarhi (2019)[20] was recently carried out at the request of Israel Shipyards. The study examined the need for a private civilian shipyard in Israel as an essential infrastructure of the State for the building of surface vessels for the Israeli navy and for the use of the shipyard's essential infrastructure, with a horizon of more than one decade. The study included a comprehensive theoretical survey, an examination of case studies in Israel and abroad and also an analysis and comparison

17 Udi Ezion, 2019. Learning the Lessons from Case 3000? The Navy's New Missile Boats will be built in Israel. *Calcalist* (November 6, 2019). [Hebrew]

18 In many cases, the process of marketing and participating in new projects abroad required that the product or technology be 'combat proven'.

19 In September 2016, a new aid agreement was signed between the US and Israel. According to the agreement, Israel will no longer be able to convert part of the annual assistance budget from dollars into shekels, which would allow it to make purchases from Israeli companies, and the segment for conversion will gradually decline over the duration of the agreement (Ministry of the Economy and Industry, 2018).

20 Shaul Chorev and Nir Zarhi, 2019. *Examination of the Necessity for a Private Shipyards Industry for the Development, Building and Maintenance of Military Vessels from a National Perspective: The Case of Israel Shipyards*. Commissioned by the Israel Shipyards Company. Maritime Policy and Strategy Research Center (July, 2016). [Hebrew].

of alternatives, with the goal of evaluating the possible implications of a wide variety of situations and scenarios.[21] The main recommendations are presented in what follows:

First, it is recommended that a strategy of self-reliance be formulated in the domain of military shipbuilding for the State of Israel. This will contribute to Israel's national resilience in defense, the economy, industry, technology, education and social welfare. Accordingly, it is proposed that the Ministry of Defense, in collaboration with the navy, decide on policy guidelines that will shape and develop the military shipbuilding and ship maintenance sector, which will include the definition of areas of responsibility of the various players and the relations between them, including the Ministry of Defense, the IDF (and the navy in particular) and industry – in periods of both peace and war.

It is also recommended that the government reinforce the military shipyard, i.e. the navy shipyard, which is responsibility for the operational readiness of the navy's vessels, and in particular their maintenance and upgrading, and the private shipyard, which is responsible for ensuring the ability to develop and produce ships, ship components and maritime systems according to the needs of the navy and the civilian market (such as the emerging energy market), as well as providing shipyard services and repairs. In view of the police investigation of various players who allegedly attempted to bring about a decision that the maintenance of the submarines would be carried out by the German shipyards rather than by the navy shipyard, it is suggested that this recommendation be carried out through direct dialog with the relevant officials in the Acquisition Authority of the Ministry of Defense and of the navy.[22]

In this context, it is proposed that the State will be in charge of promoting this sector using two main policy tools. First and foremost, it needs to develop and build military vessels and systems for the navy at the local shipyards (along with encouraging the use of systems and weapons developed and produced by local industry). This will require a mechanism to ensure competitive prices while maintaining quality. It is important to mention that this policy tool has an additional and essential role, namely the encouragement of exports. The second policy tool is to introduce a component of local value (Offset) in international contracts (G2G) between Israel and foreign contractors and primarily in the maritime domain.

21 The alternatives chosen are based on the existing situation and create variations that are within the reasonable realm of possibilities in the short and intermediate terms (up to 2035): Alternative 1 – Maintenance of the naval shipyard alongside a privately-owned shipyard without State involvement (current situation); Alternative 2 – Maintenance of the naval shipyard alongside a privately owned shipyard with government involvement; and Alternative 3 – Maintenance of only the naval shipyard in its current format and reliance on acquisition from abroad.

22 The efforts to reduce the scope of the navy in the maintenance of the Dolphin submarines is one of the issues that has been investigated by the police in the framework of Case 3000.

In addition, it is recommended that the proposed policy be long-term and that it rely on long-term planning, and in particular the development and building of vessels. This will create the stability that is necessary for investment by industry in the development of infrastructure and technology, in the training of skilled manpower and in the creation of a technological manpower reserve. In this context, consideration can be given to linking government encouragement and the allocation of part of the industry's profits—particularly profits from exports—to working capital to be used in the development of infrastructure, technology and training.

It is also recommended in this context that a policy be defined which provides a response to the navy's maintenance needs from industry. These will include, among other things, readiness and compatibility of infrastructures.[23] It is proposed that in peacetime, industry should constitute a flexible component in the regulation of the workload in the navy shipyard. In wartime, industry will constitute a strategic home front – a component that provides redundancy. With respect to the specific case of Israel Shipyards, it is recommended that consideration be given to its close proximity to a naval base and the navy shipyard. This provides it with an operational advantage on the one hand but on the other hand elevates overall vulnerability.

In the context of viewing industry as a "dormant" strategic capability for wartime, it is proposed that consideration be given to the approach of 'Surge Capability', a security doctrine that determines the necessary infrastructures for wartime and which is based on a minimal budgeting in peacetime of civilian technology, development and production infrastructures, which make it possible to meet the needs that arise in wartime, in parallel to the injection of agreed-upon budgets in peacetime.

Finally, the study recommends consideration of the possibility of developing Haifa as a national maritime hub. It appears that all of the necessary infrastructures already exist today – ports, a naval base, maritime industry (including Israel Shipyards), defense industries, maritime commerce and service companies, institutions of higher education and research (including Haifa University, which is known for its expertise in the maritime domain), the Technion, Israel Oceanographic and Limnological Research (IOLR), etc. Combining their efforts will constitute a lever for the economic development of Haifa and the North, the creation of a national center of knowledge and expertise and the promotion and development of technologies and products in this domain.[24]

23 The Ministry of Defense has recently invested in modifying the Sincrolift lift system that was built by Israel Shipyards for the navy.

24 A similar decision was passed by the Government of Israel in 2013 with regard to making Beer Sheva into a cyber capital.