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**The Challenges of Military Industrial Companies in the Storms
of Change – A History of Danuvia, the Arms Factory, and
Gamma between 1920 and 1948**

Thesis of Doctoral (PhD) Dissertation

Doctoral School of History

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1. The topic of the dissertation and setting of objectives

My dissertation contributes to the history of Hungary between 1920 and 1948 through the history of three companies: Danuvia Arms and Ammunition Factory (Danuvia), the Metalware, Arms and Machine Factory (Arms Factory) and Gamma Works for Precision Mechanics and Optics (Gamma). It highlights the interrelationships among political, economic, and social processes during this time. Although the study examines the history of these companies starting from 1920, it primarily focuses on the period from the final years of World War II to the nationalizations in the spring of 1948. This emphasis is due to the lack of comprehensive studies in Hungarian corporate historiography on the processes of this specific period.

In Hungary, the majority of works on the history of enterprises either focus on comprehensive periods, such as from their foundation to the end of socialism, or on specific periods, such as before World War II and between 1948 and 1990. The transition period between the end of World War II and the wave of nationalization in 1948, which represents a transitional phase in economic terms for both the market economy and the planned economy, is not the focus of the studies.

The fate of companies at the end of World War II significantly influenced their restart after 1945. A crucial factor in this was the damage to the production machinery, which presented companies with considerable difficulties. The establishment of employee collectives, works committees in factories in 1945 also posed significant challenges. These bodies, supported by the Hungarian Communist Party, actively interfered in the management of companies, initiating wage movements and strikes, which deepened the antagonism between employers and workers. In addition to the devastation caused by World War II, the steadily worsening economic situation and the hyperinflation of Hungarian pengő drastically affected the condition of industrial companies. After World War II, the most important task of Hungarian industry was to participate in reparation work.

Reparation orders had dual consequences. On one hand, the advance payments made under the scheme ensured the survival of firms. On the other hand, orders that failed due to unsustainable deadlines cut off these important resources, creating a situation of uncertainty.

The main objective of this work is to examine the history of Danuvia, Arms Factory, and Gamma during the period mentioned above. This analysis will present the challenges, adversities, and responses of these industrial companies in the transitional period following World War II. However, to understand the situation and processes in 1945, it is essential to present the history of these companies between the two world wars also. It was in the mid-1930s that the state began its growing involvement in both the operation and control of firms. From 1945 onwards, this process did not emerge but was drastically strengthened. To contextualize the government investments of the 1930s, it is essential to understand the conditions under which these enterprises began operating in Hungary in the decade following World War I and how they responded to the economic difficulties that arose.

The dissertation also aims to analyze the management of the studied companies from 1920 to 1948. To achieve this, I have structured the analysis by company, delineated into two distinct periods: 1920-1945 and 1945-1948. This division is necessitated due to the significant discontinuity in company management precipitated by the events at the end of World War II. Beyond the loss of life and material devastation, the war inflicted profound disruptions upon company management structures. Additionally, the chosen time frame spans two distinct political epochs—each characterized by disparate political and economic orders—that exerted a profound influence on corporate management practices.

2. The methodology of the dissertation

The methodology employed in this dissertation closely aligns with the principles of business history research. To elucidate the analytical

approach, it is imperative to make a few remarks about what the thesis does not attempt. This dissertation does not purport to offer an exclusive economic-historical perspective, recognizing that such an approach alone is insufficient in addressing the multifaceted inquiries pertaining to the trajectory of companies. Similarly, it does not aim to provide a comprehensive history of technology, as an exhaustive exposition of military and civilian products would exceed the dissertation's scope without substantially enhancing our understanding of corporate historical processes. I also incorporate the social history approach within specified confines. While acknowledging its importance within the domain of business history, conducting an exhaustive analysis of the diverse strata comprising officials, workers, and employees exceeds the dissertation's scope and warrants a separate scholarly endeavour. Therefore, I am examining executive management within companies up to the level of directors, as the most pivotal decisions regarding operational management are made at this echelon. For similar rationale, I do not investigate the supervisory boards of companies, as they typically consist of shareholders and wield only nominal influence on company management beyond their statutory—essentially symbolic—function. However, I have occasionally circumvented these constraints when necessary for contextual comprehension. Additionally, I strive to judiciously apply the political history approach. Indeed, the political processes between 1920 and 1948 significantly shaped the business policy decisions of companies. Consequently, my methodology entails a comprehensive approach that integrates these considerations.

The selection of Danuvia, Arms Factory, and Gamma was based on various criteria. Foremost among these was the examination of companies considered significant during the interwar period in Hungary. The Danuvia and the Gamma were established in 1920, during the Horthy era, while the Arms Factory, despite its founding in 1891, experienced its zenith of prosperity during the same period. From the latter half of the 1930s until the end of World War II, all

three companies stood as prominent contributors to Hungarian military industrial production.

Due to the territorial losses incurred at the Treaty of Trianon, Hungary lost significant industrial areas, thereby heightening Budapest's significance within its economic structure. Consequently, factors such as labor availability and infrastructure contributed to the fact that the capital city had the highest concentration of military industrial enterprises in the post-World War I era. Consequently, only a limited number of military industrial companies centralized their operations in rural areas. The decision to prioritize companies situated in the capital city over their rural counterparts was also influenced by the observation that rural enterprises either failed to meet, or inadequately met, the other criteria taken into account.

In selecting the companies, I also considered their varying ownership structures. This consideration was influenced by the seminal work of Alfred D. Chandler, a leading authority in business history, who underscored the profound impact of ownership structures on enterprise management. For example, the Gamma functioned as a family-owned enterprise, with the Juhász family holding the majority of shares. Initially, the Danuvia boasted a diversified shareholder base upon its establishment, but a small group gradually acquired the majority of shares by the mid-1920s. The primary shareholder of the Arms Factory was a financial institution, specifically the Hungarian General Credit Bank (Credit Bank).

3. The results of the doctoral thesis

This dissertation offers a novel approach to presenting the history of the three companies, a method not previously explored in a work. It provides a comprehensive account of the histories of Danuvia, Arms Factory, and Gamma from 1920 to 1945, as well as from 1945 to 1948.

The Danuvia and the Gamma concluded the economically turbulent 1920s with notable success and dynamic growth, notwithstanding the challenges posed by inflation of the Hungarian korona and the repercussions of the deconjunction. This is evidenced by the expansion of both companies into larger production facilities throughout the decade. In contrast, the Arms Factory experienced a substantial decline in production compared to its output during World War I; however, it successfully navigated the decade by transitioning to peacetime production and, to a significant extent, fulfilling covert military orders. The latter half of the 1920s witnessed all three companies intensifying their efforts in research and development.

The onset of the Great Depression precipitated a widespread economic downturn in the early 1930s, adversely impacting all three companies. In response, the companies implemented modest operational reductions and initiated layoffs. These measures were counteracted by securing loans on favorable terms, completing ongoing research and development projects, and experiencing a gradual uptick in orders and subsidies from the Ministry of Defence. As the economy emerged from the depression, all three companies experienced an upward trajectory starting in the mid-1930s. This positive trend was also reflected at the macroeconomic level, as Hungarian manufacturing industry nearly doubled its output in 1936 compared to the nadir in 1932. The rapid expansion of military industrial production emerged as the primary catalyst for this economic boom.

The economic upswing escalated significantly from the late 1930s onward, fueled by the 1938 Győr armaments program and the subsequent military industrial expansion during World War II. Consequently, the companies under study emerged as key players within the Hungarian military industry, owing to the substantial investments made during this period. However, the drawbacks of this development soon became evident. The state assumed the dual role of primary customer and financier for these companies, inevitably

heightening their economic and political reliance on the state. The issue of excessive growth mandated by the Ministry of Defence began to weigh heavily on the companies, posing a threat to their post-war profitability.

In examining the management practices of firms from 1920 to 1945, I have found the following. At the Danuvia, the predominant shareholder group assumed full control over decision-making positions by the mid-1920s. Members of this group served both on the board of directors and in managerial roles within the company, resulting in a complete integration of management and oversight functions. Similarly, at the Arms Factory, the majority shareholder, Credit Bank, appointed its senior officers and trusted associates to the company's board, with management positions typically held by individuals with the confidence of the main shareholder. Moreover, the Credit Bank exerted control and influence over the company's management through its Industrial Department. In the case of the Gamma, the Juhász family, represented by István Juhász and Zoltán Juhász, maintained full control over the company's management, occupying top positions both on the board and in executive management. Consequently, at the Gamma as well, there was a convergence of operational and strategic management functions. With the enactment of the 1939 Defence Act, the state's influence on company management became increasingly direct. This legislation facilitated the establishment of war factory personnel commands, enabling direct intervention by military leadership in company operations. This external influence was further amplified during the German occupation and the implementation of works councils under the rule of the Arrow Cross Party.

World War II caused significant damage to all three companies. Bombings and armed conflicts resulted in extensive damage or destruction of real estate and movable property. Additionally, a

substantial amount of machinery and equipment fell into foreign hands due to looting by German and Soviet forces.

Amidst these circumstances, in early 1945, the companies were forced to undertake work for the Red Army. The companies had to carry out these tasks using only their own reserves, thereby depleting the resources that had already weathered the devastation of war. Subsequently, from the summer of 1945, the firms transitioned to engaging in reparations work, while also shifting towards civilian production. Similar to the wartime period, this further entrenched the companies' dependence on the state and heightened their vulnerability. The commencement of work was hindered by Soviet dismantling of machinery under various pretexts. The Gamma, in particular, suffered severe setbacks, with its production capacity reduced by 90%. Consequently, the Gamma did not receive substantial reparations work and was unable to undertake significant production until the latter half of 1946.

In the summer of 1945, the Danuvia was mandated to manufacture alarm clocks as part of the reparations effort. However, the company's requests regarding delivery dates were disregarded, including considerations such as raw material procurement, conversion times, and adequate financing. Consequently, alarm clock production faltered within less than a year, leading to the cancellation of the reparation order and a deterioration in Danuvia's financial standing. As part of the reparations, the Arms Factory was tasked with producing autoclaves, various lamps, petrol burners, metal lathes, and aluminum containers. However, unrealistic delivery deadlines, material shortages, and undervaluation of orders exacerbated serious financial difficulties. The Gamma endeavored to resume production by the end of 1946, primarily focusing on the sale of lighters. While the company secured a substantial order from Sweden, the foreign partner withdrew from the business shortly thereafter, significantly

harming the Gamma's financial position, especially considering the loan taken out to fulfill the order.

Under these circumstances, all three companies considered a somekind of state ownership as a solution to their problems. However, the outcome did not meet the expectations of any of the studied companies. In this dissertation, I present previously unknown details of this process. It was only in July 1947, after lengthy negotiations, that the Danuvia and the state representatives reached an agreement for the company to be taken into state-run through a lease agreement. In this context, the Heavy Industry Center criticized the contract for being more favorable to the shareholders than to the lessee. During 1947, the Arms Factory sought to obtain capital from the state through loans. However, the deteriorating management was unable to meet the state's restructuring conditions, and the necessary financial support was not provided. The Hungarian Communist Party, through the works committees, also contributed to the deterioration of the company's situation by deliberately seeking to bankrupt and dismantle the Arms Factory. Under these circumstances, the management attempted to offer two of the company's three factories to the state to ensure its survival. Following the collapse of the Swedish deal, the Gamma entered into lengthy negotiations with the state to transfer the company into state ownership. As a result of an agreement reached in July 1947, István Juhász was to transfer his shares to the state in exchange for continued employment and an annuity for his family. However, the Heavy Industry Center was critical of the deal, thus the transfer was not signed by the state.

The ownership disputes were ultimately resolved by the nationalizations of spring 1948, which annulled the previous agreements between the state and the companies. Furthermore, in the case of the Gamma, the state employed coercive measures, with the state police arresting István Juhász in the spring of 1948 on charges of

economic crimes. He was subsequently sentenced to prison on fabricated charges.

World War II disrupted the management of the companies. As a result, the works committees established after the siege of Budapest temporarily functioned as de facto management organizations until the reorganization of company management in early 1945. Subsequently, their role evolved, but they continued to exert considerable influence over the management of the companies. The upheaval of the war and its aftermath resulted in significant changes in the personnel of the reconstituted decision-making bodies. The departure of the Danuvia's principal shareholding managers from the country led to the secondary line of the management assuming control of the company. At the Arms Factory, similar circumstances resulted in the appointment of new management personnel. At the Gamma, owner István Juhász was compelled to resign as chief executive officer due to a negative decision by the certification committee. The management of the Arms Factory was increasingly weakened by the escalating interference of the Credit Bank, the state, and the works committees, ultimately disintegrating completely by the time of nationalization. The Danuvia also experienced a degree of management disintegration due to the influence of the works committees and internal conflicts. The owner of the Gamma, with the support of loyal staff, managed to retain effective control over key decisions and remained formally part of the management as a technical adviser. At the beginning of the transition to state-run company, the managements of the Danuvia and the Gamma were influenced by the Heavy Industry Center, leading to the formation of a hybrid management structure. However, this was swiftly altered in both companies by the appointment of new state managers following the nationalization in the spring of 1948.

4. Publications and presentations related to the dissertation and its broader topic

Publications:

„A Fémáru-, Fegyver- és Gépgyár tisztviselőinek pere”. In *„A múlt nélkül nincs jövő” – Doktorandusz konferenciák 2019–2020*, szerk. Bank Barbara, Berek Patrícia, Domján Dániel Ferenc, J. Újváry Zsuzsanna, 88–100. Budapest: Szent István Társulat, 2022.

The Economic Policy of the Hungarian Communist Party between 1945 and 1946. *„Pamięć i Sprawiedliwość”* 36/2. (2020): 52–68. (Megjelent 2021. február 10-én.)

„Magyar Kommunista Párt és az 1946-os gazdasági stabilizáció”. In *Történelmi kalandozások térben és időben*, szerk. J. Újváry Zsuzsanna, 159–168. Budapest: Szent István Társulat, 2020.

„A Magyar Kommunista Párt Állampolitikai Osztálya és az 1946-os stabilizáció”. In *XVII. Országos Grastyán Konferencia előadásai*, szerk. Tuboly-Vincze Gabriella, 14–22. Pécs: Pécsi Tudományegyetem Grastyán Endre Szakkolégium, 2020.

Selected conference presentations:

Vas Zoltán, a Gazdasági Főtanács főtitkára. Előadás a NEB Gazdasági Munkacsoportjának „A magyar gazdaságirányítás alakjai, 1945–1989 – Döntéshozók, szürke eminenciások, végrehajtók” című konferenciáján, Budapest, 2022. október 5.

„*Hurokra kerültek a magyar gyáripár árulói*” – *A Fémáru-, Fegyver- és Gépgyár tisztviselőinek pere*. Előadás az 1945–1956 közötti magyar Politikai Elítéltek Közösségének szakmai tanácskozásán. Budapest, 2022. szeptember 28.

A Gamma Finommechanikai és Optikai Művek Rt. állami kezelésbe vételének problematikája. Előadás a NEB Gazdasági Munkacsoportjának „»A következő láncszem«” – A hatalom kisajátítása, államosítás és szovjetizáció a magyar gazdaságban 1945–1949” című konferenciáján, Budapest, 2022. június 15.

„Pártkapcsolatban” Sztálin közgazdászával. Varga Jenő tanácsai Rákosi Mátyásnak 1945 és 1947 között. Előadás a NEB Külügyi Munkacsoportjának „Roppant problémák mutatkoztak ki a szemünk láttára...” – Politikai, gazdasági és társadalmi változások Magyarországon és a világban, 1945–1950 című online konferenciáján. Budapest, 2021. november 24.

Gamma – egy egyedülálló magyar vállalat története (1920–1948). Előadás a Vásárhelyi Történelmi Kör által szervezett XIV. Történettudományi Találkozón. Hódmezővásárhely, 2021. augusztus 2.

Az MKP lépései a gazdasági irányítás átstrukturálására. Előadás a NEBH online műhelykonferenciáján, Budapest, 2021. május 25.

The Nationalization of the Hungarian Industry. Angol nyelvű előadás a NEB által szervezett „Power Seized. East Central Europe Ruled by Communist Parties (1948–1956)” című konferenciáján. Budapest, 2019. október 3.

The Economic Policy of the Hungarian Communist Party between 1945 and 1946. Angol nyelvű előadás a lengyel Nemzeti Emlékezet Intézete (Instytut Pamięci Narodowej) által szervezett „Communist Parties on the Road to Full Power (after World War II)” című konferencián. Varsó, 2018. december 6.