

**WESTERN TECHNOLOGY IN A SOCIALIST FACTORY: THE
FORMATIVE PHASE OF
THE YUGOSLAV AUTOMOBILE INDUSTRY, 1955-1962**

by

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ABSTRACT

In my thesis, I am exploring the problem of the Yugoslav technological inability to autonomously develop its automobile industry, with emphasis on the period 1955-1962 when the first national passenger automobile manufacturer was established in the Crvena Zastava factory in Kragujevac, based on technology of the Italian automobile manufacturer Fiat. The political implications of this cooperation are important part of my thesis, most notably the context of the Cold War in which this kind of cooperation was important in maintaining the communication between the two blocs, and important testing ground for creation of further policies.

In my thesis I am also investigating the process of adaptation of foreign technology to the overall Yugoslav economic, political and social setting and its impact on changing of Yugoslav industrial practices and strategies of development. In my analysis, I am focusing on the everyday communication between the Crvena Zastava and its network of sub-contractors, as well as the role high-ranking party officials had in the process of the development of the Yugoslav automobile industry. Finally, the thesis also deals with the impact of the Western technology had in the process of creation of the Yugoslav socialist society.

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Author,

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LIST OF ABBREVIATIONS

ASEAN – Association of Southeast Asian Nations

CIA – Central Intelligence Agency

COMECON - Council for Mutual Economic Assistance, established in 1949

ECOSOC – United Nation’s Economic and Social Council

ELI – Export Led Industrialization

FDI – Foreign Direct Investments

FEC – Federal Executive Council (introduced in 1953, acting as the Yugoslav federal government)

FYP – Five Year Plan

GDR – German Democratic Republic

GIF – General Investment Fund

IBRD – International Bank of Reconstruction and Development

IMR – Industrija Motora Rakovica [The Rakovica Motor Industry]

ISI – Import Substitution Industrialization

LCY – League of Communists of Yugoslavia

TAM – Tovarna Avtomobilov Maribor [The Maribor Automobile Factory]

UNRRA – United Nations Relief and Rehabilitation Administration

YA – Yugoslav Army

Introduction

“Every new truck – a new answer to slanderers!” “We mastered the production of trucks, and this year we are going to master the production of tractors!”¹ “This is our domestic product!” “Made in Yugoslavia!”² These slogans of the Yugoslav motor industry displayed on a few trucks and carried by the workers during the 1949 May 1st Parade presented symbolically and quite optimistically how previously underdeveloped and highly agricultural Yugoslavia was, almost in “revolutionary jumps”, becoming quickly and successfully industrialized. However, this new industry had its grave problems. Behind this idealistic image there are numerous reports about the problems in the production process, such as the one of the entire set of cylinder heads being scrapped due to poor casting³, or of domestically produced parts being of such low quality that “the same engine works better with the old parts”⁴. Ambitious plans for independent development and the results did not quite add up, for in 1949 only three operational tractors and five trucks were actually built in Yugoslavia.

The solution was found in cooperation with Fiat in 1954. By the early 1960s, the Yugoslav automobile industry could indeed boast with its highly modern and sophisticated production facilities, almost entirely based on the technology of the Italian manufacturer Fiat. During the 1960s Yugoslavia became able to produce in continuously rising series tens of thousands of passenger and commercial vehicles each year, motorizing the country and at the same time being able to export its vehicles even on the West European market. And again,

¹ Arhiv Jugoslavije, collection 108, Generalna direkcija savezne industrije motora, box 32, archival unit 62 (in further reference AJ, 108 GDSIM, 32-62), Slogans of the General Directorate of the Federal Motor Industry on the May 1st parade, 1949.

² “Dolazak Maršala Tita na svečanu tribinu narod je oduševljeno pozdravio“, *Politika*, May 3, 1949, p. 2

³ AJ, 108 GDSIM, 1-5. Report of TAM (Tovarna Avtomobilov Maribor) factory to the Public Prosecutor Office, Belgrade, January 4, 1949.

⁴ AJ, 108 GDSIM, 34-67. Complaint of the Ministry of Local Traffic of the Republic of Bosnia and Herzegovina to the Main Directorate of the Federal Motor Industry, Sarajevo, February 25, 1949.

reality bit back. The Yugoslav delegate's official report of the 1961 Brno exhibition stressed the fact that Yugoslav cars were ridiculed by visitors for their poor paintjob and craftsmanship, which were of lower quality even than other Eastern European automobiles.⁵

What was the actual state of affairs concerning the ability of the Yugoslav automobile industry to produce passenger automobiles? What were the problems in the process of adopting Western technology into the socialist-type economy? How were automobiles actually produced? How much did the process differ from the official plans and declared goals and results? The highly polarized pairs of images exhibited here do not give complete answers about the failures and successes on the path of the development of automobile industry in Yugoslavia, yet they do offer an interesting glimpse into the complexity of the process and warn that any answer which does not provide an analysis of different aspects of the process is in effect self-defeating.

The production of automobiles in Yugoslavia, based on the license arrangement with the Italian manufacturer Fiat, started in 1954⁶ in the Crvena Zastava [The Red Flag] factory in the former armament facilities in Kragujevac, Serbia. Italy was one of the most important economic partners of Yugoslavia during the interwar period, and economic relations between the two countries were quickly reestablished after the Second World War. Following the Tito-Stalin split in 1948, after which Yugoslavia was left isolated by the Soviet economic boycott, cooperation with the West quickly became necessary for the stability of the country's economy and the Yugoslav political regime. Another important stimulus for strengthening Yugoslav-

⁵ AJ, collection 253, Udruženje proizvođača motora i motornih vozila [Association of Motor and Motor Vehicle Producers], box 25 (in further reference AJ, 253 UPMMV, 25). Report of Yugoslav delegate on Brno Fair, September 3, 1961, 1.

⁶ Assembly of the several models of Fiat started in 1954, but the assembly and the production of the first mass-produced model Zastava 600 started in 1955, the same year when the Italian original model Fiat 600 was introduced, hence in literature both dates can be found as starting years of automobile production in Yugoslavia.

Italian cooperation came after the peaceful solution of the Trieste crisis in 1954, followed by a new contract of economic cooperation in 1955.

With the introduction of the new type of socialist economy in Yugoslavia, based to a certain extent on market-economy principles, combined with the unique system of workers' self-management of the factories, Yugoslavia embarked on a path of fast economic development. The license agreement with Fiat was one of the most important contracts between the two countries and, according to Siegelbaum, this was the first commercial arrangement and an enterprise between a Western corporation and a socialist country in the postwar era.⁷ In the following years the Italian Fiat became the main foreign partner on whose experience and technical know-how the Yugoslav automobile industry was established as one of the country's biggest and most modern industrial complexes, with growing export capabilities and lucrative business contracts, acting at the same time as a specific "flywheel" of the development and modernization of the entire Yugoslav industry and economy in general.

However, the establishment of a modern automobile industry was not an easy task to accomplish in a country which even without the devastating effects of the war was one of the least motorized European countries, and which possessed very limited industrial capabilities and infrastructure for such development.⁸ Furthermore, as a predominantly agricultural country, the overall level of technical culture in Yugoslavia was very low and the country had even less

⁷ Lewis H. Siegelbaum, *Cars for Comrades: The Life of the Soviet Automobile* (Cornell University Press, 2008) 88.

⁸ Marko Miljković, "Automobilom na Jugoistok – automobili kao sredstvo nemačkog prodora u Kraljevinu Jugoslaviju" [Towards the Southeast in the Automobile – Automobiles as an Instrument of the German Penetration in the Kingdom of Yugoslavia], *Tokovi istorije*, 2 (2011), 62-80; Dalibor Denda, "Vojni faktor i izgradnja fabrike automobila u Kraljevini Jugoslaviji" [The Military Factor and the Development of the Car Factory in the Kingdom of Yugoslavia], *Tokovi istorije*, 3-4 (2008), 9-27. With only 0.7 automobiles per 1,000 population in 1936, the Kingdom of Yugoslavia was at the bottom of the list of European countries, with only Bulgaria and Albania having lower levels of motorization.

experienced experts and specialized workers for the autonomous development of the complex system for producing automobiles on an industrial scale.

The first attempt at establishing the automobile industry in Yugoslavia was in 1939 when several hundred trucks were assembled for military purposes on the license agreement with the Czechoslovak manufacturer Praga, followed by a similar arrangement with the American manufacturer Chevrolet whose trucks were assembled in the Kragujevac weapon and ammunition factory in 1940.⁹ Immediately after the Second World War, connections with the Czechoslovak manufacturer were reestablished in an attempt to continue with the production of trucks on the pre-war agreements.¹⁰ There was also a noticeable influence of Soviet experts in this period. Yet in 1948 this communication ended, and Yugoslavia was increasingly turning towards Western countries, especially Italy as a possible partner. This cooperation gradually expanded from the initial contacts to full-blown cooperation and flow of experts and technical know-how between the two countries in the period after 1955 and the production of the first passenger car in Yugoslavia. While the production practices of the Italian manufacturer were based on the American model of automobile production, carefully adapted to the Italian political and economic environment¹¹, transfer of this model to Yugoslavia necessitated further and more elaborate adaptation, emerging at the end of this process as a specific Yugoslav hybrid model, a combination of the socialist and capitalist technocratic thinking and production practices.

⁹ Denda, "Vojni faktor i izgradnja fabrike automobila u Kraljevini Jugoslaviji", 23-24; Nebojša Đokić, "Vojnotehnička saradnja Kraljevine Jugoslavije i SAD-a" [Military-Technical Cooperation Between Kingdom of Yugoslavia and the USA], *Tokovi istorije*, 1-2 (2009), 155-158.

¹⁰ Branka Prpa, Bratislav Petković (eds.), *Automobil u Beogradu 1918-1941* [Automobile in Belgrade 1918-1941] (Beograd: Istorijski arhiv Beograda, Karić Fondacija, Muzej automobila, 2002), 117.

¹¹ Francesca Fauri, "Surviving in the Global Market: 'Americanization' and the Relaunch of Italy's Car Industry after the Second World War" in *Contemporary European History* 21, no. 1 (February 2012), 41-59.

In my thesis, I will explore the problem of the Yugoslav technical and industrial incapability to autonomously develop its automobile industry, starting with the early beginnings in 1939, and with emphasis on the period 1955-1962 when the first national passenger automobile manufacturer was established in the Crvena Zastava factory in Kragujevac. In 1962 the Crvena Zastava factory opened a new and modern production facility, which substantially modernized and multiplied its production capacity, and thus 1962 can be considered as the last year of the formative period of the automobile industry in Yugoslavia. I will focus both on Yugoslavia's material deficiencies for executing this project and on the problem of shortage of the skilled workers, experts and technical know-how.

Focusing on the formative period in the Yugoslav automobile industry, in my thesis I will investigate to what extent this hybrid model of automobile production had an impact on the development of the country's automobile industry, which became able to produce a modern Western-type passenger car, yet overpriced and below Western quality standards. Furthermore, since the automobile industry through the network of sub-contractors influenced the level of development of the majority of industrial enterprises in the country, I will argue that the entire project of establishing a national automobile industry had a great influence in shaping of the overall process of Yugoslav industrial development.

Considering the implementation of the Yugoslav system of the workers' self-management of factories, I will investigate the efficiency of this system of organizing industrial production, which had to reconcile plans for the production introduced by political decision-makers (including military), workers' demands pushed forward through workers' councils, and the factory's own middle and high managerial structures. I will argue that the failure to efficiently coordinate different levels of planning and production meant that the emerging

model of production was constantly hampered by one, two or all of these agents simultaneously, and that even though Yugoslavia managed to produce and present to its population the first socialist people's car, thus proving the success of its "own path" to Communism, the final product in the formative phase of this process was more of a Potemkin village than a true success story.

The development of automobile industry and the emerging car culture in the Soviet Union and the socialist countries in the period after the Second World War is a relatively new topic in historical science, capturing the interest of professional historians only in the last decade. Yet with already several important monographs and different individual articles and collections of articles have been published, with Lewis H. Siegelbaum as a pioneer in this field of research.¹² Several authors have made important contributions as well, especially Valentina Fava on the implementation of Western technology and production practices in the socialist economy in Czechoslovakia, and Luminița Gatejel in her important comparative analysis of the emergence of the automobile culture in the USSR, Romania and GDR. Other authors have contributed considerably with smaller but equally important case studies.¹³

On the other hand, the development of the automobile industry in Yugoslavia, especially the process of the transfer and adaptation of foreign technology to the overall Yugoslav economic, political and social setting and its impact on changing Yugoslav industrial practices and strategies of development is a neglected topic, which seldom finds its way into

¹² Lewis H. Siegelbaum (ed.), *The Socialist Car. Automobility in the Eastern Bloc* (Cornell University Press, 2011); Lewis H. Siegelbaum, *Cars for Comrades: The Life of the Soviet Automobile*, (Cornell University Press, 2008).

¹³ Valentina Fava, *The Socialist People's Car: Automobiles, Shortages And Consent In The Czechoslovak Road To Mass Production*, Amsterdam University Press (2013); Luminița Gatejel, "The Road to Socialism Paved with Good Intentions. Automobile Culture in the Soviet Union, Romania and GDR During Détente" in *Cold War Cultures. Perspectives on Eastern and Western European Societies*, eds. Annette Vowinckel, Marcus M. Payk, Thomas Lindenberger (New York-Oxford : Berghahn Books, 2012), 152-172; György Péteri, "The Streetcars of Desire: Cars and Automobility in Communist Hungary (1958-1970), *Social History* 34, no. 1 (February 2009), 1-28.

the histories of the industrial, economic, or social development of Yugoslavia. The most important works are primarily focused on the history of automobilism and motorization in the context of the emerging consumer society in Yugoslavia during the 1970s and 1980s, with Igor Duda¹⁴ as the most prominent author. Other authors have focused on even narrower topics, such as Jason Vuic's monograph about the rise and fall of the Yugo, the Yugoslav 1980s export automobile model.¹⁵ The role of the Party and government in organizing the management of the main Yugoslav automobile manufacturer Crvena Zastava, and the effectiveness of these policies during the late 1970s and 1980s was thoroughly investigated in important articles by Michael Palairret, yet with no clear insight into the influences on the introduction of foreign technology and technocratic thinking, and with only a consideration of the top-down view of the automobile factory as a Party controlled enterprise.¹⁶ More serious scientific researches on the development of the automobile industry in Yugoslavia, the consequences it had on its economic and political life and on communication with the Eastern bloc countries are yet to be conducted.

The main sources in my research are the archives of the Crvena Zastava factory and the main Yugoslav government institutions involved in the process of the development of the automobile industry and industrialization in general. Using these two types of data comparatively allowed me to understand the differences between officially proclaimed goals and results, and the actual achievements and efficiency of the Crvena Zastava factory, both on the questions of the production process and on technical cooperation with Fiat. Reports from

¹⁴ Igor Duda, *Pronađeno blagostanje. Svakodnevni život i potrošačka kultura u Hrvatskoj 1970-ih i 1980-ih* [Well-Being Found. Everyday Life and Consumer Culture in Croatia during 1970s and 1980s] (Zagreb: Srednja Europa, 2010).

¹⁵ Jason Vuic, *The Yugo: the rise and fall of the worst car in history*, New York: Hill and Wang, 2009.

¹⁶ Michael Palairret, "Mismanaging innovation: the Yugo car enterprise (1962-1992)", *Technovation* 13(3) (1993): 117-132; Michael Palairret, "Ramiz Sadiku: A Case Study in the Industrialization of Kosovo", *Soviet Studies* 44, no. 5 (1992), 897-912.

the workers' council meetings provided me with important information on the role of the individual in the production process and problems in the adaptation of foreign industrial practices to the Yugoslav environment. Press-clippings and reviews of Yugoslav and foreign press in the Open Society Archive on the period 1955-1962 are relatively scarce, but proved to be useful as additional sources for understanding the Yugoslav government's officially proclaimed achievements.

Another very valuable group of sources are the factory newspapers and magazines published intermittently, such as *Crvena Zastava*, (1948; 1958-1996) and *Autoindustrija* [Auto-industry], (1970-1974)¹⁷, but which contain another point of view of the achievements and problems in the automobile production in the Crvena Zastava factory. These sources allowed me to scrutinize and comprehend the process of production from yet another angle. Published memoirs of the factory workers were an invaluable source of the information on the factory life and the problems in the production on the shop-floor level.¹⁸

The importance of the Yugoslav case goes far beyond just another addition to the existing corpus of scientific scholarship on the history of the automobile industry and industrialization in socialism. As a country constantly trying to position itself between two confrontational super-powers during the Cold War period, and with a specific model of economic development, exemplified in the concept of the workers' self-management of the factories, Yugoslavia's experience in the development of the automobile industry presents a very important case-study, opening a variety of new possibilities for an in-depth comparative

¹⁷ Even though it was published much later than the period in focus of this research project, it contains important information on the problems of building the Yugoslav automobile industry in the 1950s and 1960s.

¹⁸ Miomir M. Zečević, *O posleratnoj obnovi vojne industrije i izgradnji automobilske proizvodnje : moja sećanja iz Zavoda "Crvena zastava"* [After-war Rebuilding of Military Industry and the Establishing of the Automobile Production: Memories from the "Red Flag" Institute], Zemun-Kragujevac (2006); *Glasovi sa razmeđa: poezija radnika Zavoda "Crvena Zastava"* [Voices from the Crossroad: Poetry of the "Red Flag" Institute Workers], Kragujevac, 1983.

analysis of the process of industrialization in socialist countries in general. Investigating the process of communication between Yugoslavia and Italy in the development of the Yugoslav automobile industry, I will demonstrate the mechanisms of establishing contacts and dialogue between socialist and Western countries during the Cold War period. Even though the Yugoslav case was an exception, it nevertheless could prove to be important for understanding the necessity and complexity of this kind of communication. Another vitally important result of this analysis will be comprehension of the Italian company's role in the development of the automobile industry and production practices in Yugoslavia, being dominant partner in the process of transfer of knowledge.

I will organize my analysis in three chapters. In the first chapter I will conduct the analysis of Yugoslavia's industrial heritage based upon the existing secondary literature and on my previous research. Revealing to what extent Soviet industrial practices were accepted and applied in Yugoslavia in a period of a few years between the end of the Second World War and the Tito-Stalin split of 1948 will be an important opening analysis in my second chapter which will clarify what was the state and the achieved level of industrial development in Yugoslavia before the transfer of Western (Italian in this case) technology started. In this chapter I will also investigate intentions behind the Yugoslav government's policy of producing the socialist people's car, based on Italian technology, and especially in the Cold War context. The role managerial structures and party officials had in the process of the development of the Yugoslav automobile industry is another important aspect which will be addressed in this part. In the closing part of this chapter I will analyze the process of adaptation of Italian model of production to the Yugoslav political, economic and social environment, focusing on relations of the Crvena Zastava factory with its sub-contractors and the impact it had on the quality of the

final product. My final chapter will be based on the primary sources of Yugoslavia's first automobile factory Crvena Zastava. Focusing on the period of 1955-1962 as the formative phase of the development of this factory, I will analyze the process of implementation and adaptation of Western technology and production practices on the shop-floor level.

I Contextualizing the Development of the Automobile Industry in Yugoslavia

The introduction and incorporation of the Italian “capitalist” technology and technocratic thinking into the socialist economic system in the process of the development of the Yugoslav automobile industry by definition and common logic necessitated a twofold adaptation: (1) both foreign technology and production practices had to be adapted to the Yugoslav political and economic environment, and (2) the existing local production facilities and practices, level of workers’ technical knowledge and organizational structure had to be adapted in order to accommodate and efficiently employ the new and modern technology. All this would be impossible without adequate official state policies which would allow for, or indeed envision the compatible model of industrial development. Even more so, the role of the state and its institutional framework is especially important in the case of a socialist economic system with centrally planned economy.

Accepting that “in every instance of industrialization, imitation of the evolution in advanced countries appears in a combination with different indigenously determined elements” and that “[t]here are no four lane-highways to the parks of industrial progress”¹⁹, one of the basic conclusions which can be drawn from the previously expressed premises is that the model of industrial development in any country is distinct, due to the specific historical background, industrial heritage, international political and economic climate and policies of the industrial development. Therefore, the development of the automobile industry in Yugoslavia was unique and an inherently complex process and its analysis unavoidably calls for multi-layered and multi-dimensional approach.

¹⁹ Alexander Gerschenkron, *Economic Backwardness in Historical Perspective* (Cambridge, Massachusetts: The Belknap Press of Cambridge University Press, 1962), 26, 29.

1.1 Specific and General: Yugoslav Industrialization in the Context of the Third World Countries' Post-War Development

According to Kornai's classical model of the socialist system, "[b]y and large, the advocates of socialist revolution came to power in countries that had been poor and backward", and in that sense, their strong push for fast modernization can be understood in the context of impatience of the "late arriver", which is characteristic for any developing country aware of its continuous falling behind the developed countries.²⁰ Therefore, leaving aside for the moment the model of the classical socialist system, the process of the industrial development of Yugoslavia should be first put into the broader context of the development of the Third World countries.

Building on the Gerschenkron's concept of the latecomer countries' breaking out of the "relative backwardness" through the ever increasing role of the state²¹, Amsden remarks that those Third World countries' that did manage to become competitive in the world market after the Second World War, achieved that largely through the implementation of the state control mechanisms and policies which allowed them to "make manufacturing industry profitable and to circumvent any difficulty posed to industrialization by prevailing prices, whether such prices were politically, technocratically or *market* determined"²². In that sense, while accepting that the role of the state as important during the process of industrialization, it is limited to the role of institutional control.

²⁰ János Kornai, *The Socialist System. The Political Economy of Communism* (Oxford: Clarendon Press 1992), 160.

²¹ Gerschenkron, *Economic Backwardness in Historical Perspective*, 5-30.

²² Alice H. Amsden, *The Rise of "The Rest": Challenges to the West from the Late-Industrializing Economies* (Oxford, New York: Oxford University Press, 2001), 9. [author's emphasis].

While her analysis is based on the experiences of the Asian and Latin American countries²³, whose development was based on principles of the market rather than planned economy, for this thesis this framework could nevertheless prove useful in avoiding the trap of portraying the exceptionality of Yugoslav industrialization, especially when examples of common experience do exist. Conversely, by liberating the narrative of Yugoslav industrialization from the confinements of the socialist planned economy system, an approach which is also relevant for the Yugoslav case due to the country's distinguishing historical development the actual specifics of the Yugoslav path of the industrial development could be effectively emphasized.

On the other hand, it cannot be denied that, even beside several original attempts to reform its economy on market-oriented principles, Yugoslavia nevertheless retained until its dissolution in the 1990s the core characteristics of the socialist economic system, notably the centrally planned mechanism of allocation of capital investments run by highly bureaucratized Communist Party.²⁴

1.2 Technology Transfer

“The process of technology transfer is as old as civilization itself and yet it defies an easy comprehension in all its complex forms”.²⁵ This short sentence emphasizes one of the key characteristics of the process of technology transfer, namely its complexity and the fact that each transfer is unique. This, however, does not mean that some sort of a theoretical framework cannot be established.

²³ China, India, Indonesia, South Korea, Argentina, Brazil, Mexico, with addition of Turkey.

²⁴ Kornai, *The Socialist System*, *passim*.

²⁵ Giorgio Sirilli, “International Technology Transfer: An Overview with Special Reference to Italian Firms” in *Technology and Enterprise in a Historical Perspective*, eds. Giovanni Dosi, Renato Giannetti and Pier Angelo Toninelli (Oxford: Clarendon Press, 1992), 352.

According to Amsden, in the period after the Second World War, economically backward countries that managed to develop technologically highly sophisticated industries, achieved such a feat only through a process of “pure learning” which meant “a total initial dependence on other countries’ commercialized technology to establish modern industry”.²⁶ In other words, this “pure learning” refers to the process of the transfer of technology, which can also be defined as a “planned transmission of technology coordinated by a firm or a state with a specific set of goals for the project”.²⁷ Other authors have also stressed the fact that the “technological change is perhaps the most important source of structural change in an economy”, causing changes in income levels, job possibilities and potential for further industrial growth through interaction with other industrial sectors.²⁸ Another important general characteristic of the technology transfer is emphasized by Sirilli who indicated that “technology transfer is typically a continuous process between the transferer and a transferee which goes well beyond the production start-up”, whether through supply of spare parts, technical assistance or paying royalties.²⁹ Prior to the analysis of the concept of the transfer of knowledge and its applicability to the automobile industry in socialist Yugoslavia, it is essential to distinguish between the terms “technology”, “knowledge” and “information”, as a starting point in understanding the complexity of the process of the technology transfer.

While information is factual and intelligible and comprises of great number of facts, knowledge is more conceptual and thus inconceivable since “it involves combination of facts that interact in intangible ways”.³⁰ Therefore, knowledge is broader and more tacit category

²⁶ Amsden, *The Rise of “The Rest”*, 2.

²⁷ Jonathan D. Hagood, “Why Does Technology Transfer Fail? Two Technology Transfer Projects from Peronist Argentina”, *Comparative Technology Transfer and Society* 4, no. 1 (April 2006): 74.

²⁸ Edward J. Malecki, *Technology and Economic Development: The Dynamics of Local, Regional and National Change* (Essex, England: Willey, 1991), 26, 28.

²⁹ Sirilli, “International Technology Transfer: An Overview with Special Reference to Italian Firms”, 400.

³⁰ Amsden, *The Rise of “The Rest”*, 3.

which in the case of an industrial production can also be explained as an experience gained by the factory's or industry's labor force (both on the shop-floor and managerial level) through the continuing repetition of the production cycles. A further distinction can be made between the scientific knowledge, as more encompassing and more applicable to different industrial sectors, and technical knowledge which applies to a specific product or production practice.³¹ Starting with this distinction, the term "technology" should be understood as a much wider category which incorporates both "information" and "knowledge". According to Malecki, the term technology "encompasses knowledge in all its forms", ranging from the simplest operations to the enterprise management, and from the use of the machines tooled for mass production to the "complex scientific investigations that create ever newer inventions and products"³², and it will be used in this meaning for the purpose of this thesis.

In the process of economic development based on the transfer of foreign technology, one of the key problems is that, even when the companies are willing to reveal all the necessary "information" concerning its modern technology, usually they are reluctant to share their tacit "knowledge" of the production process since it is one of the company's key assets. This reluctance makes any knowledge transfer necessarily imperfect, which is one of the reasons why companies are usually more inclined to transfer their technology to their subsidiaries rather than to sell it to other independent companies as potential competitors.³³ Furthermore, the breadth and depth of this knowledge gap is highly dependent on the previous production experience in the country, which is important concerning both shop-floor level and high managerial structures. In that sense, this "manufacturing experience" is not a simple stock of

³¹ Malecki, *Technology and Economic Development*, 150.

³² *Ibid.*, 7, 145. Malicki defines technology as a stock of knowledge on what is being made, how it is made, potential for the development of new or improvement of the existing products, and knowing the market potential.

³³ Amsden, *The Rise of "The Rest"*, 5; Sirilli, "International Technology Transfer: An Overview with Special Reference to Italian Firms", 354-355.

knowledge, but one “that passes through specific historical and institutional filter”³⁴, and thus presents important backdrop that shapes any kind of technology transfer – the bigger the gap, the less successful the transfer. There is also a question of the investment level and timing. While the foreign direct investment (FDI) is the best option for a successful technology transfer, overinvestment or bad timing can lead to the “crowding out” of other local companies or industrial sectors.³⁵ Finally, even if all of the mentioned problems are circumvented, this is never sufficient for a completely successful transfer, and the follow-up investments and effort by the technology buyer is necessary in the process of adopting and adapting foreign technology and absorbing the foreign knowledge. In other words, the process of learning includes not only how to successfully implement the technology, but also which machines to obtain for further development.³⁶

In practice, the process of learning is highly dependent on the level of previous manufacturing experience and overall education level, and sometimes it is much faster and cheaper to hire a foreign engineer than to educate one.³⁷ The process of learning itself is multi-leveled, starting with “learning by operating” (using the machinery and tools), “learning by changing” (improving the existing equipment and techniques of using them), “system performance feedback” (understanding why certain things work and others do not), “learning through training” (not only *how* but also *why* the given technology works), “learning by hiring” (foreign technicians) and “learning by searching” (independent research and development).³⁸ While these learning techniques and strategies present a range of the possible strategies for absorbing the foreign technology, in any given case different combination of these techniques

³⁴ Amsden, *The Rise of “The Rest”*, 15-16.

³⁵ *Ibid.*, 51.

³⁶ *Ibid.*, 56-57.

³⁷ *Ibid.*, 56-59.

³⁸ Malecki, *Technology and Economic Development*, 146-148.

can be employed and in various timing sequences, making this learning process unique for any given factory or industrial sector.

Finally, all that has been so far said about the entire process of technology transfer can be summed up in couple of sentences.³⁹ The process itself is molded by the national history perspective and overall international political and economic context of both the transferer and the transferee. The most important aspect of this backdrop of the technology transfer is the existing level of technological development between these actors since in instances of a great technological gap, the entire process may become impossible to successfully implement. Technology transfer starts with the “recognition” of the need for the transfer, followed by “consensus”, both internal and between the transferer and the transferee about the benefits of mutual cooperation. The next step is the choice of the “model of transfer” which is followed by the introduction of the main “agents of transfer”, usually one person or a small group of people (engineers, technicians and skilled workers) capable of bridging the technological gap and who are involved in the process of “diffusion” of the acquired technology from the advanced to the less developed partner. The last step of the process of technology transfer is “implementation” of the acquired technology. The entire process is usually long-lasting and without exceptions unique since the acquired technology goes through the process of “adaptation” to the recipient’s needs and the original level of technical development.

³⁹ The following paragraph was based on the theoretical examination on the technology transfer in literature used for the purposes of writing this sub-chapter, as well as following articles – Nathan Rosenberg, “Economic Development and the Transfer of Technology: Some Historical Perspectives”, *Technology and Culture* 11, no. 4 (October 1970), 550-575; Henk de Velde, “Political Transfer: An Introduction”, *European Review of History – Revue européenne d’Histoire* 12, no. 2 (July 2005): 205-221; Janny de Jong, “‘The Principles of Steam’: Political Transfer and Transformation in Japan, 1868-89”, *European Review of History – Revue européenne d’Histoire* 12, no. 2 (July 2005): 269-290. Even though these articles are focused on the political (or cultural) and not technological transfer, their authors offer some important general insights on the theory of transfer which can be successively applied for the purposes of this thesis. Terms under quotation marks refer to the theoretical terminology, explained in this paragraph which will be used in the rest of this thesis.

As a result, whatever the officially proclaimed policies might have been, on the practical level and with so many different components and variables shaping this process, any kind of linear technologic development or “leapfrogging”, while theoretically possible, in reality was extremely difficult to achieve. Closely related to this, it seems more likely that the course of development might follow the pre-established paths and practices based on the achieved level of manufacturing experience, ranging anywhere between complete inability to adopt the new knowledge, thus rendering the process of technology transfer as a failure, or its embrace as an almost natural superstructure.

Finally, the course of industrial development in any given country eventually depends on the behavior of the people who are involved as the first-hand actors of technological change, building of the new industrial complexes or establishing new manufacturing practices, whether as manual, slow-skilled labor or highly educated technicians and managers. The intricate network of different economic, political, regional, local and socio-cultural interests and practices of all of these groups have profound impacts on the official policies and the feasibility of even the most elaborate plans and projects of economic development. Thus, the social component of the process of the industrial development “is not merely a complement to the political narrative, but transformation of it” which “does not simply show us what else was going on backstage but recasts and rewrites the entire play”.⁴⁰

In cases of the socialist countries, with their emphasis on importance of the working class as a revolutionary agent, the most logical starting point in the analysis of the process of the industrial development is to understand the role of the industrial working class in this process. According to Kenney’s study of the creation of the working class in Poland in the late

⁴⁰ Padraic Kenney, *Rebuilding Poland: Workers and Communists, 1945-1950* (Ithaca and London: Cornell University Press, 1997), 3.

1940s, working class can be defined as a community “founded on shared work experience, cultural rituals and urban structures”, or in other words, working class can be understood as an identity.⁴¹ At the same time, the way workers understood their identity and how the Party perceived it was essentially very different. While the officially proclaimed worker’s identity was both highly homogenized and idealized and based on the *idealtypus* of the skilled and class-conscious worker, in reality this “imaginary working class” was highly diversified both regionally and within a single factory. It would be more suitable to speak about a “complex spectrum of worker identities” rather than one single identity.⁴² Socio-cultural divide among workers ranged between the discourses of generation, gender, rural-urban divide, educational and political divide, all of which were the obstacles the Party and the government had to negotiate on everyday basis in communication with the workers.⁴³

1.3 The Automobile Industry as a Leading Sector of Industrialization

According to Rostow’s classic theory, important condition for sustainable industrialization is existence of the “leading sector”⁴⁴. It is defined as a sector that is able to produce commodity which is in high demand; that has been introduced with new production functions combined with expansion of productive capacities; that is supported in the initial phase of development by adequate capital investments (no matter its source) with constant reinvestment in further development. Most importantly, the leading sector is able to produce “a chain of requirements for increased capacity [...] to which the society [...] progressively

⁴¹ Kenney, *Rebuilding Poland*, 6-7.

⁴² Mark Pittaway, *The Workers’ State: Industrial Labor and the Making of Socialist Hungary, 1944-1958* (Pittsburg: University of Pittsburg Press, 2012), 14-15.

⁴³ Pittaway, *The Workers’ State*, 13-16; Kenney, *Rebuilding Poland*, 6-12.

⁴⁴ Walt Whitman Rostow, *The Stages of Economic Growth. A Non-Communist Manifesto*, 3rd ed. (Cambridge: Cambridge University Press, 1991), 52-57.

responds”⁴⁵. However, in the cases of the industrialization of the Third World countries in the period after the Second World War, “a shotgun rather than rifle approach prevailed to kick-start industrialization” since “industries with *dynamic* comparative advantage could not be identified as such *ex ante*”, even though after this “identification”, these countries also pursued policy of creating “national leaders”.⁴⁶

While historically in different countries various industries played the role of the leading sector, it is necessary to underline the fact that the automobile industry is one of few industrial sectors with great potential for linking with other industrial branches, such as steel, glass, chemical, machine and electronic industry, thus causing the spin-off effect.⁴⁷ Because of this capability, throughout the 20th century the automobile industry was, according to Freyssenet, considered as the most important manufacturing industry, “the major engine of growth until the middle 1970s”, and even today is seen as important contributor of industrial development.⁴⁸ Amsden as well identifies the automobile industry as one of the “hot industries” in the process of postwar industrialization of the Third World countries, with differences appearing in single countries only in subbranches of these sectors.⁴⁹ Therefore, choosing to develop the automobile industry with its great potential of becoming the “leading sector” or “hot industry” can be regarded as a credible and logical strategy in the process of industrial development. In addition, the Third World countries tended to create “national firm leaders”, usually through a “government promotion” and on principles either of grouping facilities with previous

⁴⁵ Rostow, *The Stages of Economic Growth*, 57.

⁴⁶ Amsden, *The Rise of “The Rest”*, 136, 140.. The term *dynamic* comparative advantage, is used by Amsden to distinguish the manufacturing industries based on modern technology, from those export commodities which previously existed (*static* comparative advantage) which are in her theory is closer to the Ricardian concept [author’s emphasis].

⁴⁷ Douglas C. Bennet, Kenneth E. Sharpe, *Transnational Corporations Versus the State: The Political Economy of the Mexican Auto Industry* (Princeton, New Jersey: Princeton University Press, 1985), 14.

⁴⁸ Peter Dicken, *Global Shift: Mapping the Changing Contours of the World Economy*, 5th ed. (New York, London: The Guilford Press, 2007), 278.

⁴⁹ Amsden, *The Rise of “The Rest”*, 138.

experience of governmental control, or on creating a “state spin-off” enterprise, based on cooperation with a foreign technologically advanced partner.⁵⁰ Bearing this in mind it would be necessary to understand which grand strategies of industrialization were available to Yugoslav officials in forming of their official policies.

There are basically two strategies of industrialization, namely export-led industrialization (ELI) and import substitution industrialization (ISI), with great deal of country-specific variations in policies of applying these strategies. In the case of ELI, the production is in general set to meet the expectations of the foreign (or world) market, while in case of ISI, countries tended to develop production of commodities for the local market in order to substitute for imported goods, and thus balance the country’s trade.⁵¹ While export of manufactured goods is the prime goal of any economy (not only developing), the postwar experience of the Third World countries shows that “[i]mport substitution industrialization preceded exporting in almost all industries, whatever the average bias at the aggregate level between exporting or selling at home”.⁵² Furthermore, it is important to stress the fact that the focus on import substitution concept does not exclude export of the manufactured goods to the world market, but the problem is that trading is usually hampered by tariff or non-tariff trading barriers, raised in order to protect the infant industry. The important thing is that “as new industries emerged, new trading regimes emerged to support them” therefore making ISI rather ambiguous strategy within which policy makers had to continuously reconcile the desire to

⁵⁰ Amsden, *The Rise of “The Rest”*, 193. In addition to this model, “national leader” firm could be based also on a combination of state, private and foreign capital; defense industry facility; private enterprise “crowded in” by state owned enterprise; small firm created by state institute.

⁵¹ This conclusion is oversimplified for the purpose of this text, but still does not means that it is inaccurate. For a more detailed analysis of sub-variants of strategies please refer to Dieter Senghaas, *The European Experience: A Historical Critique of Developmental Theory*, trans. K. H. Kimmig (Leamington Spa/Dover, New Hampshire: Berg Publishers, 1985), 13-55; Hubert Schmitz “Industrialization Strategies in Less Developed Countries: Some Lessons of Historical Experience” *Journal of Development Studies* 21, no. 1 (October 1984): 1-21.

⁵² Amsden, *The Rise of “The Rest”*, 171.

protect local producers from foreign competitors with the necessary support of the country's export.⁵³

Concerning the strategies employed in the development of the automobile industry, the historical evidence from the Association of Southeast Asian Nations (ASEAN) countries shows that all of them “initially crafted an import substitution auto industrial strategy”, combined with adequate policies aimed in protecting local market and production.⁵⁴ This path of automobile industry building was also followed by Mexico which in the course of years between 1960 and 1980 evolved from small operation of imported automobile kit-assemblers to one of the major exporters in the world automobile market.⁵⁵ On the other hand, in socialist countries, except for Czechoslovakia and the German Democratic Republic (GDR) as countries which had highly developed automobile industries already in the pre-socialist (interwar) period, the automobile industry only in the late 1960s and 1970s became important manufacturing sector, and even then eventually was based on the basic principles of ISI. Both of these frameworks can be applied as analytical tools for examining the development of automobile industry in Yugoslavia.

1.4 Models of Automobile Production

Important for understanding the policy-choices made by the Yugoslav government is the question of available models on which the development of the automobile industry could be based, since it can be argued that “borrowed technology” is “one of the primary factors assuring a high speed of development in a backward country entering the stage of

⁵³ Amsden, *The Rise of “The Rest”*, 173-174.

⁵⁴ Kuniko Fujita, Richard Child Hill, “Auto Industrialization in Southeast Asia: National Strategies and Local Development”, *ASEAN Economic Bulletin* 13, no. 3 (March 1997): 313.

⁵⁵ Bennet and Sharpe, *Transnational Corporations Versus the State*, 3.

industrialization”⁵⁶. Amsden agrees by emphasizing that “[a] technology transfer was always a necessary condition for late industrialization” even though it was “never sufficient one”.⁵⁷ But the first question to be answered is how many different models of automobile production actually existed in 1950s.

By far the most successful model of automobile production at that time was the American. The basic premises of the American model of mass production of cheap and reliable automobiles were the continuously moving assembly line, interchangeability of parts, use of high-quality and high-end machine tools manned by cheap unskilled labor and decentralized divisions producing components with the support of the research and marketing departments.⁵⁸ In general literature, this model is usually referred to as “Fordism”, since it was envisioned and implemented by Henry Ford in his automobile factory. Organized on this model, the American automobile industry experienced its heyday in 1955 with almost 7 million automobiles produced, which constituted nearly 75% of the world automobile production. In combination with the devastating effects of the Second World War on the European automobile industry, the American model was practically the only working model for establishing the successful and competitive automobile industry, and it actually was extensively copied across Western Europe during the 1950s.⁵⁹

The American model was also copied by the Soviet Union already during the 1930s when entire factories were made in cooperation with American experts, and similarly the first models of Soviet passenger cars after the Second World War were basically American models

⁵⁶ Gerschenkron, *Economic Backwardness in Historical Perspective*, 9.

⁵⁷ Amsden, *The Rise of “The Rest”*, 52.

⁵⁸ James P. Womack, Daniel T. Jones, Daniel Ross, *The Machine That Chaged the World: How Japan's Secret Weapon in the Global Auto Wars Will Revolutionize Western Industry* (New York, NY: Harper Perennial, 1991), 27-40.

⁵⁹ Womack, Jones and Ross, *The Machine That Changed the World*, 43-47; David W. Jones, *Mass Motorization and Mass Transit : an American history and policy analysis* (Bloomington: Indiana University Press, 2008), 27; 48

of automobiles, reverse engineered by Soviet experts.⁶⁰ The Soviet automobile industry after the war was equipped by German machinery procured as war reparations, and at the same time with the American tools and machines acquired through the wartime deliveries.⁶¹ However, “Fordism” in the Soviet Union by the 1950s became “a caricature of the original version”, with factories focusing only on the maximum output, neglecting other more important components of mass production.⁶²

In the early stages of the Cold War, Czechoslovakia as a country with one of the most developed automobile industries in Europe and prior to the consolidation of the Communist Party in the country, made elaborate plans of restructuring its automobile industry based on the American model and with great assistance of the American engineers.⁶³ Even though these plans were soon shelved, it is a remarkable example of the dominance and popularity of the American model of automobile production even within the ranks of the Eastern bloc countries.

⁶⁰ Siegelbaum, *Cars for Comrades*, 17, 40; Valentina Fava, “Between American Fordism and 'Soviet Fordism': Czechoslovak Way Towards the Mass Production” in *The Sovietization of Eastern Europe: New Perspectives on the Postwar Period*, eds. Balász Apór, Péter Apór, E. A. Rees (Washington: New Academia Publishing 2008), 48.

⁶¹ James M. Laux, *The European Automobile Industry* (New York: Twayne Publishers, 1992), 173.

⁶² Fava, “Between American Fordism and 'Soviet Fordism': Czechoslovak Way Towards the Mass Production”, 48-50.

⁶³ Valentina Fava, “COMECON Integration and the Automobile Industry: The Czechoslovak Case”. *EUI Working Papers* (MWP No. 2008/18), 9; Valentina Fava, “Between American Fordism and 'Soviet Fordism': Czechoslovak Way Towards the Mass Production”, 52-53.

II The Yugoslav Industrial Heritage, 1918-1941

The Kingdom of Yugoslavia in 1918 presented a patchwork of highly diverse states, regions and nations inhabiting these territories. This meant that the celebrated unification of South Slavs in reality was nothing more than the beginning of the long process of creating a unified country, or at least one clearly defined political entity. All of these problems and obstacles were visible in every aspect of the country's existence. In pure political-economic terms it is enough to acknowledge that the Yugoslav government had to harmonize "six different customs areas, five currencies, four railway networks, three types of banking systems, two governments", while it could rely on only "one relative advantage in foreign trade (livestock)".⁶⁴ Unsurprisingly, most of these different systems were more often than not in direct conflict with each other, which on the bottom line at least slowed down the country's economic development. At the same time, the process of overcoming these "initial difficulties" was painfully slow, and thus created "structural and regional inequalities" among (former) Yugoslav countries, which are visible even today.⁶⁵ The Industrialization of the country in this kind of environment was a tedious task.

2.1 Industrialization of Yugoslavia during the Interwar Period

According to Berend, in the period after the First World War, the European "peripheral countries" abandoned the pre-war concept of ELI since the competition on the open market with industrially developed countries proved to be an unsuccessful strategy of economic

⁶⁴ John R. Lampe, "Unifying the Yugoslav Economy, 1918-1921: Misery and Early Misunderstandings" in D. Đorđević, *The Creation of Yugoslavia, 1914-1918* (Santa Barbara 1980), 139. Quoted in Mari-Žanin Čalić, *Socijalna istorija Srbije 1815-1941: Usporeni napredak u industrijalizaciji* [*Social History of Serbia 1815-1941. Slow-Paced Progress of Industrialization*] (Belgrade: Clio), 2004, 206.

⁶⁵ Čalić, *Socijalna istorija Srbije 1815-1941*, 207.

development. Instead they applied the concept of ISI, aiming at self-sufficiency, thus equalizing economic with newly gained political independence.⁶⁶ As a result, high protective tariffs and quotas on imported goods, state interventionism and state ownership of industry “became popular”.⁶⁷

The policy of economic development in the newly created Kingdom of Yugoslavia was also “one of highly-protected industrialization” with protective barriers raised on imported goods in order to stimulate its own industrial development and protect it from foreign competition.⁶⁸ However, due to great interregional differences in the structure of the existing industrial capacities and their initial level of development, these protective measures were changing on a yearly basis, rendering the whole system relatively inefficient. For example, some of the existing and relatively competitive industrial branches were protected from foreign competition, while at the same time importing new machines, which could have increased existing industrial capacities, became too expensive, thus hampering industrial development in general.⁶⁹ Customs and other types of protectionist measures in Yugoslavia “particularly favored textiles, leather, hides, metal and other general consumer foods industries” as these were the most developed industrial branches in the country and most competitive in the market.⁷⁰ Yugoslav industrial products were as a consequence highly priced, but usually not of

⁶⁶ Ivan T. Berend, *Ekonomska istorija Evrope u XX veku. Ekonomski modeli od laissez-faire do globalizacije* [An Economic History of Twentieth-Century Europe. Economic Regimes from Laissez-Faire to Globalization] (Belgrade: Arhipelag 2009), 70-71. Even though Berend avoids defining the term “peripheral states” from the context of his text it is evident that he is talking about countries of Central and Eastern Europe.

⁶⁷ Berend, *Ekonomska istorija Evrope u XX veku*, 70, 74.

⁶⁸ Rudolf Bićanić, *Economic Policy in Socialist Yugoslavia* (Cambridge: Cambridge University Press, 1973), 8; Čalić, 274.

⁶⁹ Čalić, 275-277.

⁷⁰ Bićanić, , 8-9.

equally high quality, while at the same time existing producers were not motivated to introduce more rational or efficient production techniques or technologies.⁷¹

Structural problems were also some of the reasons why the introduction of modern technologies was unsuccessful, if not altogether impossible, and structural problems particularly affected the development of heavy industry. Due to an inadequate road and railroad network, as well as an inefficient electric network, it was often impossible to introduce the technologically most modern machinery, and even in places where it was possible, the factories were poorly connected to domestic or foreign markets.⁷² Combined with the lack of know-how and adequate workforce (more in chapter 2.2) and a consistent lack of capital for investments, these conditions created a paradoxical situation. For example, Yugoslavia was exporting iron ore in its crudest form and importing steel and pig iron since this was cheaper than to produce it in the country.⁷³ While this imposed a heavy burden on the Yugoslav balance of payments, it also was one of the reasons why in the interwar period Yugoslavia imported cheap and outdated technologies and machinery, sometimes even more suited for a museum than for an industrial facility.⁷⁴ This statement may be too harsh, but the case of Kingdom of Yugoslavia nonetheless contradicts Gerschenkron's optimistic assumption that latecomers in industrialization could benefit from the introduction of the most advanced technologies.⁷⁵

Despite the previous statements, some tangible results in the industrialization of the country were achieved, especially in the first couple of years after the war when the inflationary pressure forced the capital out of the savings accounts into "intensive investments" in industrial capacities. It is estimated that 31% of new factories and 40% of working places created during

⁷¹ Čalić, , 277.

⁷² Ibid., 255-257.

⁷³ Ibid.

⁷⁴ Ibid., 257-258.

⁷⁵ Gerschenkron, 8-10; Čalić, 258.

the entire interwar period were opened in the first five years after the creation of Yugoslavia, with the year 1922 holding the record for the whole period with 170 new factories.⁷⁶

However, these numbers do not tell the whole story. The situation behind all of the “successes” and problems of industrialization in the Kingdom of Yugoslavia was that the productivity of these factories was only three times higher than in craft workshops.⁷⁷ Furthermore, the Handicraft Law in 1931 proscribed that workshops of at least 15 workers with motorized machinery, or 25 without, were to be recognized as industrial facilities.⁷⁸ This shows that much of the existing industrial facilities were in fact nothing more than enlarged workshops, and the fact that even those installations without any kind of motorized machinery were designated as industrial prove this conclusion. Most of these factories were equipped with outdated machinery manned by equally inadequate workforce, and with underdeveloped infrastructure, which did not allow them to connect with markets in the country and abroad.

On the other hand, a few modern industrial facilities did exist. A good example is the Bata shoe factory. The “Bata” factory was established in 1931 in Borovo [Croatia] with Czechoslovak capital and was one of the first factories to start mass production of cheap consumer goods in Yugoslavia, predominantly based on modern machinery manned by low-paid and uneducated workforce, all of which were well known components of the system of “scientific management” (“Taylorism”) as defined by Frederick Taylor. Advanced technology and the modern organization of production allowed “Bata” to quickly become the leading shoe manufacturer in Yugoslavia with complete monopoly of the market – by 1940 it had more than

⁷⁶ Čalić, 208-209; Bićanić, 6. Inflation in effect lowered the production costs, tax burdens and “melted away” any debts, while at the same time made savings insecure, thus forcing the capital out of the banks and into investments.

⁷⁷ Čalić, 260.

⁷⁸ Ibid., 211.

500 shops and 200 small handicraft workshops cross-linked into a giant network of “Bata’s” supplement producers.⁷⁹

The story of the Bata shoe factory is one of the few isolated success stories of Yugoslav interwar industrialization. Nonetheless, it also reveals how uncompetitive the Yugoslav industry actually was and how easily a single factory, which was technologically and organizationally similar to other big European factories, could control one whole industrial sector in the country. It also confirms that Yugoslav capital was in short supply and was not in a position to compete with foreign investments.

At the same time, foreign owners of facilities or capital investors were predominantly interested in exporting the profit to the country of their origin, and not necessarily in raising the workers’ educational level or the country’s level industrialization, even though some improvements in these aspects were unavoidable, if only in isolated enclaves.⁸⁰ This notion points to another problem of Yugoslav interwar industrialization, namely that by 1938, 51.5% of the entire industrial capital in Yugoslavia had been under foreign control in one way or another, the effects of which could not have been beneficial for Yugoslav industry.⁸¹ This scenario had all the basic elements of classic dependency theory, but in any case made the Yugoslav policy of autarchic development through ISI impossible to realize without the creation of the new domestic capital or without prolonged and aggressive state intervention and investments.⁸²

⁷⁹ Čalić, 261-264.

⁸⁰ Dijana Pleština, *Regional Development in Communist Yugoslavia* (Boulder, San Francisco, Oxford: Westview Press, 1992), 13; Čalić, 273-274.

⁸¹ Čalić, 273.

⁸² Detailed overview of the development and basic assumptions on dependency theory can be found in Alvin Y. So, *Social change and development: modernization, dependency, and world-systems theories* (Newbury Park, Calif.: Sage Publications, 1990), 91-165.

Emphasized by the Great Depression, these problems of Yugoslav industrialization were to a certain extent solved through state intervention during the late 1930s, which was in any case part of the League of Nations' suggestions to the countries of Eastern and Southeastern Europe for solving the internal economic crisis.⁸³ The Yugoslav government started in 1935 the ambitious program of public works, especially road and railroad building, but the effects were not too great since a large part of investment funds eventually ended up in the military buildup as a response to ever increasing political crisis in Europe in the late 1930s.⁸⁴

At the same time, previous policies of autarchic industrial development were only strengthened as a consequence of the Great Depression and the upcoming war, when most European countries, especially in Eastern and Central Europe, tried to take control of their economy and in particular their industry through state-owned companies. At first, this was a forced measure initiated in order to prevent the collapse of the most important banks, producing or exporting sectors of the economy, but eventually became part of the war preparations, where most of the heavy and machine industry came under direct state control or ownership.⁸⁵

In Yugoslavia, by 1939 more than 35% of coal and 90% of iron mines were state-owned, while at the same time, the state established 52 different industrial facilities, supplemented with another 88 companies created by local governments.⁸⁶ Most of these companies were controlling heavy industry facilities, and unsurprisingly were directly or indirectly connected to the military buildup program. One of the examples was the ironworks facility in Zenica [Central Bosnia] which by 1938 evolved into the industrial giant Jugočelik [Yugo-Steel], thus connecting the most important Yugoslav ironworks, coal and iron ore

⁸³ Čalić, 383.

⁸⁴ Ibid., 383-386.

⁸⁵ Berend, 82-87.

⁸⁶ Berend, 86; Čalić, 390.

mines.⁸⁷ Many other economy sectors experienced similar development, and the main result of this policy was that by 1939 roughly 15% of the industrial capital in Yugoslavia was state-owned.⁸⁸ In combination with state monopolies, state-owned companies and enterprises produced more than half of Yugoslavia's total state budget income, and at the same time the state became one of the biggest employers in the country. With the start of the war, state intervention and control of the economy further progressed, and by 1941 more than 80% of the Yugoslav economy was either directly owned or in some other way controlled by the state.⁸⁹

Throughout the interwar period, the Yugoslav government had tried to develop as much as possible its self-sufficient economy in which industrialization was continuously an important part of the project. These initial incentives were further strengthened by the impact of the Great Depression and the political crisis in Europe after Hitler's rise to power. However, with this difficult point of departure in the process of industrialization, constant lack of capital, inadequate workforce and infrastructure, this was not an easy goal to achieve. Combined with the rising fear of an upcoming war, the Yugoslav government eventually resorted to broad state interventionism taking almost full control of the entire economy, especially sectors of heavy and military industry.

2.2 Industrial Workers in Yugoslavia

The development of the working class in Yugoslavia during the interwar period was a slow and ambiguous process. Without much change throughout the period, Yugoslavia

⁸⁷ Čalić, 388-389.

⁸⁸ Throughout the interwar period, Yugoslav government was constantly increasing the number of state monopolies (salt, tobacco, sugar, weaponry, etc.) and at the same time expanding their activities. Čalić, 390.

⁸⁹ *Ibid.*, 385, 390-391.

remained a highly agricultural country, with a roughly 75-78% peasant population.⁹⁰ Furthermore, due to the specific historical development of Serbia and predominantly for political purposes, successive governments from the 19th century and right until the start of the Second World War, continuously guaranteed by the law the existential minimum of the peasant land and property which could not be lost to a debt.⁹¹ Consequently, this meant that without the adequate “push” factor, there were few landless peasants to be drawn into factories as a cheap labor. According to official statistics, only 2-3% of agricultural workers were landless, and among the European countries, only in Bulgaria was this percentage lower.⁹² Combined with the slow-paced industrialization process in the interwar period which in any case could not employ a much larger workforce, the “pull” factor was lacking as well, and the peasants only gradually and reluctantly entered the factories.

This gradual shift in the employment structure in Yugoslavia meant that in the 1930s up to 80% of industrial workers in the least developed areas, and almost 40-60% of them on average, never cut the umbilical cord with village life, usually having their families continuously living in villages, while they were working in factories.⁹³ According to Čalić, these “workers”, who in practice were nothing more than hired seasonal labor in industry, should be referred to as “industrialized peasantry”, a term that seems to be quite suitable.⁹⁴

Another key problem in the process in finding workers during the interwar period was the extremely poor education level in the general, but especially among peasants. According to the official data, right before the start of the Second World War, the illiteracy rate was 44.6%,

⁹⁰ Pleština, 12; Branko Petranović, *Istorija Jugoslavije 1918-1978*, (Beograd 1981), 150.

⁹¹ Čalić, 233-234. Throughout the interwar period, peasant could not lose to debt up to 2ha of land, pair of plowing animals and a plow.

⁹² *Ibid.*, 233.

⁹³ *Ibid.*, 236-237.

⁹⁴ *Ibid.*, 236.

only 1.3% had secondary education, and a miniscule 0.15% with university degree.⁹⁵ This lack of educated workforce was particularly emphasized and visible in the machine industry, but other sectors suffered as well.⁹⁶ Although predominantly a consequence of the inadequate educational system which was unable to respond to the needs of industry, there were other causes as well, notably demographic.

The Kingdom of Yugoslavia had the highest birth rate in Europe.⁹⁷ Consequently, the system was overburdened with students in primary and secondary schools, rendering it inefficient, while the high death rate, especially among youth, meant that a lot of investments in education went to waste. At the same time, the low life expectancy, as another demographic factor, caused the fast flow of workers in the labor market and shortened the period in which they could get extra education or special skills.⁹⁸ Great differences in regional development additionally complicated the situation, which in combination with workers' retention of ties with the countryside hampered their interregional migration. Those workers who were considered as skilled in undeveloped areas could be compared to ordinary workers in more developed regions, leaving them with few options for further education or specialization. As a consequence, factories and craft workshops had no other choice than to take the responsibility of educating the workers themselves.⁹⁹ This was also one of the reasons why a few of the modern industrial facilities in the country found it cheaper and less time consuming to employ skilled workers from abroad who eventually became the core of the skilled workers pool in the country.¹⁰⁰ However, even though this soothed the extreme deficiency of qualified workers in

⁹⁵ Pleština, 13.

⁹⁶ Čalić, 280-281.

⁹⁷ *Ibid.*, 222. Even though the birth rate experienced sharp decline between 1918 and 1941, with average growth of population of 15 per thousand in 1940 it was still the highest in Europe.

⁹⁸ *Ibid.*, 281-282.

⁹⁹ *Ibid.*, 285.

¹⁰⁰ *Ibid.*, 239; 290-291.

the country, the measure was palliative. According to official estimates, more than 25,000 foreign technicians and expert workers were employed in the Yugoslav industrial enterprises, but “they did not put any effort into educating domestic cadres”, neither ordinary workers nor technicians and managers.¹⁰¹ In this kind of environment it was not surprising that those unqualified workers who had the desire to expand their knowledge were forced to “steal the craft with their eyes”, since foreign or domestic technicians and expert workers were extremely reluctant to share their knowledge, primarily out of fear of competition.¹⁰²

The average Yugoslav worker in the interwar period still had not developed the practices and ethics essential to industrial work. Changing jobs in factories up to four or five times a season, and keeping the peasant way of life and thinking, created an environment in which workers were reluctant to adapt to the machinery’s working cycle; they rather introduced into factories a slow working rhythm and a certain contempt of time, norms and working schedules.¹⁰³ Referring to Weber’s definition of “economic traditionalism”¹⁰⁴, it can be argued that with this kind of pre-industrial work ethic in combination with the law-protected rural estate, the average Yugoslav worker was considering his job in the factory more as an additional source of income, rather than his vocation (*Beruf*).

And they needed additional income. According to the official analysis, the average worker’s salary in 1939 was only one quarter over the existential minimum for one person. This meant that a four-member family with two average salaries was barely able to cover its basic needs in food, clothing and housing, while at the same time at least one fifth of the workers

¹⁰¹ Arhiv Jugoslavije, collection 56 Generalni komesarijat jugoslovenske sekcije opšte međunarodne izložbe u Briselu 1958 [General Commissariat of Yugoslav Section in the Universal International Exhibition, Brussels 1958], archival unit 8 (in further reference AJ, 56, 8). Pripremni odbor za oblast Privreda [Preparatory Board for the Economy Sector], December 1956.

¹⁰² Čalić, 285.

¹⁰³ Ibid., 291-293.

¹⁰⁴ Max Weber, *The Protestant Ethic & The Spirit of Capitalism* (Los Angeles: Roxbury Publishing Company, 2002), 22-23.

received salaries four to five times lower than the statistical average.¹⁰⁵ As a consequence, the majority of workers could not afford to rent even the lowest quality housing and were forced to live in peripheral parts of industrial towns and cities, usually in hovel-house communities, without running water or electricity.¹⁰⁶

Considering all that has been said about the process of the development of the workers in the interwar Yugoslavia, the statement may be hazarded that no class identity actually existed, except in some “pockets” of relatively modern industrial facilities and those where foreign workers were employed. Low-skilled and poorly educated, this “industrial peasantry” seems to be a highly diverse group of people in the beginning of the process of becoming urban industrial workforce, possibly only unified by a general resentment of factory life and by their need to find additional sources of income, whether working in agriculture or in some other extra jobs during or outside regular working hours, possibly even resorting to petty criminal activities.

2.3 A Workers’ Oasis: The Military-Technical Institute in Kragujevac

The situation in the Vojnotehnički zavod [The Military-Technical Institute] in Kragujevac was different than in the rest of the country. Established as a cannon foundry and armament repair shop in 1848, it was gradually evolving to become one of most modern industrial facilities in Serbia. During the interwar period this factory experienced fast development and its output rose by a factor of 17; by the time the Second World War started, this was the biggest industrial enterprise in the country with more than 12,000 employees, in

¹⁰⁵ Marko Miljković, *Spoljnopolitički kontekst razvoja automobilizma u Beogradu, 1937-1939* [Foreign Policy Context of the Development of Automobolism in Belgrade, 1937-1939] (Belgrade: Faculty of Philosophy, History Department, MA Thesis Collection, 2011), 114.

¹⁰⁶ Miljković, *Spoljnopolitički kontekst razvoja automobilizma u Beogradu, 1937-1939*, 114-115.

the town of around 35,000 inhabitants, and the leading factory in the network of five other Yugoslav similar military facilities. The Institute also had from 1854 its specialized school for crafts and skills necessary in the military industry.¹⁰⁷ This school was considered as one of the most advanced technical schooling facility in the interwar Yugoslavia, where the students were funded by the state, with adequate stipend, accommodation, free books and other benefits, among them a shorter conscription period. By 1940 almost 2,000 students had graduated from this school, most of them being employed at the Institute.¹⁰⁸

These students were a sort of local workers' elite, having their own club, magazine, library, sport section, and even theatre. This was all part of the state project of separating the "state craftsmen", which was their official title, from interaction with the rest of the workers, ostensibly making them less susceptible to the Communist Party propaganda. Furthermore, being a military factory, any kind of political engagement of these "state craftsmen" was in any case strictly forbidden.¹⁰⁹ Unskilled workers did not enjoy these kinds of benefits, and most of them were working in poor hygienic conditions in a highly toxic environment with almost no protective equipment.¹¹⁰ These conditions were excellent breeding ground for the work of the Communist Party, which was illegal in Yugoslavia throughout the interwar period.

Kragujevac was a cradle of the Serbian and Yugoslav socialist workers' movement. Already on February 15, 1876, led by Svetozar Marković, the first socialist leader in Serbia, huge workers' demonstrations were organized, known in history as Red Banner

¹⁰⁷ Dragoljub B. Milanović, *Zavodi 'Crvena Zastava' u Kragujevcu* [The Red Flag Institute in Kragujevac] (Kragujevac 1967), 4-5. In 1849, foundry became the owner of the first steam engine in Serbia; in 1851 it was relocated from Belgrade to Kragujevac (central Serbia) due to fear of attack by Austrian Empire; in the beginning it was simply known as "Topolivnica" [Cannon Foundry], and in 1882 it was renamed to "Military-Technical Institute"; Zečević, *O posleratnoj obnovi vojne industrije i izgradnji automobilske proizvodnje*, 13; Čalić, 391.

¹⁰⁸ *Od topa do automobila, 1853-1973*, Kragujevac: Zavodi „Crvena Zastava“, 1973 [From Cannon to Automobile, 1953-1973], 39-40. These numbers stand for the interwar period only.

¹⁰⁹ *Ibid.*, 40.

¹¹⁰ *Ibid.*, 40.

demonstrations, which after the Second World War became the name of the whole factory in Kragujevac (Red Flag)¹¹¹. The red banner was raised by one gunsmith who won the local elections and was demanding workers' self-management. In the interwar period, after the elections of 1926, local communists created a short-lived Red Municipality, and were also active in organizing general strikes and other covert work, especially after 1929 when the local Communist Party cell was created.¹¹² While this story is at least to a certain extent a romanticized during communist rule, it nonetheless captures some of the important directions of the evolution of the working class consciousness among the ordinary Institute workers.

All this meant that during the interwar period a sharp division between highly skilled craftsmen on one side, and ordinary workers on the other was created by official state practices. This division was further emphasized and fueled by an ideological division which was gradually evolving with the upcoming war. In order to keep the core of educated workers under control and fully loyal to the factory, the state and official ideology, government and military establishment provided them with sufficient means to maintain relatively high living standards, especially compared to the general situation in the country. While the overlapping categories of the workers necessarily existed, both on economic and ideological grounds, it is important to notice how the educational gap eventually produced social and political divisions among the workers in the Institute.

As a big industrial complex, the Vojnotehnički zavod was also involved in construction of housing in worker's colonies in Kragujevac, which were erected in two successive waves in

¹¹¹ The difference in terms "flag" and "banner" is stressed since in the original names the terms differ as well; the term "banner" should be read as a more archaic term.

¹¹² *35 godina radničkog saveta 1950-1985* [35 Years of Workers' Council] (Kragujevac: Zavodi Crvena Zastava, 1985). While the word "Self-management" was written on the red banner, and however tempting it might be, it should not be confused with the socialist self-management system created after the Second World War.

the late 1920s and late 1930s.¹¹³ The first colony housed around 500 families, and had a school, kindergarten, ambulance, pharmacist, library, and other amenities of modern urban life; the design was based on English experience in building similar colonies.¹¹⁴ The importance of these colonies should be observed from several aspects. First, the fact that the colony was needed seems to suggest that there was a rising number of industrial workers who were living in the town. Second, living in a worker's colony could boost the feeling of belonging to a certain community or even a class, with shared everyday rituals, thus influencing the creation of common worker's identity. However, it can also be argued that the concentration of workers in relatively cozy houses was also part of the state project aiming to fight the Communist propaganda by allowing at least some benefits to unskilled industrial workers. In comparison, the housing conditions in other parts of the country were in general appalling, and the poor urban workers were in most cases living in their ramshackle houses in the overcrowded cities' peripheral settlements, built by themselves and without any plans or supporting infrastructure (see in chapter 2.2).

Therefore, while the very bleak picture presented by Čalić in her description of the working class in Yugoslavia in the interwar period can be accepted as an overall situation, it fails to capture the complete reality which is impossible to explain in one catchy term. It seems that while in Kragujevac, and other bigger industrial towns, workers had far advanced in the process of creating an urban industrial workers' identity, with their entire life revolving around the factory, whether behind the machines or in worker's colony, Čalić is right that outside of these industrial centers factory workers were nothing more than "industrialized peasantry". In any case, the creation of socialist worker's identity after the war unavoidably started with this

¹¹³ *Od topa do automobila, 1853-1973*, 44-45.

¹¹⁴ *Ibid.*, 44.

highly heterogeneous group of workers whose identity (where it existed) seems to be more connected to their own factory and local community, rather than to a single class as a whole. In that sense, the creation of the socialist worker would be much more difficult in these communities than in other parts of the country where such loyalty to the factory or local community did not exist or at least was not that strong.

Furthermore, in a country where the almost entire banking system, heavy industry, mines and the infrastructure was firmly under the control of the authoritarian regime, additionally strengthened by the fears of upcoming war, the entire industrial sector and the Yugoslavia's economy was increasingly coming under the firm control of the Yugoslav military. In addition to that, judging from the analysis of the situation in the pre-war Vojnotehnički institut in Kragujevac, the military sector was probably the most advanced industrial branch in the country.

The importance of these conclusions about the state of the Yugoslav industry, the mechanisms of its control and management, and the structure of the industrial workers, are important to remember as one of the aspect of the Yugoslav post-war development and especially in the period after the Tito-Stalin split of 1948 when the imminent danger of the Soviet intervention produced similar environment in which Yugoslav industrialization was pursued as a vital goal and precondition of the country's independence.

III The “Great” Change: Automobile Industry in the Post-War Development, 1945-1962

“The diagram of destroyed industry, lack of workers, technical experts as well as material deficiencies in 1945 without any doubt plummeted way beyond zero”.¹¹⁵ Even though this evaluation of the overall situation in Yugoslavia immediately after the Second World War seems to be excessive, it nonetheless captures the general picture of the war destroyed country. According to the official estimates, Yugoslavia lost 10.8% of its total prewar population with direct material destruction in absolute numbers reaching a level of 1.4 times higher than in Great Britain, two times higher than in Netherlands and 7.2 times higher than in the United States of America.¹¹⁶ Direct damage of Yugoslav industrial facilities was assessed at 36.5% of the entire pre-war value.¹¹⁷

After the Communist Party took power in Yugoslavia in 1944/45, “[t]he formation of socialist-owned property was considered to be the most significant act in the policy of building socialism” in the country.¹¹⁸ As Bićanić argues, some “exaggerations and unnecessary victimization” in this process were inevitable considering the revolutionary zeal and emotional reaction of the workers who in any case were the winners of the social revolution.¹¹⁹ However, the whole process of the property transfer from private and capitalistic to the socialist-state ownership was made easier by the fact that state was already controlling the largest banks, the complete infrastructure, the heavy industry complexes and the military industry. Property of

¹¹⁵ AJ, 56, 8. Pripremni odbor za oblast Privreda [Preparatory Board for the Economy Sector], December 1956.

¹¹⁶ *Jugoslavija 1918-1988. Statistički godišnjak* [Yugoslavia 1918-1989. Statistical Yearbook] (Beograd 1989), 191-192.

¹¹⁷ Ivana Dobrivojević, “‘Svi u fabrike!’ Instant industrijalizacija u Jugoslaviji 1945-1955” [Everybody into the Factories! Instant Industrialization in Yugoslavia 1945-1955], *Istorija 20. veka*, no. 2 (2009), 104.

¹¹⁸ Bićanić, 22.

¹¹⁹ Bićanić, 23.

collaborators was also easily nationalized, and the same is true for the property which the enemy had already expropriated from the previous owners, particularly Jews. Small craftsmen were left in private sector, agriculture was reformed but mass nationalization proved to be a failure and was quickly abandoned. Residential apartments were nationalized only in 1959, together with tourist center facilities.¹²⁰

While this kind of situation helped the establishment of the Yugoslav Communists' rule, it also had its drawbacks since while formally becoming part of the state-socialist sector, these companies were slow to transform internally, therefore only very slowly becoming "truly socialist". Furthermore, since the Tito-Stalin split raised a fear of the Soviet military intervention, the Yugoslav Army (YA) extended its control over the industry throughout the period analyzed in this chapter, deep into the 1950s.

The Yugoslav automobile and motor industry was still a new and underdeveloped industrial branch.¹²¹ The Army-controlled factory Industrija motora Rakovica (IMR) near Belgrade (Serbia), started in 1939 the assembly of trucks on a license agreement with the Czechoslovak manufacturer Praga; after the war attempts were made to reestablish this program.¹²² The other important factory was Tovarna Avtomobilov Maribor (TAM) in Slovenia. This was one of the most modern industrial facilities in the country, built in 1942 by the Germans for production of airplane components, including for the jet-engines. After the war, this program was abandoned, and by 1946 the new Yugoslav government decided that it should join the forces with the IMR in the project of mastering the truck production.¹²³

¹²⁰ Bićanić, 23-25.

¹²¹ I will use the term "automobile" in wider meaning which includes motor vehicles of various types, and where necessary terms "passenger automobile", "truck" or "tractor" will be used.

¹²² Denda, "Vojni faktor i izgradnja fabrike automobila u Kraljevini Jugoslaviji", 23-24.

¹²³ AJ, 108 GDSIM 32-61/254. Crteži mlaznog motora [The Jet Engine Blueprints], November 16, 1949. Milena Tršić (ur.), *Tovarna avtomobilov in motorjev Maribor, 1947-1987* [Automobile and Motor Factory-Maribor] (Maribor: Tovarna avtomobilov in Motorjev, 1987), 1-4.

3.1 Sovietization of the Yugoslav Automobile Industry, 1944-1948

The first couple of years after the Second World War in Yugoslavia were characterized by rapid Sovietization of the state and society. Almost religious loyalty to the Soviet model was perceived by the American ambassador in Belgrade who described Yugoslav president Tito as “the most dogmatic and most militant Stalinist in all of Europe” and to whom Belgrade “looked like the capital of some Soviet republic”.¹²⁴ On a more practical level, Yugoslavia was the first among East European countries to introduce an “excessively rigid” Soviet-type Five-Year Plan of industrial development (1947) which was “divided into yearly, quarterly, ten day and even daily plans” for each company in the country, thus directly controlling production of more than 13,000 commodities, adding up to total weight of a full ton and a half in paper.¹²⁵ However, cracks in the monolith relationship between Tito and Stalin were recognized by foreign observers already in 1947, which eventually evolved into a complete split between the two leaders in 1948.¹²⁶ All of this had a profound effect on the development of the Yugoslav automobile industry.

The Sovietization of the industry in East European countries was executed through the system of the Soviet expert-advisors who controlled the implementation of the Soviet model of industrialization and were making the most important decisions in their sector or factories they were assigned to.¹²⁷ The creation of a Soviet “permanent advisory system” in “host” countries as an important part of the process of Sovietization of the Eastern and Central Europe, truly

¹²⁴ Radina Vučetić, *Koka –kola socijalizam* [Coca-Cola Socialism] (Belgrade: Službeni glasnik 2012), 49-50.

¹²⁵ Berend, 180; Pleština, 30; Martin Schrenk, Cyrus Ardalan, Nawa A. El Tataway, *Yugoslavia: Self-Management Socialism and the Challenges of Development* (Baltimore and London: The John Hopkins University Press, 1979), 23.

¹²⁶ Vučetić, 50.

¹²⁷ Pál Germuska, “In a State of Technological Subjection: Soviet Advisers in the Hungarian Military Industry in the 1950s” in *Expert Cultures in Central Eastern Europe. The Internationalization of Knowledge and the Transformation of Nation States since World War I*, Martin Kohlrauch, Katrin Steffen and Stefan Wiederkehr (eds.) (Osnabrück: Fibre Verlag, 2010), 202-203.

accelerated only after 1949 and the creation of the Council for Mutual Economic Assistance (COMECON), even though some brief and instant expert assistance was provided in 1944 and 1945, though predominantly for establishing local secret police and for servicing the advancing Red Army.¹²⁸

In the civil sector, this kind of “assistance” was accompanied by the “compulsory acceptance of the Soviet technology and production model” even in cases where for some branches of industry it meant a step back in their development.¹²⁹ Valentina Fava’s analysis of the impact of the process of Sovietization on the development of the Czechoslovak automobile industry is an excellent case study of devolution of previously advanced industrial branch.¹³⁰ At the same time, while terms “advisor” and “invitation” seem more like euphemisms and Soviet propaganda, the fact remains that except for Soviet experts nobody actually knew how to organize a centrally planned economy, even though the exaggerated belief in their capabilities was present as well.¹³¹

However, Yugoslavia was a proverbial exemption to this rule. Focusing only on the process of the development of the automobile and motor industry, and using data obtained from the archival material, it seems that right from the start Soviet experts were basically in charge of the industrial development of Yugoslavia. The Soviet expert-engineer Mirča Kadarjan was formally invited in 1945 by the Central Committee of the League of Communist of Yugoslavia (LCY) to take the leading position in the project of developing Yugoslav national motor

¹²⁸ Germuska, 202.

¹²⁹ Ibid., 200.

¹³⁰ Valentina Fava, “Between American Fordism and ‘Soviet Fordism’”, 47-64. Fava argues that the introduction of the Soviet model of automobile production brought Czechoslovak automobile industry which in the late 1940s had realistic chances to become one of the leaders in Europe, almost to a complete collapse, and that by losing almost a full decade in this model switch, the recovery which came in the early 1960s had all the components of the „too little, too late“ scenario.

¹³¹ Germuska., 203-204.

industry.¹³² At least since the first half of 1946 he was employed as an Executive Director of the Plan in the Main Directorate of the Federal Motor Industry.¹³³ Kadarjan was also involved in the 1946 negotiations for continuation of the license agreement for truck production with the Czechoslovak manufacturer Praga, and at least on one occasion he was involved in “clarifying technical issues” with one business partner in Hungary.¹³⁴ From this position he was in full control of the development of the automobile industry in Yugoslavia, but due to the specific characteristics of this industrial sector, his decisions and plans had great impact on the whole process of industrialization.

This principle was even more visible in the sector of military cooperation where Soviet experts were constantly present in the country, while at the same time, Yugoslav military cadres were educated “exclusively under the Soviet influence”.¹³⁵ The Soviet model was copied to the letter, right down to the Alija Sirotanović’s “movement for high work productivity” and the shock-work competition system which was a complete copy of the Soviet Stakhanovite movement.¹³⁶ Comparing all of these information with the Germuska’s results, it can be argued that Yugoslavia was not only the exception but eventually turned out to be the specific training ground for the process of Sovietization which after 1949 was actively pursued in the rest of Central and East European countries, even though that it is highly unlikely that this kind of scenario was ever planned by the Soviet side.

¹³² AJ, 108 GDSIM, 1-5/1071). Official complaint of the director of the Main Directorate of the Federal Motor Industry to the Executive Board of the People's Council in Belgrade, March 23, 1949. Mirča Kadarjan was Yugoslav engineer and émigré who for 15 years actively participated in the development of the automobile industry in the Soviet Union.

¹³³ AJ, 108 GDSIM, 30-52/786 The Plan of the Development of Yugoslav Motor Industry, March 19, 1947; AJ, 108, 3-11/11 License agreement with the Czechoslovak manufacturer Praga for the production of trucks in Yugoslavia, March 3, 1949.

¹³⁴ AJ, 108, GDSIM, 3-11/8. License agreement for trucks Praga RN, March 2, 1949; AJ, 108 GDSIM, 4-17/183 Passports for Mirča Kadarjan and Miljandžić Nikola, August 26, 1947.

¹³⁵ Vučetić, 53.

¹³⁶ AJ, 108 GDSIM, 1-5. Counsel for the Higher Productivity in Motor Industry, September 12, 1949.

The story about Yugoslav attempts to establish the production of tractors based on the license agreement with one of the Soviet factories reveals how cooperation between the two countries in terms of technical and expert support actually functioned. Yugoslav officials recognized the “burning demand for tractors” in the country and in 1946 they tried to negotiate a license agreement with one Hungarian manufacturer. Yet these plans were soon shelved since the Soviet side showed “extremely good will” to offer their own license.¹³⁷ However, the price for the “extremely good will” was very dear. During several rounds of negotiations held in Moscow during 1947 the Soviet side conditioned their final approval with the signing of a contract of technical cooperation between the Yugoslav and the Soviet government.¹³⁸ Reading between the lines, this meant that by signing this agreement on the highest possible level Yugoslavia would put the majority of the program of its industrialization and technical development in general under direct Soviet control.

At the same time, the representatives of the Yugoslav Army (YA) were supporting this project, insisting to build in Yugoslavia the most accurate copy of Stalingrad’s tractor factory, right down to the idea that it should be able to produce tanks in case of a war. Furthermore, even though the location for this factory was initially planned to be near Belgrade, where several other machine industry factories and necessary infrastructure already existed, “due to the reasons of a strategic nature” the YA wanted this factory as close as possible to the border with Romania, or in other words, in the very eastern part of the country.¹³⁹ Regarding what has so far been said about the nature of this kind of technical assistance, Yugoslav government’s

¹³⁷ AJ, 108 GDSIM, 28-43/448. *Pro Memorium* problematike proizvodnje traktora u našoj zemlji na bazi nabavke inostrane licence [*Pro Memorium* of Problems in the Tractor Production in Our Country on the Basis of Acquirement of the Foreign License], January 20, 1949.

¹³⁸ AJ, 108 GDSIM, 28-43/446. Analiza investicionog sporazuma sa SSSR-om [The Analysis of the Investment Agreement with the USSR], February 12, 1948.

¹³⁹ AJ, 108 GDSIM, 30-52/1082 Dana G. Darymple, “The American Tractor Comes to Soviet Agriculture: The Transfer of a Technology”, *Technology and Culture* 5, no. 2 (Spring, 1964): 191-214.

denial to accept these terms, followed by the immediate breakdown of negotiations in November 1947, shows that while trying to copy Soviet Union almost in everything, and in spite of the YA's obvious alignment with the Soviet side, the Yugoslav government was not willing to completely delegate its independence to the great ally.

Foreign expert workers, who were *en masse* employed in Yugoslav factories, were another important factor which characterized and at the same time shaped the process of industrialization in Yugoslavia in the period immediately after the Second World War. These were predominantly German and Italian workers. A substantial number of them were not war prisoners, but legally hired labor, whose services were acquired through Yugoslav War Reparation Committee in Berlin.¹⁴⁰ According to archival material of the Main Directorate of the Federal Motor Industry, their number changed on monthly basis, but the fact remains that in the Yugoslav TAM truck factory in 1949 there were still 50 German engineers and technicians, some of which had been working there since mid 1946; and the situation was similar in other motor industry factories.¹⁴¹ In the entire Yugoslav Ministry of Heavy Industry until the end of 1948, exactly 61,472 German and Austrian workers, technicians and engineers, both as hired labor and as war prisoners were engaged in various factories all over the country.¹⁴²

These workers presented the most educated and the most experienced experts in their sectors, and were also working in important and even executive positions within the factories. Furthermore, in some of the factories foreign workers created the majority of the workforce,

¹⁴⁰ AJ, collection 16 Ministarstvo teške industrije vlade FNRJ [Ministry of Heavy Industry of the FPRY Government], file 23, archival unit 28 (in further reference AJ, 16 MTI, 23-28). Procedure for the engagement of the war prisoners, April 20, 1948.

¹⁴¹ AJ, 108 GDSIM, 4-16/532. List of foreign engineers and technicians in TAM (Tovarna automobilov Maribor-Tezno), 1949. Information of the foreign experts employed in the Yugoslav motor industry is spread throughout this collection.

¹⁴² AJ, 16 MTI, 23-28. Plan for the repatriation of the war prisoners, December 1948.

since Yugoslav workers were “still kept in the Army”.¹⁴³ Yugoslav officials in Germany in 1947 even established contacts and started negotiations with Ferdinand Porsche and his closest circle of associates about their assistance in the project of development of automobile industry in Yugoslavia. Yet the negotiations soon collapsed, since Porsche’s team did not receive a proper offer for months after the initial contact was established.¹⁴⁴ Porsche’s “people’s car” was of great interest for the Yugoslav state officials, and where officials failed, Yugoslav students made significant progress. Interestingly enough, Momir Zečević, who in 1962 became the first director of the new Crvena Zastava passenger automobile factory, received his practical education as a young student in the Volkswagen factory in 1952.¹⁴⁵

However, it has to be said that this was a general trend in the first couple of years after the war, when Allied countries were in a race for German military and civilian experts and engineers.¹⁴⁶ While this was an obvious necessity in a country that did not have enough engineers and expert workers for the ambitious plans of fast industrialization, which was general remark in the monthly reports of workforce fluctuation in the factories of motor industry, it also shows Yugoslavia’s relatively independent position in the relationship with the USSR. Even before 1948, Yugoslavia was negotiating technical assistance contracts and hiring expert workforce where they were readily available and not necessarily where it would have been politically profitable. The memories of Momir Zečević, who at that time worked as a technician in one factory of agricultural machinery, confirm that except for one Soviet

¹⁴³ Zečević, 15.

¹⁴⁴ AJ, 108 GDSIM, 17-31/254. Confidential report about negotiations with engineers Porsche and Dykhoff, September 15, 1947.

¹⁴⁵ Zečević, 36.

¹⁴⁶ Christoph Mick, “Serving Two Dictators. German Scientists in the Soviet Union after World War II”, in *Expert Cultures in Central Eastern Europe. The Internationalization of Knowledge and the Transformation of Nation States since World War I*, Martin Kohlrauch, Katrin Steffen and Stefan Wiederkehr (eds.) (Osnabrück: Fibre Verlag, 2010), 181-198. Mick gives detailed analysis of the motives and mechanisms of justification among the German experts who openly cooperated both with Nazi and Soviet regime.

engineer, who was in charge of the construction bureau of the factory, the great majority of engineers and technicians in the bureau were German war prisoners, and the proportion was more or less the same with regular workers in factory's shop-floor.¹⁴⁷ His recollections also confirm that Soviet expert technicians were predominantly employed in different ministries and their specialized offices.¹⁴⁸

The Tito-Stalin split of 1948 was a turning point in the development of the socialist Yugoslavia, but for Yugoslav policies of industrialization the change was not that dramatic, at least not in the first couple of years. The Soviet-type shock-work model, known in Yugoslavia as “Alija Sirotanović’s movement” was introduced in order to overcome the obstacles in building of socialism created by “calumniators, the USSR and countries of people’s democracy” but as well those of the “imperialistic countries”.¹⁴⁹ However, by the end of 1948, Soviet expert Mirča Kadarjan was kicked out of the communal apartment he was given in Belgrade, he was publicly accused of being a drunkard and a slacker, his Medal of Work was annulled, and his place was taken by another Yugoslav expert émigré, Jože Menton. The only difference was that he was coming from the USA and that instead of the communal apartment he moved into a “specially built house” according to “the life standards he was accustomed to”.¹⁵⁰

This was only one of the many signals of the changing climate, but the process of de-Sovietization was as painful as it was slow. The implementation of the socialist “organizational skeleton” in the factories, based on principles and “demands of a socialist planned economy”

¹⁴⁷ Zečević, 15.

¹⁴⁸ Ibid., 17. These recollections are related to the period between 1946 and 1947.

¹⁴⁹ AJ, 108 GDSIM, 1-5. Counsel for the Higher Productivity in Motor Industry, September 12, 1949.

¹⁵⁰ AJ, 108 GDSIM, 1-5/1064 Confidential report of the director of the Main Directorate of the Federal Motor Industry to the Minister of Heavy Industry, September 16, 1949; AJ, 108, 2-10/872. Awarding Medals of Work, February 19, 1949; Kadarjan was eventually rehabilitated in the early 1950s, and continued to work in Yugoslav truck factories, however, he was downgraded to the level of simple factory engineer, and was moved from factory to factory several times.

was only starting to be implemented in early 1948 aiming to “liquidate the remaining organizational forms of capitalistic companies” which at that point were “still numerous”.¹⁵¹ It was also acknowledged that “in the implementation of this organization not everything went as it should have” and that the transformation of the former capitalistic companies remained only superficial.¹⁵² The reason was found in the fact that “many individuals [...] do not observe enough the essential difference between one capitalist and one socialist manufacturing company”.¹⁵³ It was also recognized that the TAM truck factory, the biggest in the Yugoslav automobile industry, was in mid 1949 still functioning under “old organizational forms which were introduced at the time of its establishment”. But the most interesting was that the official decision was to leave it to function in the same way until all the smaller factories made their transition to socialist model of organization in order to make “minimal disturbances during the transition from the old to the new organization”.¹⁵⁴

On the factories’ shop-floor level this kind of environment created formidable problems.¹⁵⁵ While the overall pre-war level of expertise of the workforce was necessarily degraded as a consequence of the devastating effects of the war where the majority of victims were among the working-age population, the *blitzkrieg* Sovietization followed by slow process of de-Sovietization, could not have helped much in the process of creating a socialist society. The German and Italian workers were hired as a labor force and not necessarily as educators, and Yugoslav workers could not benefit from their experience as well. In one of the reports about the performance of German experts in the IMR factory it is stated that all of them were

¹⁵¹ AJ, 108 GDSIM, 2-6/71-73. Organizaciona problematika [Organizational Problems], December 13, 1948.

¹⁵² Ibid.

¹⁵³ Ibid.

¹⁵⁴ AJ, 108 GDSIM, 2-6/81. Classified report about problems in implementation of new organization of production, June 23, 1949.

¹⁵⁵ The following paragraph was based on series of reports about the problem of engaging peasant workforce in the factories of automobile industry AJ, 108 GDSIM, 4/49-73, January-July 1950.

communicating exclusively among themselves and were accommodated in Belgrade hotels, or other housing facilities away from the Yugoslav workers' colony, while the war prisoners returned directly to their prisoners' camps after the work.¹⁵⁶ Thus, without proper experience and with almost no chance of acquiring it from the foreign workers, in combination with inadequate housing facilities, low quality food in factories' cafeterias and low salaries, it is not surprising that great percentage of the unqualified labor simply wanted to get back to villages in order to work in the fields. These workers were part of a vast seasonal working cycle which fluctuated between the fields and factories, continuing the pre-war practices. The female workforce was even more disenchanted with factory life, leaving the factories whenever they pleased and choosing rather to tend to their children and house work.¹⁵⁷ This kind of attitude among women was of no surprise since they were considered as low quality workforce, and whenever the workforce surplus appeared, they were the first to get fired.¹⁵⁸

Furthermore, according to official data, in the period 1945-1949, the number of workers in the country rose by one and a half million, the majority of them coming from the countryside, and usually without proper training or education.¹⁵⁹ Dobrivojević confirms these numbers emphasizing that in 1949 almost one million workers were employed in the factories, but less than 200,000 stayed permanently employed, as a consequence of high fluctuation of the workers from the countryside to factories and vice versa.¹⁶⁰ With only thin layer of Yugoslav pre-war experts and engineers, and the majority of Yugoslav workers falling into official category of "semi-qualified", as archival documents suggest, it seems that even in the

¹⁵⁶ AJ, 108 GDSIM, 4-17/506-507. Report about the Movement of the Foreign Experts, July 25, 1947.

¹⁵⁷ AJ, 108 GDSIM, 4/49-73. Percentage of the workers who did not want to sign a contract with the factory and openly wanted to go back to the countryside, ranged between 2-5%. However, in these reports it is not stated how many of the rest were working both in factories and in the fields.

¹⁵⁸ Dobrivojević, "Svi u fabrike!", 109.

¹⁵⁹ Dušan Bilandžić, *Kratak pregled razvoja samoupravljanja u Jugoslaviji* [Short Overview of the Development of Self-Management in Yugoslavia] (Split: Marksistički centar, 1975), 22.

¹⁶⁰ Dobrivojević, "Svi u fabrike!", 111.

beginning of the 1950s the workers in Yugoslavia were even farther from creating their own identity and class consciousness than they were in the interwar period, leaving the LCY both externally and internally pressured to find a way of legitimization of its own rule.

Thus, the short-lived Sovietization of Yugoslav industry before 1949 did not penetrate into much deeper organizational levels and probably did not progress much further than transformation from private to state ownership, which in its own right was not difficult, and especially in the machine industry where almost all factories in the interwar period already belonged to the state, foreign or Jewish owners. Even those socialist organizational mechanisms which were introduced, such as Stakhanovite-Sirotanović movement, backfired and produced opposite results, at least in the initial phase of their implementation. In spite of all propaganda about promoting a modern work rhythm, the whole Stakhanovite movement was actually cementing “the very ‘peasant’ task orientation that the regime had denounced as backwardness” by pushing for higher norms, productivity and factory’s output.¹⁶¹ By 1949 Yugoslavia was already a confirmed outcast of the Soviet bloc. Without proper knowledge of how to proceed in organization of planned economy and with no help from the former ally or other socialist countries, Yugoslav officials had to find or create alternative model in order to continue the socialist reform.

3.2 Between the Truck and the Automobile: Creating the “Great” Change, 1948-1954

Yugoslavia was one of the least motorized countries in Europe in the interwar period. The destruction during the Second World War was heavily felt in this sector as well - the motor

¹⁶¹ Kenneth M. Straus, *Factory and Community in Stalin’s Russia* (Pittsburgh: University of Pittsburgh Press, 1997), 177.

poll in the country was more than halved.¹⁶² With the main priorities after the war being reconstruction of the country and its economy, it is not surprising that the prewar number of passenger automobiles was reached again only in 1956, when domestic production had already started.¹⁶³ According to official Yugoslav estimates, in 1957 only Turkey had a lower level of motorization in Europe.¹⁶⁴ This also shows how slow was the departure from the Soviet model of motorization, in which the emphasis was on truck production. Compared to the prewar level, the number of trucks in Yugoslavia in 1956 was five times higher while the number of automobiles surpassed the number of trucks only in 1958.¹⁶⁵

However, the plans for passenger automobile production were constantly present among the officials and government bodies charged with the development of motor industry. Passenger automobiles were first mentioned in March 1947 in one of the top secret reports about the plans for the development of the automobile industry in Yugoslavia. Signed, and most likely envisioned by Mirča Kadarjan, the director of the Plan in the Yugoslav motor industry, the production of passenger automobiles was planned to start in 1957 and it seems that the intention was to produce a mid-range or luxury model “with 5 seats”.¹⁶⁶ This kind of attitude was completely in accordance with the Soviet model where passenger automobiles were designed almost exclusively to be used by high ranking Party and state officials.¹⁶⁷ At the

¹⁶² *Statistički godišnjak Federativne Narodne Republike Jugoslavije* [Statistical Yearbook of Federal People's Republic of Yugoslavia], editions 1955-1963.

¹⁶³ *Statistički godišnjak Federativne Narodne Republike Jugoslavije* [Statistical Yearbook of Federal People's Republic of Yugoslavia], editions 1955-1963. In 1946 Yugoslavia had only 6.203 passenger vehicles, which was less than half of the 1939 level.

¹⁶⁴ AJ, fond 589 Savezni sekretarijat za industriju [Federal Secretariat for Industry], file 183 (in further reference AJ, 589 SSI, 183). Analiza potreba i mogućnosti plasmana predviđene proizvodnje motornih vozila [The Analysis of Needs and Possibilities of Marketing of Expected Motor Vehicle Production], 1957, 12.

¹⁶⁵ *Statistički godišnjak Federativne Narodne Republike Jugoslavije* [Statistical Yearbook of Federal People's Republic of Yugoslavia], editions 1955-1963.

¹⁶⁶ AJ, 108 GDSIM, 30-52/787. Plan kapitalne izgradnje [The Plan of the Capital Construction], filed as a top secret report, March 19, 1947.

¹⁶⁷ W. H. Parker, “The Soviet Motor Industry”, *Soviet Studies* XXXII, no. 4 (October 1980): 515-518.

same time, in 1947, except for the German “Volkswagen” which had only just recovered from the war, no other automobile factory produced small, economic vehicles.

On the other hand, already in April 1948 planners developed detailed plan for the production of 50 passenger automobiles per day, and emphasized that the production model should have “the attributes and power similar to American automobiles in the current production”.¹⁶⁸ More importantly, this plan was based on the American model of automobile production which is visible throughout the planning document and also in the estimate that “North America will be irreplaceable as a supplier of some types of machines and devices”.¹⁶⁹ At the same time, it was emphasized that the technical assistance in the automobile factory design as well as the necessary machines “could mostly be obtained in Italy”.¹⁷⁰ This project even had all of the components of the classical scenario of a technology transfer: the small group of Italian “technicians and co-workers, from the director to foremen”, was to be invited to Yugoslavia, and engaged in the factory design and its startup. At the same time, they were expected to act as chief educators of “local elements who would be gradually introduced to the technological and organizational processes”, making this group the main agent of technology transfer.¹⁷¹

The Tito-Stalin split, which became public in June 1948 only few months after this plan was created, seems to be the prime reason why this project was shelved. However, the important fact is that Yugoslav officials were open to cooperation with Italian companies even before the split with the Soviet Union. However, this was actually not that surprising. While

¹⁶⁸ AJ, 108 GDSIM, 28-43/10-16 Projekat za proizvodnju 50 kom. automobilskih kola na dan u jednoj radnoj smeni [Project for production of 50 automobiles per day in one work shift], April 15, 1948 .

¹⁶⁹ Ibid. In this 7 page document, all the details

¹⁷⁰ Ibid.

¹⁷¹ Ibid. In this document, “Italians” were used as an example how the whole process would be carried out, however, the choice is highly suggestive and seem to reveal how Italy was sort of a role-model for Yugoslavia, even though not the only one.

Italy and Yugoslavia had their unresolved territorial issues, the so-called Trieste crisis, Italy was Yugoslavia's biggest trading partner during the interwar period, and trading contacts between the two structurally compatible economies were quickly reestablished after the war, and by the late 1950s Yugoslavia "conducted the largest country share of its foreign trade with Italy".¹⁷²

Cooperation between the two countries in the development of tractor production in Yugoslavia confirms this relationship. After negotiations with the Soviet Union about the license for the tractor production in Yugoslavia collapsed in late 1947 (chapter 3.1), Yugoslav officials tried to reopen negotiations with the Hungarian manufacturer in the following year, yet because of the "well known erroneous attitude of Hungarian Party leadership towards our [Yugoslav] socialist development" these negotiations were soon abandoned. Already in September 1948 a license was acquired from the Italian manufacturers Ansaldo and Alfa Romeo.¹⁷³ These negotiations produced economic benefit for both sides – Yugoslavia was desperate to find a partner willing to sell the necessary technology, while Italy at that point was equally pressured to find the buyers for tractors and other products of its agricultural machinery industry.¹⁷⁴ Furthermore, by July 1949 at least five Italian engineers and technicians came to Yugoslavia as a part of the license agreement with the Italian companies in order to help with the startup of the tractor production.¹⁷⁵ This entire project was officially coordinated by

¹⁷² John R. Lampe, Russell O. Prickett and Ljubiša S. Adamović, *Yugoslav-American economic relations since World War II* (Durham : Duke University Press, c1990), 47-48; Miljković, *Spoljnopolitički kontekst razvoja automobilizma u Beogradu, 1937-1939*, 28.

¹⁷³ AJ, 108 GDSIM, 28-43/448. *Pro Memorium* problematike proizvodnje traktora u našoj zemlji na bazi nabavke inostrane licence [*Pro Memorium* of Problems in the Tractor Production in Our Country on the Basis of Acquirement of the Foreign License], January 20, 1949. Alfa Romeo diesel engines were powering "Ansaldo" tractors which is the reason why negotiations were conducted with both of these factories.

¹⁷⁴ AJ, 108 GDSIM, 28-43/437. Analysis of the Contract with the Italian Tractor Manufacturer Ansaldo, February 21, 1949.

¹⁷⁵ AJ, 108 GDSIM, 4-17/489. Dobijanje ulaznih viza za italijanske stručnjake [Approval of Entry Visas for Italian Experts], July 22, 1949.

Yugoslav Ministry of heavy industry, while the license contract was signed between the Central Directorate of the Federal Motor Industry and the Italian manufacturers. It is interesting that it did not differ much from the previous plans created for automobile production, at least concerning the basic mechanism of technology transfer.

These negotiations seem to suggest that despite political problems, the economic impulses and necessities played a more important role in the establishment of the cooperation between the two countries. More importantly, in the period when Yugoslavia was boycotted by the Eastern bloc countries and at the same time still not recognized as a true renegade by the West, Italy was willing to establish lasting cooperation with its Eastern neighbor, which is at least surprising. From the American point of view, Yugoslavia was still considered as Soviet ally, and it took almost a full year after the split before any tangible help to Yugoslavia was approved, after Yugoslav open and continuous requests for assistance. The first American credit line, which came through U.S. Export-Import Bank in Washington, was approved in May 1949.¹⁷⁶

At the same time, the American diplomacy was very active in Italy where its main goal was to prevent the political takeover by the Italian Communists. In one of the Central Intelligence Agency's (CIA) reports concerning these matters, it is stated that the "economic recovery, economic cooperation and economic reform were our [American] interrelated objectives" in an effort to undermine the Communist Party popularity in Italy.¹⁷⁷ Furthermore, in one of the similar documents from the 1960s, Italy was recognized for playing an active role

¹⁷⁶ Lampe, Prickett and Adamović, 29-31. USA government banned the export of oil rigs Yugoslavia wanted to buy in September 1948 since the estimate was that the technology could fall into the Soviet hands, and in summer of the same year Yugoslav license request for a turnkey project of an American mill for steel production was also rejected. In the changed political climate, this project was eventually approved by the end of 1949.

¹⁷⁷ Central Intelligence Agency, "An Evaluation of Psychological Effect of the U.S. Effort in Italy", February 26, 1953, http://www.foia.cia.gov/sites/default/files/document_conversions/5829/CIA-RDP80R01731R003200040009-8.pdf, accessed May 26, 2013.

in the American foreign policy in the project of “bridge building”, or in other words, establishing communication with the countries behind the Iron Curtain in cases where the American diplomacy could not, or did not want to be officially present.¹⁷⁸ While this evidence comes from the later period, it is highly unlikely that cooperation between Italy and the USA in “bridge building” started only in the 1960s. In the late 1940s, this kind of covert work seem to be set behind the operations of United Nations’ Economic and Social Council (ECOSOC) which was acting as mediator between Italy and the countries of “people’s democracies” in their economic cooperation and especially in the field of technical assistance.¹⁷⁹

While the official Yugoslav documents are silent on this topic, it seems probable that establishing license agreement between Yugoslav government and Italian manufacturers for the production of tractors was one of the “trial-balloons” of the American diplomacy towards Yugoslavia or one of the early signs of good will, through which the sincerity of Yugoslav’s “historical NO to Stalin” was probed. Furthermore, the success of this project could also mean the opening of at least one of the “bridges” for communication with Yugoslavia whose position “behind” or “in front” of the Iron Curtain was anything but firmly established at that point. A license for tractors was also “bullet-proof” deal, since this kind of technology was well known to the Soviets, and even if Yugoslavia reverted again, the damage would be minimal. Finally, intensification of the economic communication between Yugoslavia and Italy was also important for the American diplomacy in the difficult and slow process of solving the border disputes between these countries, which was an important American goal, as cited CIA documents suggest.

¹⁷⁸ Central Intelligence Agency, “Bridges to the Eastern Europe”, memorandum for the Director of the Central Intelligence Agency, June 25, 1964. http://www.foia.cia.gov/docs/DOC_0000427966/DOC_0000427966.pdf, accessed on May 26, 2013.

¹⁷⁹ AJ, 108 GDSIM, 28-43/437. Analysis of the Contract with the Italian Tractor Manufacturer Ansaldo, February 21, 1949.

While the establishment of tractor production using Italian license proved to be a success, Yugoslavia was facing more serious economic challenges. Left without any kind of support from the Eastern bloc countries, whether in credit lines, raw industrial materials or technical support, in the 1949-1950 period Yugoslav economy faltered and many factories, being unable to continue production, were on the brink of closure. Thus, the ambitious First Five Year Plan introduced in 1947, already by late 1948 was rendered inoperable and the situation was further complicated by food shortages caused by belated forced collectivization of 1949, and severe droughts of 1950 and 1952.¹⁸⁰

Gradually recognizing the full political potential of having economically prosperous but still socialist Yugoslavia outside the Soviet sphere of influence and using it as a specific road sign for other socialist countries behind the Iron Curtain, the American administration started a project of economic and military assistance to Yugoslavia.¹⁸¹ Many countries from Western Europe also participated in this project, extending their aid through donations and loans.¹⁸² However, while this immediate assistance helped Yugoslavia to soothe the pain of an ongoing economic crisis, in order to make Yugoslav economy economically sound and able to repay the loans, amore long-term solution was needed. One of the first and most logical demands of Yugoslavia's Western partners was the reform of the economy in order to make it more competitive in the world market and able to offer more diverse goods, rather than various ores and other raw materials.¹⁸³

Strikingly, throughout the early 1950s the Yugoslav government was still “pursuing a Leninist course” which in the economic language based on the “Bolshevik mentality of the

¹⁸⁰ Lampe, Prickett and Adamović, 29.

¹⁸¹ Vučetić, 51.

¹⁸² Lampe, Prickett and Adamović, 36.

¹⁸³ Lampe, Prickett and Adamović, 34; Pleština, 28.

lapsed Yugoslav Bolsheviks” meant production of steel, electric plants, oil refineries etc., but basically not export-oriented commodities.¹⁸⁴ However, already in late 1950 Marshall Tito admitted to the American president of the International Bank of Reconstruction and Development (IBRD), the institution through which the majority of loans to Yugoslavia were distributed, that “the rationale for going ahead with steel production was political, to keep a pledge whose forfeiture the Soviets and their sympathizers would seize upon”.¹⁸⁵ While this episode showed Tito’s great political talent, it seems that he was well aware that the stability of the Yugoslav regime depended on his ability to preserve a stable economy and to maintain a constant rise in industrial production and living standards. Taking into consideration what has been said so far about the American policy in Italy, it is not surprising that Yugoslav economic development also became the main tool in the CIA’s strategy of “keeping Tito afloat”.¹⁸⁶

The changing attitude of the Yugoslav government towards the structure of the country’s economic development can be seen from the analysis of the contracts of technical cooperation signed in the period 1954-1962, overwhelmingly with West European companies. This kind of cooperation in Yugoslavia was legally based on the 1954 Regulation for the Acquisition of Industrial Property Rights Abroad.¹⁸⁷ In the 1954-1962 period, the total of 232 contracts for acquisition of the foreign technical documentation were officially registered.¹⁸⁸ Out of this number, 189 or 81.46% were contracts for the acquisition of the technical

¹⁸⁴ Lampe, Prickett and Adamović, 29, 37.

¹⁸⁵ Ibid., 37.

¹⁸⁶ Vučetić, 53.

¹⁸⁷ AJ, fund 589 Savezni sekretarijat za industriju [Federal Secretariat for the Industry], file 296 (in further reference AJ, 589 SSI, 296). Analiza registrovanih ugovora o pribavljanju prava industrijske svojine u inostranstvu [The Analysis of Registered Contracts of the Acquisition of Industrial Property Rights Abroad] (Belgrade, 1962), 4.

¹⁸⁸ AJ, 589 SSI, 296. The Analysis of Registered Contracts, 19-20. It is explicitly noted in this document that license agreements were also signed with foreign partners before 1954, but that the official records started to be kept only then since their number started rapidly to rise.

documentation for production of various products.¹⁸⁹ The important thing noticed in the documents is that Yugoslav industry “acquired only those foreign achievements which are of peripheral and not fundamental significance”.¹⁹⁰ In other words, Yugoslavia was predominantly obtaining “information” and not “technology” as such, altogether making probabilities for a successful technology transfer highly unlikely, or at least heavily reliant on internal development (compare with chapters 1.2 and 4.3).

Another thing which can be observed from this analysis is that 23 contracts or roughly 10% were directly related to the automobile and motor industry, while further 116 were related to machine building and metal industry and additional 49 in electric and chemical industry. In total, 188 or 81.03% of all the contracts of technical cooperation were focused on these five sectors.¹⁹¹ What these numbers seem to suggest is that, even though the automobile industry came only at a fourth place regarding the number of signed license agreements with foreign partners, due to its potential for linking with other industrial branches, such as machine building, metal, electric and chemical industry, Yugoslav government did in fact base its industrialization strategy on the automobile industry as at least one of the leading sectors (chapter 1.3). Furthermore, it was officially estimated that by 1959, roughly 45% of all contracts were “oriented to the production of mass-consumer goods” which is important proof of a structural change in Yugoslav industry which during the 1950s switched from heavy and military industry to civilian program and consumer goods.¹⁹² Finally, concerning the countries of origin, a whopping 96.12% of licenses were acquired from the “Western countries” with West Germany in the lead (65) and Italy (51) closely following. The reasons for this kind of

¹⁸⁹ Ibid., 20.

¹⁹⁰ AJ, 589 SSI, 296. The Analysis of Registered Contracts, 20.

¹⁹¹ Ibid., 26.

¹⁹² Ibid., 33.

division were found in the “close neighborhood, traditional reliance on industrial experiences of these countries and developed trade relations.”¹⁹³

This entire development and start of the intensive cooperation with Western European countries by 1953 is consistent with Lampe’s results, where he emphasizes that the American administration estimated that “Tito’s regime had the sources to survive physically without U.S. aid”, even though there were some concerns about the Yugoslav’s economy ability to participate in the increasingly complex international market.¹⁹⁴ As a result, Yugoslavia established “a full set of commercial relations with Western Europe” during the 1954-1964 period. However, the significant expansion of these relations in the late 1950s coincided with the period when the American administration gave the Yugoslav government nine loans for industrial development, aiming at long-term economic development instead of emergency economic aid.¹⁹⁵

Interestingly enough, the American administration based its new strategy on the analysis of economists Max Milikan and W. W. Rostow who envisioned successful economic development as a precondition of establishing of a “political democracy on the Western model”, a model that was later applied to the rest of the Third World countries.¹⁹⁶ Without further analysis of Rostow’s and Milikan’s ideas, it is nonetheless interesting how in the 1950s Yugoslavia once again became a testing ground for one of the Cold War superpowers’ policies directed to potential allies in their sphere of influence. Most importantly, this analysis places the Yugoslavia’s experience as a key component in the wider perspective of industrialization of the Third World countries.

¹⁹³ AJ, 589 SSI, 296. The Analysis of Registered Contracts, 34, 37 In the 1954-1962 period, there were only 9 out of 232 contracts of technical cooperation with “the Eastern countries”.

¹⁹⁴ Lampe, Prickett and Adamović, 47.

¹⁹⁵ Ibid., 60-61.

¹⁹⁶ Ibid., 61-62.

However, the change in the structure of Yugoslav industrial production was very gradual. Focusing on the Crvena Zastava factory, the established pre-war armament and ammunition factory in Kragujevac, it took almost a full decade after the Tito-Stalin split for the transition to a civilian program of production.¹⁹⁷ The first attempt for establishing of the automobile production in Kragujevac was in 1953 and it was based on the contract with the American manufacturer “Willys-Overland” for the production of a “Jeep”, a well-known army off-road vehicle, not passenger automobiles.¹⁹⁸ These vehicles became popular in Yugoslavia already in 1945 through the United Nations Relief and Rehabilitation Administration (UNRRA) program, part of which were American trucks and “Jeeps”.¹⁹⁹ However, after the assembly of only 162 vehicles, further cooperation with the American company was abandoned because “Willys-Overland” demanded a percentage on each vehicle assembled in Yugoslavia.²⁰⁰ Taking into consideration the changed attitude of the American administration towards Yugoslav economic capabilities, which happened in the same year, it seems likely that Yugoslav side expected to receive this license as a part of the American aid package, not through a commercial contract between the two companies, and that this “disappointment” led to the abandonment of this project.

In the second attempt to establish automobile production, signs of at least some consideration for the civilian program were visible. In 1954 the Yugoslav government announced an international competition for the license agreement and several companies from

¹⁹⁷ Its pre-war name Vojnotehnički zavod [Military-Technical Institute] was in 1953 changed to *Zavodi Crvena Zastava* [The Red Flag Institute].

¹⁹⁸ Slobodan Janković, *Zapisi o Zastavi* [Records of Zastava] (Kragujevac: Zavodi Crvena Zastava, 1993), 32-33.

¹⁹⁹ AJ, 17 Ministarstvo industrije vlade FNRJ [The Ministry of Industry of the FPRY Government], file 121, archival unit 122/332 (in further reference AJ, 17 MI, 121-122/332). Distribution of vehicles received from UNRRA, October 13, 1945.

²⁰⁰ Janković, 34-35. The “Willys-Overland” company demanded 100\$ on each vehicle assembled and sold in Yugoslavia, and 6% of the value of each component produced in the country.

Western Europe and the USA applied.²⁰¹ Even though the Yugoslav side was still predominantly interested in the production for the Yugoslav Army, during the trial runs of the vehicles, “opinions crystallized” that the Crvena Zastava factory should also produce light 1,5 ton commercial trucks and passenger automobiles.²⁰² The only company which was able to offer all of these vehicles was Italian Fiat, which eventually won the competition, and the license agreement between Fiat and Crvena Zastava was signed on August 12, 1954, in Turin.²⁰³

Cooperation with the Italian manufacturer had an important impact on the Yugoslav project of transforming the structure of its industry. Fiat was considered at the time as the “best known example of an engineering firm that was able to renew its plants thanks to the Marshall Plan”, and this company was also the prime beneficiary of the American aid in Italy. As a consequence, it controlled more than 80 percent of the entire Italian automobile market and already in the early 1950s was exporting roughly 30 percent of its total production.²⁰⁴ One of the main reasons for Fiat’s success was early acquisition and subsequent adaptation of the American model of automobile production to the Italian social and economic environment. But even if “Italy’s industrial structure was not entirely Americanized, American technology and business accomplishments remained a constant point of reference, an inspiring model which created a constant pressure for change”.²⁰⁵ Being economically challenged the Italian population could not afford spacious American “gas-guzzlers”, yet the automobile industry

²⁰¹ Janković, 36. From France there were Renault and Delahaye, from Italy Fiat and Alfa Romeo, from England Rover and Austin, from Austria Jenbacher and from the USA Willys-Overland.

²⁰² Ibid., 39.

²⁰³ Ibid., 38-39, 43.

²⁰⁴ Fauri, “Surviving in the Global Market: ‘Americanization’ and the Relaunch of Italy’s Car Industry after the Second World War”, 43; Francesca Fauri, “The Role of Fiat in the Development of the Italian Car Industry in the 1950’s”, *The Business History Review* 70, no. 2 (Summer, 1996): 178, 180-181, 184. In 1951 Fiat exported 21% of its production, and by 1959 this number rose to 39%; in 1958 Fiat held 83.1% of the Italian market and in 1960 “Fiat’s” share slightly decreased to 79.9%.

²⁰⁵ Fauri, “Surviving in the Global Market...”: 43.

could still benefit from the economies of scale in mass production of automobiles. Therefore, already in 1955 Fiat introduced a small family automobile, the Fiat 600, which became the factory's main production model until the 1960s. The climate in the automobile market throughout Western Europe was similar, and the automobile proved to be a great success.²⁰⁶ Furthermore, since the stability of the Italian market was fragile, Fiat adopted two distinctive strategies in order to forestall possible economic damages: (1) the diversification of models in order to divide risks of possible failed project(s) and to “adjust faster to outside competitors”, and (2) focusing on export, basically for the same reasons.²⁰⁷

All these attributes were significant for Fiat to win the competition in Yugoslavia. But probably the most important reason for its success was its strategy of expanding the production and sales via the establishment of subsidiary assembly facilities, predominantly in Latin America, but in other Third World countries as well. In the short period between 1954 and 1955 Fiat opened assembly facilities in Argentina, Brazil, Mexico and Venezuela, projects on which 6.2 billion liras were invested, but at the same time the company spent an additional 4.8 billion liras on similar projects in Europe. The first project was in Spain where Fiat helped Spanish government to start the national automobile factory S.E.A.T. in 1953, then later in the 1950s in Austria and West Germany, and of course in Yugoslavia in 1954.²⁰⁸

According to Fauri, Fiat's development strategy of the Third World markets was supported by the international monetary institutions, and the company also had its projects in Africa, though it was mostly focused on the development of the Latin American market.²⁰⁹ All of these successes prompted several contemporary authors to contemplate about Italian

²⁰⁶ Laux, 174, 198-199.

²⁰⁷ Fauri, “The Role of Fiat...”, 183-186.

²⁰⁸ Ibid., 188-189; Laux, 198; G. N. Georganos (ed.), *The Complete Encyclopedia of Motorcars, 1885 to the Present* (London: Ebury Press, 1973²), 297.

²⁰⁹ Fauri, “The Role of Fiat...”, 189-190.

economic development being based on the export-led growth, and solely on the automobile sector.²¹⁰ Eventually Fiat grew powerful enough to be able to shape the government tariff policies through constant lobbying for the protection of its production and position on local market and by exploiting the government's constant fears of unemployment and potential consequent rise of popularity of the Communist Party among general population.²¹¹

For the Yugoslav officials Fiat evidently was the most obvious choice as a partner to develop the Yugoslav automobile industry. Having established contacts and cooperation with several Italian companies already in the late 1940s, combined with geographical proximity and structural compatibility of the two economies, Yugoslavia's expansion of this cooperation was at least predictable. The role of the Fiat in leading Italy's industrialization, its basis on American technology and production model, and its almost monopolistic did not go unnoticed in Yugoslavia. The Yugoslav government, pressured by the American administration to establish production of the mass consumer goods in order to erect self-sustainable and market competitive economy, eventually made license agreement with Fiat and in the mid 1950s started the production of the passenger automobiles. However reluctant Yugoslav government may have been to change the structure of its industry, archival material suggests that the automobile industry in the second half of the 1950s became the leading sector of Yugoslav industry and the "motor" of industrialization process.

Finally, as the proverbial "icing on the cake", the London Memorandum between Yugoslavia and Italy was signed on October 5, 1954, thus ending almost a full decade of territorial feuds between the two countries; this agreement was soon followed by a new contract of economic cooperation in 1955. While the role of the American diplomacy in conducting and

²¹⁰ Fauri, "The Role of Fiat...", 205.

²¹¹ Ibid., 181-182; 205-206.

solving these multilayered and interconnected problems between Yugoslavia and Italy lays outside the framework of this thesis, it is nonetheless important to note that the cooperation between the two countries was established through technology transfer and without doubt helped to create, if not permanent than at least long lasting “bridge” of communication between these three countries.

3.3 “Cadres Decide Everything!”: Consolidating the Change, 1954-1962

“Resistances were various. Nonetheless, we managed to formalize automobile production through Economic Council even though this production was contested the usual way: who will buy automobiles? I was, as usual, claiming that we cannot be separated from the rest of the world, and if we were building socialism, it does not mean that we should be stricken by poverty.” (Mijalko Todorović-Plavi, one of the high-ranking LCY leaders)²¹²

These words of Mijalko Todorović-Plavi encapsulate some of the essential problems arising as a consequence of the structural change of Yugoslav industry. The actual implementation of the contract with Fiat and securing the necessary governmental support for this whole project was much more difficult. The Crvena Zastava factory had a tradition and experience of a full century of production exclusively for the military purposes, and any change of the production program, especially as radical as a switch from a military to a civilian program, necessitated a lot of muscle and persuasion in order to be successively realized. Bearing this in mind, the way the formal change was made and consolidated, and who were the true agents of it, is the crucial for better understanding of the specificities of the Yugoslav political and economic system.

²¹² Janković, 48. Interview with Mijalko Todorović-Plavi, given to the author in 1992.

Before moving to the Crvena Zastava case, it is essential to emphasize some important consequences of the Tito-Stalin split of 1948 had on the official policies of industrialization in Yugoslavia. The Yugoslav authorities already in 1948 relocated almost all of the strategic industrial facilities farther to the West, predominantly to Bosnia and Slovenia, with military and motor industry being dislocated first. Thus, the IMR truck factory, which was in the process of mastering the truck production, had to transfer its complete program with blueprints and necessary machines to the TAM factory in Slovenia.²¹³ The Crvena Zastava factory experienced similar destiny since much of the existing military program was relocated to Bosnia: the cannon production went to Travnik and the optical instruments program to Sarajevo.²¹⁴ There were even plans for the relocation of the entire remaining facilities from Kragujevac to a Western parts of Croatia, but these plans were never realized.²¹⁵ While this strategy may have been based on some sound logic, for Serbia, as the most Eastern republic, it in effect meant immediate de-industrialization and consequent widening of the regional differences in the level of economic development. With the majority of the production program dislocated, the Crvena Zastava factory was struggling to find new program in order to maintain some sort of production and to avoid mass layoffs.²¹⁶

Furthermore, besides immediate strategic considerations, the 1948 break with the Soviet Union “imposed a certain strategy of development” in which the “maximization of growth and the attainment of self-sufficiency became almost exclusive preoccupations”.²¹⁷ In practice this meant that a majority of investments in industrialization, other than the military industry which

²¹³ Milena Tršić (ur.), *Tovarna avtomobilov in motorjev Maribor, 1947-1987* [Automobile and Motor Factory-Maribor] (Maribor: Tovarna avtomobilov in Motorjev, 1987), 4-5.

²¹⁴ Janković, 23-24.

²¹⁵ Zečević, 57.

²¹⁶ The factory was producing plows and other agricultural tools, and was at the same time giving assistance to other factories, producing or certain more complex components or machine tools. Zečević, *passim*.

²¹⁷ Pleština, 27-28.

was being rapidly developed in Bosnia, went to the most developed regions and industrial sectors in order to achieve maximum output, optimum growth and overall self-sufficiency. Therefore, proportionally most investments went to Slovenia as the most developed republic since were expected to lead to “the quickest output maximization”.²¹⁸ In that sense, Malecki’s assumption that “[r]egional policies in underdeveloped countries were frequently only parts of larger national policies for modernization”, in the post-1948 Yugoslavia was clearly realized.²¹⁹

However, by the early 1950s, and especially after Stalin’s death in 1953, the Yugoslav geopolitical position was dramatically improved and the perceived threat from the Soviet Union lessened, and this was followed by formal decentralization and democratization of the political and economic system in Yugoslavia.²²⁰ One such policy was the Yugoslav specific system of self-management in factories, which will be discussed in the following chapter, but more important for investment and development projects more important was the establishment of the General Investment Fund (GIF) in 1952.²²¹ The basic idea behind the establishment of the GIF was the slow introduction of market economy principles, since the companies were supposed to compete with each other for free credit and investment loans based on their projects profitability. However, the idea backfired and the whole system became vulnerable to “informal pressure by politician who jockeyed for investments for ‘their’ republic, region or town”, while at the same time, even in instances of unbiased treatment by the GIF, technically less-developed regions or factories could not compete on equal terms with those who were more developed.²²²

²¹⁸ Pleština, 32, 34.

²¹⁹ Malecki, 102.

²²⁰ Democratization should be understood in a context of a socialist political system, where the idea was formal wider participation of the population in the decision making process while at the same time the system remained under control of a single communist party.

²²¹ Pleština, 30-33.

²²² *Ibid.*, 30-31. The central planning body still decided how much funds each industrial sector would get, but the

One of the key figures in these Yugoslav strategic investment projects was Mijalko Todorović-Plavi. He was an active member of the Yugoslav Communist Party before the war and during the war he became a political commissar of the First Proletarian Brigade, the first regular unit of Yugoslav partisans created in late 1941; by the end of the war he became political commissar of the First Yugoslav Army. After the war he continued his close connections with the YA as a high-ranking executive of the Ministry of Peoples Defense, where he headed the Military Industry Department. After 1948 he became minister of Agriculture and Forestry, and from 1953 he was a member of the Federal Executive Council (FEC), a body which was created in the same year and in practice acted as Yugoslav federal government.²²³ His was also born in a small village in the Kragujevac's hinterland, and as a student, right before the Second World War started, he received his practical-training in Vojnotehnički zavod in Kragujevac as a student of electromechanical department of the Technical Faculty in Belgrade.²²⁴

Todorović showed great interest in the development of the automobile industry in the country, which is confirmed in various sources. At least during the 1955-56 period many Yugoslav motor industry factories (motors, trucks, automobiles, chassis, etc.) sent their mail and complaints directly “into the hands of comrade Mijalko Todorović”.²²⁵ Zečević also confirms that during the installations of machinery in one of the newly setup workshop in the Crvena Zastava factory in 1958, Todorović was frequently visiting the facilities and he was “especially interested [...] if modern solutions for serial production [...] were being applied, in

GIF actually held auctions in which companies were competing for funding.

²²³ *Narodni heroji Jugoslavije II* [Yugoslav National Heroes, vol. 2] (Beograd: Partizanska knjiga, 1982), 326-327; Janković, 23, 30.

²²⁴ Janković, 23.

²²⁵ AJ, fund 253 Udruženje proizvođača motora i motornih vozila [Association of Motor and Motor Vehicle Producers], box 1 (in further reference AJ, 253, 1). Complaint of the Yugoslav bus factories concerning the import of foreign buses, March 15, 1956.

order to prevent transfer of experiences from previous craft-serial production of military sector, which he often criticized”.²²⁶ In 1955 he also managed to install his friend from university and colleague from the Military Industry Department, machine engineer Prvoslav Raković, as a new managing director of the whole Zavodi Crvena Zastava when automobile production started.²²⁷ Finally, Todorović was a very close associate of Yugoslav president Tito and on at least one occasion he was in charge of important tasks during the Tito’s absence on a diplomatic mission.²²⁸

Therefore, as an engineer and politician originating from the Kragujevac hinterland, Todorović was in an excellent position to personally support and push the project of the establishment of automobile industry through the official institutions. Still, the decision to start automobile production in Kragujevac also had at least some rational reasoning behind it, since the Crvena Zastava factory in the early 1950s was considered as one of the most efficient industrial facilities in the country, which is not surprising since it could rely on its respectable pre-war experience.²²⁹

In this environment no single policy of industrialization could have been successfully implemented, as republics competed with each other for investments, using whatever means and political connections they had. Supported by foreign investments, factories were mushrooming all over the country, and the politicians were obviously using a “shotgun

²²⁶ Zečević, 88.

²²⁷ Janković, 48-49.

²²⁸ According to the memoirs of general Milan Žeželj, commander of Tito’s personal safety service, Todorović was in 1954 receiving dispatches directly from Tito who was in India at that time, concerning the expulsion of one of high-ranking officials from the Party. Milan Adamović, *Brozovi strahovi: kako je čuvan Tito i pokušaji atentata: (prema kazivanju i dnevniku generala Milana Žeželja, komandanta Titove garde i maršalovog ađutanta)* [Broz’s Fears: How Tito Was Guarded and Assassination Attempts (According to Telling and Diary of General Milan Žeželj, Commander of Tito's Guard and Marshall's Adjutant)] (Belgrade: Kosmos, 2004), 141.

²²⁹ Pleština, 40.

approach” (chapter 1.3) since “lacking ‘everything’, ‘anything’ would be useful”, though more as a production than an economic unit.²³⁰

Taking the opportunity to boost the industrialization in Serbia, local party magnates eventually produced envy and rift between party leaderships of other republics. This is more than evident in a 1953 speech of Voja Radić, the first post-war managing director of the Crvena Zastava factory, held at one of the workers’ council meetings:

“There are certain factories which were not glad to see that we are creating a modern automobile industry in Kragujevac. We have built several factories of automobile industry in Yugoslavia but even today they are not working in full capacity. For example, Tezno [TAM factory in Maribor, Slovenia] is producing a 3 ton truck, while all the rest are still in the phase of preparation, testing some things and none of them is working seriously. Of course, the emergence of our factory is going to considerably undermine those companies, since they were already preparing for this industry. Our undertaking will force them to buck up, to work faster.”²³¹

What can be read between the lines in this speech is that the specific race for taking the share of the Yugoslav motor vehicle market by the mid 1950s was already underway between several factories in the country, and this kind of frantic competition was most likely happening in other industrial sectors.

In the Crvena Zastava factory this race for the market was motivated by the needs to prevent layoffs, which were becoming necessary after the relocation of the main production program, and to prevent the existing Slovenian TAM truck factory, the only one functional motor vehicle factory in the country at that point, from capturing this entire market. This inevitably evolved into competition between the Serbian and Slovenian factories and consequently the Party leaderships of two republics.

²³⁰ Ibid., 35-36.

²³¹ Janković, 33. Stenographic notes from the „Crvena Zastava“ workers' council, July 15, 1953. The speech of Voja Radić, managing director of the company

In a 1957 report of the FEC committee for the development of automobile industry, the strategy for the next ten-year period envisioned that the majority of this sector will be established in Serbian factories. The Crvena Zastava factory was supposed to produce army off-terrain vehicles, passenger automobiles, and light 0.5-ton and 1.5-ton commercial vehicles. The Fabrika automobila Priboj [Priboj Automobile Factory] (FAP), a factory which construction only began in 1953, was designed for the heavy trucks program (4, 6 and 8 ton trucks), while the already established Slovenian TAM truck factory's was basically pushed out of the market and limited to the existing production without any options to diversify its program.²³² Furthermore, the TAM program was based on the 1939 Czechoslovak model, and by the mid 1950s it was already obsolete. Combined with the fact that this report was approved and signed by Mijalko Todorović, it becomes evident how he managed to use his political connections and government office position to reserve giant share of the potentially leading industrial sector in the country for Serbian factories. The Crvena Zastava factory in particular was designated as the only passenger automobile producer in the country.²³³

However, the Slovenian political leadership did manage to fight back. The Slovenian counterpart to Mijalko Todorović was Franc Leskošek-Luka, a veteran communist, a generation older than Todorović. In the early 1950s he was the president of the Industrialization Council of the PR Slovenia, and from 1953 he became, like Todorović, a member of the FEC. His equally strong political position is confirmed by the fact that in the 1958-1963 period he was the Chairman of the National Assembly.²³⁴ In the extremely narrow field of the motor vehicle industry, by 1954 the Slovenian leadership managed to secure license for the

²³² AJ, 589 SSI, 67. Izveštaj komisije Saveznog izvršnog veća po predmetu razvoja automobilske industrije u FNRJ [FEC Committee Report on the Topic of the Development of Automobile Industry in FPRY], April 26, 1957.

²³³ AJ, 589 SSI, 296. The Analysis of Registered Contracts, Appendix, 1-6. Other Serbian factories were producing tractors, crawlers, earth moving machines, combines and other agricultural motorized machinery.

²³⁴ *Narodni heroji Jugoslavije I* [Yugoslav National Heroes, vol. 1] (Beograd: Partizanska knjiga, 1982), 418.

production of scooters in the Tovarna motornih koles Sežana [Sežana Motor Vehicle Factory] (TOMOS) in Koper, and by 1957 TAM acquisitioned a new license for truck production.²³⁵ Nonetheless, if the Slovenian factory was dissatisfied with the course of development, it can be argued that it was in effect responsible for the beginning of this kind of race. In one of the document of the Central Directorate of the Federal Motor Industry dating from 1949, TAM was openly accused of extending its capital construction far beyond the provisions of the Five-Year Plan, spending more funds than specified, and completely disregarding three consecutive interventions by the Directorate's officials.²³⁶

Furthermore, other republics also wanted their share of the market and the official documents and daily press repeatedly criticized "localism tendencies" of some factories whose "narrow view and erroneous attitude was [...] manifested through tendency to produce everything on their own, rejecting cooperation [...] and striving to maintain their monopolistic view".²³⁷ As a consequence, the Crvena Zastava factory was forced to accept the model of a horizontal integration of production, having cooperative companies in each republic, even though considering the lack of factories able to deliver mass produced and high quality components, it would have been more sensible to have vertical integration, like in Italy where Fiat was producing almost all of its necessary components.²³⁸ While all of this was small satisfaction for the TAM factory which until the early 1950s had been the only motor vehicle

²³⁵ AJ, 589 SSI, 296. The Analysis of Registered Contracts, Appendix, 2, 4. "TOMOS" acquisitioned license from the Austrian company "Steyr-Deimler-Puch", and TAM from German Deutz.

²³⁶ AJ, 108 GDSIM, 30-52/824. Evidencija i organizacija plana izgradnje [Records and Organization of the Construction Plan], September 6, 1949.

²³⁷ AJ, 589 SSI, 183. „Program proizvodnje, uzajamnih odnosa kooperacije i potrebnih investicija proizvođača motora i motornih vozila Jugoslavije u razvojnem periodu motorne industrije od 1956. do 1965. [Program of Production of Motors and Motor Vehicles during the Developing Phase of Yugoslav Automobile Industry, 1956-1965], Belgrade, 1955, 1-2.

²³⁸ Fauri, "The Role of Fiat...", 189. Fiat was actually unable to rely on other Italian suppliers. The effects of this kind of adaptation of the Italian model to the Yugoslav environment will be treated in details in the following subchapter .

producer in the country, it shows the intensity of the frantic race between factories and republics to exploit the possibility of the “first mover advantage” and to position themselves as leaders in various industrial sectors in the country.

All of this seems to be evident from the analysis of the development of the production in the Crvena Zastava factory, which was rapidly expanding the volume and diversity of its program. In the original contract with Fiat signed on August 14, 1954 for the next 10 years, the production of 1,500 off-road vehicles, 1,500 light commercial trucks, and 7,000 passenger automobiles per year was estimated as adequate for the Yugoslav market.²³⁹ Already in 1956, managing director Prvoslav Raković negotiated the extension of the existing contract with Fiat to include its top selling model, small and economic family automobile “Fiat 600”, more suitable for the Yugoslav standard and, according to his own words, to avoid mass layoffs, since the existing program could not effectively employ the existing workforce in the factory. The introduction of a new model necessitated the first small investment program for the expansion of the factory’s capacities and procurement of necessary machinery. Yet, it was still very shy investment since the capacity of production was to be expanded from the initial 10,000 to only 12,000 vehicles per year.²⁴⁰ However, it seems more likely that Raković was aware of the growing potential of Yugoslav market and wanted to exploit this fact. In the 1953-1957 period Yugoslavia experienced average growth of gross material product (GMP) of 10.2 percent per year, which was one of the highest in the world.²⁴¹ This was translated into the rise of the living standard and in 1957 personal consumption on average rose by 11.4 percent

²³⁹ AJ, 589 SSI, 107. Pregled potreba perspektivne proizvodnje lakih automobla u preduzeću “Crvena Zastava”, Kragujevac [An Overview of the Perspective Production of Light Vehicles in the “Crvena Zastava” Company], July 10, 1954.

²⁴⁰ Janković, 50.

²⁴¹ Pleština, 48.

compared to the previous year.²⁴² With help from the Fiat experts, already in 1957/58 Raković proposed another project for the completely new factory for the capacity of 32,000 vehicles per year. Importantly, according to this project, previous plan for the production of 12,000 was to be extended by another 20,000 “Fiat 600” vehicles, at this point renamed to “Zastava 600”, which were to be produced in the new facilities.²⁴³

However, the government resistance was immense. First of all, the majority of the Yugoslav officials did not see the need for a new factory with this capacity, especially since in Yugoslavia total number of registered vehicles in 1958 was only 28,394, and the government’s plans and predictions were based not on the world market development, but on previous Yugoslav experience.²⁴⁴ Some of them even held the opinion that Fiat automobiles are “small and weak” and were arguing that the agreement with “Mercedes” would have been much better option.²⁴⁵

Leaving aside the longings of Yugoslav communists for luxury Western automobiles, internal strife among the LCY leadership was also present. Even though the sources do not clarify what was going on behind the scenes, there is enough evidence to support the claim that the project for a new factory in Kragujevac was being sabotaged institutionally. The project for the new factory was eventually approved but without any funding, and it was left for the Crvena Zastava factory management to find a way to finance it.²⁴⁶ When the Italian partner

²⁴² AJ, 589 SSI, 38. Razvoj lične potrošnje i životnog standarda [Personal Consumption and Living Standard Growth], June 19, 1958.

²⁴³ AJ, 589 SSI, 38. Elabarat za novu fabriku atuomobila “Crvena Zastava” – Kragujevac [The Study for a New Automobile Factory], June 19, 1958.

²⁴⁴ *Statistički godišnjak Federativne Narodne Republike Jugoslavije, 1958* [Statistical Yearbook of Federal People’s Republic of Yugoslavia, 1958], Belgrade 1959; AJ, 589 SSI, 183. „Program proizvodnje, uzajamnih odnosa kooperacije i potrebnih investicija proizvođača motora i motornih vozila Jugoslavije u razvojnom periodu motorne industrije od 1956. do 1965. [Program of Production of Motors and Motor Vehicles during the Developing Phase of Yugoslav Automobile industry, 1956-1965], Belgrade, 1955.

²⁴⁵ Janković, 40. Interview with Mijalko Todorović given in 1992.

²⁴⁶ *Ibid.*, 50. The Yugoslav Second Five-Year Plan started to be implemented in 1957.

agreed to provide generous loan, Prvoslav Raković was not allowed to participate in the negotiations with Fiat in Turin, many strings were pulled to include him in the official delegation.²⁴⁷ Raković's stories of other sabotages by the official institutions may have been exaggerated, but archival documents confirm that his name was only later added to the delegation's list of the Yugoslav government for the negotiations in Italy.²⁴⁸

After more than six months of negotiations and a lot more time spent in the preparation of the project, the construction of the new Crvena Zastava factory started in April 1960; the factory was finally opened in June 1962. But instead for the capacity of 32,000 the basic facilities were constructed to accommodate the machines and workers for the capacity of 82,000, even though the equipment was procured for the initially designed lower production volume.²⁴⁹ Throughout these negotiations and the construction of the new factory, Raković had full support from Todorović, who was not only resolving the day-to-day obstacles, but was constantly supporting the expansion of the production, claiming that “it is not the State that builds and develops but smart and brave people”.²⁵⁰ Finally, according to the memories of Momir Zečević, who was charged with installing technical equipment in the new factory, during one of his many visits to Kragujevac, Todorović expressed his delight that everything was “organized on contemporary engineering principles of modern industrial production” and that new technical solutions can be also used for production of new types of weaponry: “You made a great contribution to the Institute, and you probably do not realize this, but we from the side see it”.²⁵¹

²⁴⁷ Janković, 50. Interview with Prvoslav Raković, given in 1992.

²⁴⁸ AJ, 130 fund Savezno izvršno veće [Federal Executive Council], file 622, archival unit 1028/157-159 (in further reference AJ, 130 SIV, 622-1028/157-159) List of Yugoslav delegation for the negotiations in Italy, January 1957.

²⁴⁹ Janković, 60-63.

²⁵⁰ Ibid., 60. Interview with Mijalko Todorović, given in 1992.

²⁵¹ Zečević, 96.

The development of the automobile industry in Yugoslavia with the Crvena Zastava factory leading this sector was an important state project. Within a framework of less than ten years, the former armament factory with outdated technology and without proper production program became one of the most advanced industrial facilities in the country. However, from what has been stated so far, it seems evident that this was achieved by just a few people able to understand both the internal and international delicate political situation of Yugoslavia and who at the same time were in a good position to steer the economic development of the country accordingly. On the other hand, this development created much resistance among the party leadership of other republics, who basically wanted to do the same thing in their republic, thus creating divisions which were only growing larger as Crvena Zastava and other companies expanded production capacities. Finally, even though not enough evidence is available, the fact that the project started in a military factory, supported by high ranking military or at least former military executives and state officials, makes it likely that the potential of the civilian industry, especially with advanced Western technology for eventual use in the military industry was also a factor in the industrial expansion.

3.4 Producing an Automobile in Yugoslavia: The “Great” Change and its Contradictions

In a situation where these individually-based international legal and economic relationships are inevitably reflected on the community and its overall economic relationships and interests, the introduction of a tighter social and public control cannot be in contradiction with democratization or decentralization or the principle of self-management in economy since otherwise elements of disharmony would be introduced in the entire economic policy and finally in our policy of directing industrial development.²⁵²

²⁵² AJ, 589 SSI, 296. The Analysis of Registered Contracts, 69-70.

This conclusion of an extended analysis of the Yugoslav FEC on the problems arising from the 1950s widespread practice of using foreign licenses in order to start a factory, or to modernize the existing industrial facilities, suggests that the rapid development based on the cooperation with technically advanced partners from the West in practice was difficult to achieve. Largely pushed by the American administration and its Western European partners to modernize its economy and make it more competitive in the world market (see chapter 3.2) and with the need to prove the correctness of the decision to embark on a separate road to communism after 1948, Yugoslav authorities eventually reformed the political system and economy on the principles of “democratization”, “decentralization” and “debureaucratization”, the famous “three D’s”, as they constantly reminded themselves as well as foreign and domestic public.²⁵³

From the Yugoslav top-down economic perspective, this meant that the companies were gradually introduced to basic principles of market economy, having the relative freedom in organizing and choosing their production program and being stimulated to create profitable projects in order to compete on equal terms with other companies for state funding. Yet in reality this strategy made the whole system more susceptible to the political pressure of local and regional Party leaders.

At the factory level, this reform meant the introduction of the Yugoslav concept of self-management of the factories. The system was based on the theoretical assumption that “socialism can grow only through initiative of millions and with proper leadership role of the proletarian Party” and that the only road to achieve this goal is “the constant deepening of socialist democracy through expansion of the self-management of the masses, in terms of their

²⁵³ Dušan Bilandžić, *Hrvatska moderna povijest* [Croatian Modern History] (Zagreb: Golden Marketing, 1999), 334.

increased participation in the work of the state machinery”.²⁵⁴ In practice, self-management meant “independent decision making of the most basic economic decision” in one company: decisions about the production; sales and finances; transactions with foreign partners; prices formation; investments; employment; appointment of managers; division of profit and internal organization.²⁵⁵

However, while these ideas sounded very new and progressive, their implementation was a different story since self-management was from the start practically impossible to operate successfully due to inherent contradictions of the Yugoslav state system. The political system based on a “vertical subordination” or “political monopoly” was impossible to reconcile with the self-management system which “allows shattering of the concentration of economic power”.²⁵⁶ Therefore, right from the start all of the “three D’s” of Yugoslav reforms only hampered further economic development of the country.

These contradictions are evident in even a brief description of the most important features of the Yugoslav economic system to which Western (Italian) technology, which was designed, tested and practiced in a capitalist economy, had to be adapted. On the first level, the most visible was the question of horizontal integration of production, instead of vertical as was the case in Fiat and the American factories at that period (see chapter 3.3). This meant that in practice all of Yugoslav republics had to share at least some of the profits and successes of the Crvena Zastava factory. This strategy was based on a political or even an ideological rationale, and consequently had a negative impact on the economic performance of the Crvena Zastava factory. The underlying idea was the concept of “Brotherhood and Unity” which was

²⁵⁴ Dušan Bilandžić, *Kratak pregled razvoja samoupravljanja u Jugoslaviji* [A Short Overview of the Development of Self-Management in Yugoslavia] (Split: Marksistički centar, 1975), 37.

²⁵⁵ Branko Horvat, *ABC jugoslavenskog socijalizma* [ABC’s of Yugoslav Socialism] (Zagreb: Globus, 1989), 20. The impact, reach and influence of the self-management system on the daily operations within a factory will be discussed in chapter 4.1, based on the “Crvena Zastava” case study.

²⁵⁶ Horvat, 11.

operationalized through “the principle establishing ethnic quotas for positions of responsibility on the basis of approximate proportionality to population”.²⁵⁷

This “ethnic key” was evident already in the original 1954 contract between Fiat and the Crvena Zastava factory in which the main Yugoslav component suppliers were dispersed all over the country, despite their distance to Kragujevac: from Belgrade (141 km), Banja Luka (467 km; Bosnia and Herzegovina), Kranj (699 km; Slovenia), Borovo (302 km; Croatia) and Zagreb (529 km; Croatia).²⁵⁸ By the early 1960s the Crvena Zastava factory could boast a vast network of component suppliers which rose to sixty-three big Yugoslav industrial enterprises, but in reality their dispersal all over the country, produced constant logistical problems in supplying components.²⁵⁹ Even in instances when Crvena Zastava was in a position to invest its own funds in the establishment of the component supplier, the state always intervened and directed those investments into less developed areas of Yugoslavia, usually in the Southern Serbian province of Kosovo or the Republic of Macedonia where poor infrastructure and inadequate workforce contributed to much lower overall performance than expected.²⁶⁰ Furthermore, the great majority of the Crvena Zastava’s component suppliers’ considered their production for the automobile industry only as a supplementary program. Consequently, they

²⁵⁷ Sabrina P. Ramet, *The Three Yugoslavias: State-Building and Legitimation, 1918-2005* (Washington D.C.: Woodrow Wilson Center Press, 2006), xxi.

²⁵⁸ AJ, 589 SSI, 107. Pregled potreba perspektivne proizvodnje lakih automobla u preduzeću “Crvena Zastava”, Kragujevac [An Overview of the Perspective Production of Light Vehicles in the “Crvena Zastava” Company], July 10, 1954. Road distances were obtained from the Google internet site service – Google Maps (<http://maps.google.com/>) and are relative, yet still trustworthy since the existing road network was modernized since the 1950s, but on the same routes. Please refer also to *Appendix 1* for a Yugoslav map.

²⁵⁹ HU Open Society Archives, fond 300 Records of Radio Free Europe/Radio Liberty Research Institute, 1949-1994, subfond 10 Balkan Section: Albanian and Yugoslav Files, series 2 Yugoslav Subject Files I, Box 277 (in further reference HU-300-10-2, 277). *Ekonomska Politika* (in further reference *EP*), November 9, 1963. Interview with Prvoslav Rakovic, director of the “Zavodi Crvena Zastava”.

²⁶⁰ Michael Palairat, “Ramiz Sadiku: A Case Study in the Industrialization of Kosovo”, *Soviet Studies* 44, no. 5 (1992), 900-901. Detailed and very informative analysis of the Yugoslav policies of regional development was conducted by Dijana Pleština, *Regional Development in Communist Yugoslavia* (Boulder, San Francisco, Oxford: Westview Press, 1992).

were not inclined to invest heavily in expensive equipment, but rather opted to continue production of the components with the existing machinery.²⁶¹

This is important notion since it shows the difficulties of adaptation of a Western model of automobile production to a socialist economic and political system. According to the provisions in the original contract between Crvena Zastava and Fiat, the model of production in the Yugoslav factory was based on the Fordism principles, where the central factory is basically just an assembly line, with most of the components being provided by the cooperators. According to the plan of the development of production in the new factory, opened in 1962, 55% of the components should be produced in the Crvena Zastava, 40% in other Yugoslav factories, and only 5% were to be imported. Heavily reliant on the component suppliers' performance and without any other way to entice them to operate more efficiently other than sheer political pressure, the whole system necessarily became highly politicized and prone to influences of various high ranking politicians.²⁶²

The problems of the Crvena Zastava factory in obtaining adequate volume and quality of automobile tires from Yugoslav factories provide a telling example.²⁶³ With the new factory already setup and running by the end of 1962, the problem of tire supply for the top-selling Zastava 600 model soon emerged, since none of the three Yugoslav factories could keep up with Crvena Zastava's demand. Being only supplementary to their other production programs, these factories were not producing tires in great numbers, hence, their products were more expensive even than imported tires. However, due to political pressure, it was not possible to

²⁶¹ Michael Palairat, "Ramiz Sadiku: A Case Study in the Industrialization of Kosovo", *Soviet Studies* 44, no. 5 (1992), 900. HU OSA 300-10-2, 277. *EP*, November 9, 1963. Interview with Prvoslav Raković, director of the *Crvena Zastava*

²⁶² "Za ovu fazu osvajanja dovoljna" [In This Phase the Production Level is Sufficient], *Crvena Zastava*, no. 42 (February 1962), 4.

²⁶³ The following paragraph is based on the Prvoslav Raković's interview given to *EP* on November 9, 1963, and the conclusions and explanations given in my previous sub-chapter.

import foreign tires. Furthermore, even though Crvena Zastava's managing director Prvoslav Raković was repeatedly and publicly calling for one of the Yugoslav tire factories to specialize its program exclusively for the automobile industry, this necessitated a lot of investment. Yet, these investments were never approved, since the remaining tire producers would have to be equally accommodated. Finally, during the 1950s "political" factories mushroomed all over the country (see chapter 3.3), which as a consequence usually meant the multiplication of factories with basically the same production program. Combined with inter-regional competitiveness, it is not surprising that the existing three tire factories were located in Slovenia, Croatia and Serbia; according to the "ethnic key", all of them had to enjoy in the production and profit of Crvena Zastava.

Conversely, exactly because of this kind of protection, Crvena Zastava component suppliers were discouraged to invest their own funds into modernization and expansion of their capacities, since purchase of their products was guaranteed, thus enabling them to act as monopolists. The "ethnic key" principle was pursued even to the level of utter banality which is visible even in Raković's 1963 interview in which he was highly critical on the majority of component suppliers' performance, yet he did not fail to mention that "[t]he Slovenes are the quickest in attaining the necessary volume and quality of production" but that the Crvena Zastava had "good experience with some enterprises in Serbia, Croatia and Bosnia", basically covering the political map of the factory's suppliers.²⁶⁴

All of these problems were eventually funneled directly to the Crvena Zastava factory. Even though the factory's management was obviously aware of the problems and even knew how to mend them, their hands were quite literally tied. Supply problems, in terms of volume,

²⁶⁴ HU OSA 300-10-2, 277. *EP*, November 9, 1963. Interview with Prvoslav Raković, managing director of the "Crvena Zastava".

quality and logistics, caused stoppages on the Crvena Zastava assembly line, thus raising the costs of production.²⁶⁵ These costs could not be translated to higher prices of automobiles, since they had to be kept preferably on lower level than in Italy, even though the costs of production in Yugoslavia were much higher. They could not be translated into lower salaries either, since in the self-management system, workers' councils could stop such decision. As a final consequence, Crvena Zastava's profit margin grew ever thinner which meant that even the existing level of production was very difficult to finance.

These costs were eventually paid through the mechanism of deficit spending and by the local Yugoslav customers who were discouraged to buy foreign automobiles through import duties which varied in a range of 12-100% depending on the vehicle model.²⁶⁶ At the same time, due to many already mentioned problems, Yugoslav automobiles were poorly made. Even though the daily press and even archival material is generally silent on this problem, reports on the performance of Yugoslav automobiles in the foreign market are instructive. In the 1961 Brno exhibition Yugoslav cars were ridiculed by visitors for their poor paintjob and craftsmanship – the paint was applied unequally, and was even chipped in some areas, while the gap between the headlight and the body panel was wide enough for visitors to put their fingers through it. Adding insult to injury, Yugoslav automobiles were estimated by the Czechoslovak visitors as being of lower quality even than other East European automobiles.²⁶⁷ While this could be attributed to Eastern bloc propaganda, these were not small details, but huge problems and were eventually confirmed by the Yugoslav delegates.

²⁶⁵ HU OSA 300-10-2, 277. *EP*, November 9, 1963. Interview with Prvoslav Raković, managing director of the “Crvena Zastava”.

²⁶⁶ HU OSA 300-10-2, 277. *EP*, November 9, 1963. Interview with Prvoslav Raković, managing director of the “Crvena Zastava”; HU OSA 300-10-2, 277. *Borba*, October 28, 1966, 5.

²⁶⁷ AJ, 253, UPMMV, 25. Report of Yugoslav delegate on Brno Fair, September 3, 1961, 1.

The report of the 1962 export deal with Finland reveals how problems in cooperation with other Yugoslav companies undermined the Crvena Zastava performance on the West European market. For the purposes of conserving the paintjob on vehicles during the sea transport from Yugoslavia to Finland, a preservation material produced in Yugoslavia was used. However, both Finish and Yugoslav technicians in Finland found it impossible to remove this material from the majority of the automobiles, which eventually had to be repainted at a price of 100\$ per vehicle. Needless to say, these costs were paid by the Crvena Zastava factory in order to secure the export deal, while at the same time the Yugoslav factory which provided the preservation material never reimbursed these costs.²⁶⁸

Finally, the important question to answer is in what way the Western (Italian) technology influenced the development of the Yugoslav socialist industry and economy in general. Again, Raković's 1963 estimations are instructive:

“Here we come across many obstacles. We usually say that sixty-three enterprises compose our auxiliary industry. This is only partly true. Every one of our cooperators relies, usually, on another twenty odd cooperators of his own, so that in the end it seems that almost all of Yugoslavia's industry is connected with the production of automobiles, for there are about 1,200 of them which are. That is why I can freely claim that the problems of an automobile industry are just as much problems of the entire industry, problems of the national economy – in our country or in any other country. Unfortunately, this simple truth has not yet been fully grasped everywhere in our country.”²⁶⁹

While the problems of supply in a classical socialist system, as explained and defined by Kornai's term “shortage economy”, are expected and indeed integral part to system, it seems that in Yugoslavia this problem was further exacerbated by the introduction of both market

²⁶⁸ Centralna arhiva Zavoda Crvena Zastava, Upravni odbor Zavoda [Central Archive of the Red Flag Institute, Executive Board], file 165/2, year 1962 (in further reference ZCZ, UOZ, 165/2, 1962). Letter of the Executive Board to the Managing Director, Prvoslav Raković, July 23, 1963.

²⁶⁹ HU OSA 300-10-2, 277. *EP*, November 9, 1963. Interview with Prvoslav Raković, managing director of the “Crvena Zastava”.

economy principles and the self-management system. This kind of “decentralization”, “democratization” and “debureaucratization” actually created the problem of simultaneous existence of powerful, contradictory and in some instances mutually exclusive agents and strategies of the economic development. Polarized in this way, the Yugoslav economic system achieved a little bit of everything. In the case of the automobile industry, the Crvena Zastava factory was eventually able to produce modern vehicles, even relatively competitive on the West European market, but at the same time, of equal or even lower quality than factories in other East European countries. In this kind of almost schizophrenic situation all levels of society could at the same time boast of their successes, and call for the serious reform of the entire system.

IV Inside the Automobile Factory: Yugoslav Workers and Western Technology

According to the official history, on August 26, 1953, 94 % of roughly 5,000 workers of the Crvena Zastava factory decided on the referendum held on one of the workers' councils to change the existing program of weapons and ammunition production and to start the production of passenger automobiles. For this purpose, the workers also decided not to use the existing fund of 100,000.000 dinars as an addition to their salaries, which they were legally allowed to, but instead to invest these funds in adaptation of one of the factory workshops for automobile production.²⁷⁰

This event also had symbolical significance since it marked the new birth of the factory in the year of its centenary and was captured and engraved on the memorial plaque which until the very recent years was proudly mounted on the main building of the Crvena Zastava factory.²⁷¹ Starting with the group of pre-war gunsmiths and other craftsmen, with very few educated technicians and engineers, the Crvena Zastava workforce was by 1962 expanded, rejuvenated and successfully transformed to become able to successfully operate one of the technically most advanced automobile factories in Europe.

In this chapter, my analysis will focus on the impact the advanced Western technology had in the process of creation of the workforce in the Crvena Zastava factory. Organization of work was based on the two distinctive models which had to be implemented simultaneously: Yugoslav self-management as a part of the entire political system, and Western technocratic

²⁷⁰ *Od topa do automobila, 1853-1973*, 52-57;

²⁷¹ The memorial plaque is taken off when Fiat company bought the factory in 2008, and is now kept in the office of the still formally existing "Zastava Automobili", the "Crvena Zastava" successor company; the plaque was shown to me by the managing director of the company, Radomir Petrović during my visit to Kragujevac in April 2013.

thinking originating from capitalistic system. I will argue that the implementation of advanced Western technology acted as a catalyst in the process of creation of new and technically more educated workforce, but that new system of organization of production was in a constant collision with Yugoslav concept of workers' self-management of factories. This collision undermined the Party's project of generating political support for the Yugoslav political system among the workforce, and at the same time created a rift in the Party itself between political decision makers and factory's management structures, pressured to support Party's political program and at the same time to achieve adequate economic performance of the factory. Understanding the factory as a microcosm of the entire Yugoslav society, this analysis will allow me to draw some important conclusions about the nature of the Yugoslav "independent" road to communism.

4.1 Workers Decide Everything: The Decision Making in the Crvena Zastava Factory

"If for some idealistic reasons we want to introduce democracy in the decision-making, then [...] this means compromise; the more democracy, the less efficiency and vice versa [...] therefore, the socialist principle of organization will not be based on a trade-off between participation in decision-making and efficiency, but rather on maximization of democracy with maximization of efficiency. How to achieve this?"²⁷²

The problem of implementing the ambitious system of self-management expressed by one of the Yugoslav most respected economists was only part of his treatise published in the late 1980s in which he tried to defend the Yugoslav system of decision-making and managing in the companies and factories which was, according to his own words, "through political vulgarization" brought "on the brink of discrediting".²⁷³ This was the basic backdrop to which

²⁷² Horvat, 20-21.

²⁷³ Ibid., 25.

the Western technology had to be adapted and eventually implemented. In order to fully comprehend how the whole project of cooperation with Fiat was implemented, adapted and how it evolved on the factory level, it is first necessary to understand the dynamics of the decision making inside the factory and how suitable it was for the implementation of the modern technology. Conversely, it would be also important to analyze in what way the decision making process was influenced by the new technology.

The previous story about the Crvena Zastava workers' decision to start the automobile production program seems to suggest how democratic the system was²⁷⁴ – it shows that the workers were allowed to speak their mind, with some of them arguing and voting freely against the program of automobile production. It also seems to show high level of unity among the workers, in spite of their unavoidable differences in education, age, sex or origin, while on a deeper level it suggests that the whole newly established political, social and economic system had support of the workers. But were the voters the actual decision makers? The easiest answer is no.

The decision making inside the factory was formally based on the Yugoslav concept of self-management of the factories, first introduced in the country already in the late 1949, and embodied in the ambitious slogan “factories to the workers”. The first workers' council in the Crvena Zastava factory was elected already in February 1950 and it constituted of 80, out of 5,000 workers employed in the factory.²⁷⁵ On the other hand, “due to the specificities of the military industry”, which included the Crvena Zastava factory before the start of the production of automobiles in 1953, the workers' council for the first couple of years had only an advisory

²⁷⁴ Horvat explains the term “democracy” in the self-management system not as decision making by the majority, but as “respect of the rights of the minority”, achieved through multileveled decision making system decentralized to the level that each workers' unit is greatly homogenized as a group of workers with equal tasks, therefore avoiding the discrimination by majority. Horvat, 21. For the short analysis of the basic principles of the Yugoslav self-management, please refer to the opening analysis of the chapter 3.4.

²⁷⁵ Janković, 32.

function. It began making decisions in 1952 with the first reform of the self-management system which allowed it higher autonomy in managing of the factory's income.²⁷⁶

The system was gradually evolving both on the state level and in the factories, becoming increasingly bureaucratized. In the Crvena Zastava factory, the "workshop council" was introduced in 1956 as an ancillary and advisory body of the worker's council, providing it with the information on the problems at the shop-floor level. And in a good practice of highly bureaucratized systems, the coordinating body between these two councils was also created with a complicated division of jurisdiction between the workers' and workshop councils.²⁷⁷ In the following years, even these bodies were further multiplied and divided into several sectors – financial, sales, personnel and other specialized sectors, which also held their own separate councils.²⁷⁸

Another important characteristic of the formal side of the decision making system in the factory was the high fluctuation of workers who were chosen as representatives in the workers' and other councils. By 1961, after almost ten years of practice in the workers' self-management, one fifth of all the workers had passed at one point or another through the "offices of the workers' self-management, deciding on the most important questions in the factory".²⁷⁹

All these changes and the actual result of their implementation can be contrasted with the officially promoted "three Ds" of the continuous reforms of the self-management system -

²⁷⁶ *Od topa do automobila, 1853-1973*, 51. The word income was used with great amount of care, since only later in 1958 did the management of "income" become management of the factory's "profit". It is also important to stress that one part of the factory continued the armaments production to this very day; it became the independent factory within the "Crvena Zastava" institute in 1962-65 period, but already in 1953 the armaments production was considered to be additional to the automobile production and other civilian programs.

²⁷⁷ "Donošenje pravilnika o radu pogonskih radničkih saveta" [Enactment of the Workshop Council's Rule Book], *Crvena Zastava*, no. 1, July 1958, 5.

²⁷⁸ "Prvi put u organima upravljanja" [First-Timers in the Management Offices], *Crvena Zastava*, no. 29, January 1961, 2.

²⁷⁹ "Izabran fabrički komitet" [Factory's Committee is Chosen], *Crvena Zastava*, no. 31, March 1961, 1.

democratization, debureaucratization and decentralization²⁸⁰ (see chapter 3.4). From what has been said so far, the system was beyond any doubt highly bureaucratized, which at the same time made any attempt for a decentralization of the decision making system, however honest it may have been, into its opposite, the creation of several levels of (semi-)independent bodies with overlapping jurisdictions within the factory. However, it can be argued that democratization, understood in a Yugoslav self-management key, was one of the achieved goals. By 1962 the original number 80 representatives in workers' council grew to 285 in different management bodies with additional 180 representatives in the smaller "economic units" which were elected yearly; at the same time the workforce size roughly only doubled.²⁸¹ These numbers indeed are impressive, and explain how one fifth of the workforce, or around 1,600 workers, passed through the self-management system, but they do not tell the whole story. Who were those workers?

Workers' councils were under the strict control of the LCY and were in effect its long arm, which is not surprising since the rationale behind the introduction of the self-management project was primarily political. On a strictly formal level, the only official LCY body inside the factory was the factory's committee, composed of members from the each sector, from the managing director himself and his closest associates, down to the ordinary workers.²⁸² At the same time, the factory's labor union organization, as an officially independent body, was also under the Party control and served as a coordinating body between the Party and the different workers' councils and management bodies.²⁸³ While the precise numbers of workers who were

²⁸⁰ Bilandžić, *Hrvatska moderna povijest*, 334.

²⁸¹ "Jedanaest godina radničkog upravljanja" [Eleven Years of Workers Management], *Crvena zastava*, no. 48, April 1962, 1; Janković, 183.

²⁸² "Sprovođenje odluka VII kongresa saveza komunista" [Enactment of the Decisions of the Union of Communists VII Congress], *Crvena Zastava*, no. 9, March 1959, 1.

²⁸³ "Aktuelni problemi i zadaci sindikalne organizacije preduzeća" [Current Problems and Tasks of the Company's Labor Union Organization], *Crvena Zastava*, no. 1, July 1958, 1-2.

the LCY members are unavailable, some conclusions can be drawn from the analysis of the number of delegates present at the LCY factory's congresses.²⁸⁴

Between 1959 and 1961 the number of delegates rose from 200 to 600, while in the same period the number of workers rose only from 7,542 to 8,030.²⁸⁵ This kind of disproportion could suggest two things – either the Party activism was becoming increasingly popular, or the LCY's penetration into the workforce had picked up momentum. At the same time, the number of 600 “delegates” suggests that the actual number of the LCY members among the workers was higher. Official reports from the 1962 LCY factory's congress seem to point in this direction. While the actual numbers are not revealed, it can be concluded, and in a very rough estimate, that there were almost 2,000 Party members among the workers in the Crvena Zastava factory.²⁸⁶ Data from 1959 also confirm that in this year 541 members of the LCY were actively involved as chosen representatives in workers' organizations and that “it is certain that the number of comrades without elective functions working in the mass organizations is higher”.²⁸⁷ Compared to the estimated 1,600 workers taking part in the workers' self-management system, the conclusion that the great majority of them were the LCY members is quite probable.

In fact, according to those resolutions of the LCY factory's congresses which were published in the factory's newspapers, there was a constant demand for “higher and more active participation of the LCY members in the bodies of workers' and social management, as

²⁸⁴ What can be concluded from the factory's press is that the LCY congresses in the factory were officially held yearly but also in instances of great changes on the factory level, for example, the expansion of capacities, etc. Usually, there were at least two congresses per year.

²⁸⁵ “Sprovođenje odluka VII kongresa saveza komunista” [Enactment of the Decisions of the Union of Communists VII Congress], *Crvena Zastava*, no. 9, March 1959, 1; “Izabran fabrički komitet” [Factory's Committee is Chosen], *Crvena Zastava*, no. 31, March 1961, 1; Janković, 183.

²⁸⁶ “Školovati kadrove” [Educate the Cadres], *Crvena Zastava*, no. 22, February 1962, 2.

²⁸⁷ “Jačati odgovornost na proizvodnim zadacima” [Strengthening of the Responsibility on Productive Assignments], *Crvena Zastava*, no. 9, March 1959, 2. The newspaper's article is referring to the factory's “mass organizations”.

well as further development of the work quality of these bodies”.²⁸⁸ Their task was also clearly defined as “interpretation” of the decisions delivered by the state or the Party, as a mean through which “tighter and more direct connection” between the workers’ councils and the workers would be established.²⁸⁹

Putting all this into the framework of the everyday routine on the shop-floor level in the Crvena Zastava factory, it becomes clearer that the main and constant task of the LCY was to exert maximum control of the working class through any means possible, and the most obvious choice was to do it through the different bodies of the workers’ self-management system. As mentioned in a 1962 article considering this topic, the Party role was to “entice the workers into management”.²⁹⁰ Furthermore, the system itself necessarily became more bureaucratized since new councils, especially those with “coordinative” role, were constantly created. While this level of the Party’s involvement is not too surprising, the result is intriguing, since it seems that already by the early 1960s these policies backfired.

“The withering away of the state”, as a policy which in socialist Yugoslavia was to be deliberately and actively pursued, showed signs of weakness already in the early 1960s since it seems that neither the State nor the Party were willing to relinquish their monopoly of the decision making on any level to the workers. Nor were they willing to “wither away” in any sense. This seems to be the reason why “one part of the [Party] activists and expert cadres” were arguing that the workers were not “mature enough to take the appropriate stand on one or the other issue”.²⁹¹ The mechanism of “interpretation” of the state and the Party decisions also

²⁸⁸ “Sprovođenje odluka VII kongresa saveza komunista” [Enactment of the Decisions of the Union of Communists VII Congress], *Crvena Zastava*, no. 9, March 1959, 1.

²⁸⁹ “Sprovođenje odluka VII kongresa saveza komunista” [Enactment of the Decisions of the Union of Communists VII Congress], *Crvena Zastava*, no. 9, March 1959, 1.

²⁹⁰ “Dalji razvoj odlučivanja neposrednih proizvođača” [Further Development of the Decision Making of the Immediate Producers], *Crvena Zastava*, no. 41, January 1962, 3.

²⁹¹ “Dalji razvoj odlučivanja neposrednih proizvođača” [Further Development of the Decision Making of the

degenerated into nothing more than simple informing of the members of the workers' council about the decisions which were practically already made, and only demanding their support, while ordinary workers were only *post festum* informed about the decisions.²⁹² This kind of practice, which was by the early 1960s fully developed and somewhat euphemistically described in several articles as “formal democracy”, rendered workers' councils completely ineffective considering workers' in the decision making process, while on the other hand resulted in disillusionment of the workers with the self-management system, their lack of interest and higher rate of absenteeism, which was completely opposite from the Party's main goals. On the other hand, it was not the only reason for the practical failure of the ambitiously designed system of the workers' self-management.

The introduction of the new technology and production practices, in combination with the constant rise of the factory's output, while in sheer economic terms was a great success story, in terms of its impact on the decision making in the factory the results seems to be quite opposite. The production of automobiles rose sharply in the period between 1954 and 1962 – from only 55 to 13,719 and with the new factory designed for production of 32,000 of vehicles per year.²⁹³ Even before the opening of the modern and technologically sophisticated factory in July 1962, it became obvious that, on the one hand, the serial production of automobiles necessitated the division of the production facilities into more independent production units, if for nothing more than maintaining the achieved level of production, which indeed was completely consistent with the official policy of “decentralization”. This is confirmed by the

Immediate Producers], *Crvena Zastava*, no. 41, January 1962, 3.

²⁹² Ibid.

²⁹³ Janković, 181. Term “production” is not the most accurate, since the factory started with the assembly of the knocked-down kits delivered by Fiat, but with gradual and constant rise of the number of locally produced components.

observation that the organization of production in the Crvena Zastava factory was unique in the country in terms of the complexity of its managerial mechanisms:

“This specificity comes from the fact that the [Crvena Zastava] Institute is divided in great number of organizational units with highly developed and decentralized multileveled system of self-management, in which the division on production units was not performed directly, but first on factories and business units, and only within them on production units”²⁹⁴

To simplify this complicated language, according to official reports the introduction of the modern technology seems to be responsible for faster and more elaborate decentralization of the production and consequently the decision making process in the Crvena Zastava factory, which was further supported by the official Party policies.

At the same time, the introduction of the modern technology was also consistent with the Party’s already mentioned practice (and not the official policy) of maintaining the full control of the decision making mechanisms. Even though this was officially criticized, the fact remains that “because of the deadlines, the requirements for fast decision making” it was often “impossible to consult workers” and this would also unavoidably produce “waste of time”.²⁹⁵ On the other hand, the collision between the new technology and the Party policies came from the fact that the Party’s important political goal was to incorporate more workers into the decision making system. The expressed doubts about the effectiveness of the system, where several dozens of skilled and semi-skilled workers had to make quick decisions concerning several more or less independent production sectors, seems to be quite legitimate.

²⁹⁴ Nenad Pejčić, “Samoupravni procesi u Zavodima ‘Crvena Zastava’” [Self-Management Processes in the “Crvena Zastava” Institute] in *Samoupravljačka iskustva. Časopis za teoriju i praksu samoupravljanja* [Self-Management Experiences. The Journal of the Self-Management’s Theory and Practice], no. 1-2 (April 1969), 46.

²⁹⁵ “Dalji razvoj odlučivanja neposrednih proizvođača” [Further Development of the Decision Making of the Immediate Producers], *Crvena Zastava*, no. 41, January 1962, 3.

Finally, this was also the point where the self-management system and the Party collided with the interests of the middle and high managerial structures within the factory, and especially with the technicians on the shop-floor level. Even in cases where these people were the members of the LCY, which was the case more often than not, they were expected and indeed more inclined to produce the results, focusing both on the plan of the production and its quality, rather than to perform their political role. This was even truer for the highest managerial structures since they had to fulfill the factory's obligations towards the Fiat as a foreign partner, but as well towards the domestic investment banks, and finally the Yugoslav constantly expanding market. Even though the official report delivers superficial remark that “[i]n the system of social self-management it is impossible for any of the expert managers to be just ‘technician’”, and that their reluctance to perform their political tasks created “occasional political problems in the workers’ community”, it seems that this was just the tip of the iceberg.²⁹⁶

For obvious political and propaganda gains the self-management system was from its introduction constantly democratized through co-optation of more and more workers in the formal management of the factory. At the same time, the LCY was narrowing the limits of the workers’ actual jurisdiction in the decision making to less technical topics, such as salaries, rewards, housing, medical care, vacations or the management of the workers’ cafeteria. The analysis of the articles published in the factory’s newspapers in the period 1958-1962 clearly confirms this observation.

The implementation of the new technology, production practices and standards, combined with the constant rise in factory’s output in the complex process of automobile

²⁹⁶ “Dalji razvoj odlučivanja neposrednih proizvođača” [Further Development of the Decision Making of the Immediate Producers], *Crvena Zastava*, no. 41, January 1962, 3.

production in series, necessitated faster decentralization of the decision making system. However, due to the need for fast decision making, this only further narrowed both the number of topics and the jurisdiction of the workers' councils, leaving the shop-floor technicians and higher managers increasingly more focused on the production process itself than the political gains from the system of mass system of workers' self-management.

All this left the workers in a complete chaos of a constantly growing number of different councils and bodies of the self-management system, but with their formal managerial rights being continuously robbed. While this was to certain extent natural development in the Communist Party controlled system, it also seems evident that the introduction of the modern technology only accelerated the process, thus leaving the Party stretched to cover both ends: its need to "entice" the workers' participation in the decision making process, and to operate factory as efficiently as possible. Thus, the contradictions visible on the macro level rising from the process of implementation of the advanced Western technology into the socialist system (chapter 3.4) were repeated on the micro level of the Crvena Zastava factory. As far as workers are concerned, they were on all levels increasingly becoming estranged from the system. Ordinary workers were expected to perform their "managerial" duties, but only to a level which does not interfere with the production process, while managerial structures were neglecting their political role as a consequence of increasingly rising production volume and complicated organization of daily operations. In this kind of environment, the workers' cooperation and support could have only be secured by high salaries, quality housing or extended vacations, topics which were constantly (re)opened on the workers' council meetings.

4.2 *We Were the Workers: Integrating the Old with the New Workers*

Data for the Crvena Zastava factory in Kragujevac for the first couple of years after the war is scarce since it was part of the military establishment and their work was highly confidential until 1953 before the switch to passenger automobile production.²⁹⁷ However, beyond any doubt the wartime destruction of the factory was immense, and the first and foremost task immediately after the war was its reconstruction. Almost all the buildings were destroyed or heavily damaged and out of 10,000 different machines less than one hundred was left in the factory, most of them damaged or completely broken.²⁹⁸ Workers shared the factory's destiny – out of 12,000 workers from the pre-war period, during the war at least 3,500 were executed in the German Army's reprisals in Kragujevac and only 640 of were present in the town in 1944 when the German Army left and the process of reconstruction started.²⁹⁹

During the war, indeterminate number of workers from Kragujevac took part in the Communist liberation struggle and became famous for their production of the makeshift hand grenades, which at one point, beside its practical use, became the symbol of the “people's resistance”.³⁰⁰ The specific relationship between the workers and this factory, mentioned in the second chapter, can be also observed from the fact that immediately after the war old workers returned the hand tools and smaller specialist machines they took from the factory right before the Germans arrived, while some of the tools were found within the factory, buried and hidden

²⁹⁷ The name “Crvena Zastava” was established in 1953 after the decision to start the production of passenger automobiles in the previous weapons and ammunition facilities.

²⁹⁸ Zečević, 13.

²⁹⁹ *35 godina radničkog saveta 1950-1985*; Janković, 20-21. Numbers of workers killed during the war vary in different literature between 3,500 and 8,500; the same is true for the number of machines found after the liberation of Kragujevac ranging between 40 and 85.

³⁰⁰ *35 godina radničkog saveta 1950-1985*. Hand grenades were build on the Yugoslav's Army pre-war model, only with a stamped star. During the war these hand grenades were nick-named “Kragujevka”, which can be translated as “the girl from Kragujevac”.

by the workers.³⁰¹ For those workers who survived the war, their loyalty to the factory was only strengthened, and the strong core of experienced and battle hardened workers who started the process of reconstruction was thus created.

In the radically changed political and economic situation in Yugoslavia after the war, loyalty to the factory in combination with equal pre-war loyalty to the Communist party and war-time engagement were considered as the best qualifications even for highest management positions, which is most clearly visible in the case of the managing director of the whole complex, Voja Radić. He started as a simple worker in the early 1930s, and as a member of the Communist party he “protected the interests of the working class”.³⁰² Already in 1941 when the war started, “comrade Voja” was one of the organizers of the sabotage in the factory, and during the war he “became an officer, war hero and general”.³⁰³

Coming from the lowest ranks of the unskilled workers with additional war-time “experience”, it is difficult to justify his appointment to a position of general manager in any other terms except as a sort of a reward for a long time LCY membership and activism. At the same time, his fast rise through the officer ranks in the Army, however it may be explained, also suggests that his organizational capabilities were at least adequate for the position he was appointed to. While this was of no surprise in the given circumstances, this also seems to suggest that no manager with expert knowledge and education was actually needed at the time. Without much experience in modern technologies and production, it also seems evident that “comrade Voja” was basically running a large workshop, with workers who more or less knew their job, and where maintaining of discipline was probably the most important task to perform.

³⁰¹ Janković., 21.

³⁰² ZCZ Radnički savet [Workers Council], 38 (1953-1955) (in further reference ZCZ, RS, 38). Workers’ council decision for awarding director Voja Radić with an automobile, May 4, 1955. This decision was part of Radić’s relief package, which comprised his promotion to the rank of general, new military duty in Belgrade, war hero medal, and a luxury model of Fiat.

³⁰³ ZCZ, RS, 38. Workers’ council decision for awarding director Voja Radić with a car, May 4, 1955;

In this job “comrade Voja” was successful enough since the Crvena Zastava factory under his management was considered as one of the most efficient enterprises in the country.³⁰⁴

However, his retirement in 1955, right after the production of automobiles based on license agreement with Fiat had started, even though it was done with full honors, points to the conclusion that with the introduction of the modern technology and the production of the complex machine such as automobile, new and more educated managing director was needed. The fact that his successor was Prvoslav Raković, a machine engineer who graduated in 1939 and was proven in many different and responsible tasks during the ten years after the war, points to the same conclusion.³⁰⁵ Interestingly enough, Raković’s grandfather and father were both skilled gunsmiths who worked and received their education in Kragujevac’s weapons factory during the interwar period, making him almost ideal candidate for the job.³⁰⁶

Starting the production of automobiles also necessitated great number of expert workers and especially engineers, and the Kragujevac factory, in spite of its industrial heritage, was lacking in both. Since this factory was part of the military establishment, skilled workers were transferred to and from Kragujevac as necessary, usually through verbal orders, and especially during the period of relocation of the production program to other Yugoslav republics after 1948, when a couple of hundred expert workers were transferred with their specialized programs (see chapter 33).³⁰⁷ Thus, great number of highly specialized technicians from Kragujevac was employed in factories all over the country and even in the Ministry of Industry.³⁰⁸ However, the result of all these changes was that the number of workers in the Crvena Zastava after 1949 constantly dwindled; the number of workers in 1949 was again

³⁰⁴ Pleština, 40.

³⁰⁵ Janković, 165.

³⁰⁶ Ibid.

³⁰⁷ Ibid., 25-26.

³⁰⁸ Zečević, 37, 44.

reached only in 1956 when the production of automobiles had already started.³⁰⁹ So, who were the workers who started the automobile industry in Yugoslavia?

According to one of the stenographic notes from the workers' council held in 1954, one of the conclusions was that the factory had enough qualified workers, but that only few of those with greater experience from the interwar period still remained. Those "few" in sheer numbers were only 15 engineers and 70 technicians; the rest were unskilled or semi-skilled workers.³¹⁰ Furthermore, it was difficult to find enough engineers in the country who had at least some kind of experience in machine industry, and these had to be paid well, since all other factories were basically searching for this type of workforce. This frantic search created a very complicated situation where in general the extremely small number of engineers was in position to blackmail the factories. Both Radić and Raković, each while in position of managing director, were visiting factories and universities across the country in their search for the engineers, and the first three new engineers in the Crvena Zastava factory each demanded a new automobile as a part of their employment contract, while on the same principles the factory was giving generous stipends to great number of successful university students.³¹¹ The machine industry was obviously in short supply of engineers and they could bargain even for new automobiles, but in general it was quite common for engineers to demand at least an apartment as a precondition for their employment in the given factory.³¹²

However, no matter how desperately the factory needed experienced engineers, old workers clearly expressed their "peasant view of the industry", as they were accused on one of

³⁰⁹ Janković., 26-27.

³¹⁰ Part of the stenographic notes from the workers' council held in the "Crvena Zastava" factory on October 19, 1954; published in Janković, 46-50.

³¹¹ Janković, 46; Зечевић, 37-38.

³¹² Ivana Dobrivojević, "Život u socijalizmu-prilog proučavanju životnog standarda građana u FNRJ 1945-1955" [Life in Socialism-Contribution to the Research of the Standard of Living of the Citizens in FNRJ 1945-1955], *Istorija 20. veka*, no. 1 (2009), 83.

the workers' council meetings, by being hostile towards the engineers who came to work in their factory, and this hostility was one of the reasons why engineers were reluctant to come to Kragujevac, or left soon after they arrived.³¹³ In an environment where the experience and expertise of the old workers was increasingly becoming redundant and obsolete, where the factory gave high salaries and stipends to students and recent university graduates with almost no practical experience, and where the Party was loudly propagating the ideas of social equality in the new socialist society as well as the self-management system of factories where the decisions were to be made by the workers themselves, the old workers were openly expressing their dissatisfaction. Even though this dissatisfaction never evolved into an open revolt, the reasons of which are numerous³¹⁴, this created variety problems in production and at the same time planted the seed of discord between ordinary workers on one side, and engineers and technicians on the other.

Old workers in the Crvena Zastava factory were also actively resisting the introduction of young engineers, as the experience of Aleksandar Rogatkin clearly shows. As a young military machine engineer Rogatkin was not given the proper job in a technical or design department but instead he was send to test the new rifles, “a job which could have been done by any unskilled worker”; insulted by this kind of attitude, he wanted to leave the factory but was eventually persuaded to stay.³¹⁵ Similar problems were seen in communication with older technicians who did not want to switch to a modern and more effective way of organization of the technical documentation.³¹⁶ These problems soon reached the general manager and one of

³¹³ Janković, 47.

³¹⁴ Military control of the factory was never completely abolished, since one small part of the Crvena Zastava Insitute continued to produce small armaments and ammunition for the military after 1954/55. It can also be argued that their loyalty to the factory prevented them from strikes or sabotages, but instead directed their dissatisfaction towards the newcomers in their community.

³¹⁵ Zečević, 45.

³¹⁶ Ibid., 49.

the proposed solutions was to make a special department where only young engineers and technicians would be gathered to work.³¹⁷ This would have been of course complete disaster for the production in any factory and was never realized, but it shows just how steep was the generational and educational gap already in the mid 1950s the when first engineers and technicians with university degrees started to arrive in Kragujevac.

The introduction of new technology was impossible without a much greater number of engineers and highly educated technicians, and this was one of the constant topics in the factory's newspapers. As was already mentioned, the factory was more than generous with salaries and stipends for young engineers, and soon they flocked to the Crvena Zastava factory. However, in the hostile environment they were reluctant to communicate with the workers, and they were usually employed in executive or administrative positions, far removed from the workshops and ordinary workers, even though the workshop was the place where their expertise was needed the most. It was not uncommon to find machine engineers working even in the sales sector.³¹⁸ Newly arrived engineers were feeling "a little bit like strangers, left adrift" and usually avoided entering the factory's workshops being completely clueless of the production problems on the shop-floor level.³¹⁹ This situation eventually evolved into a great social gap between the old and new ordinary workers and the educated engineers and technicians, which only grew as the production became more complex. As a final result, large numbers of engineers were leaving the factory soon after their arrival, finding better paid or jobs in a friendlier environment, or were completely avoiding even professional communication with the workers in the workshops.

³¹⁷ Zečević, 52.

³¹⁸ "U potrazi za kadrovima" [Searching for Cadres], *Crvena Zastava*, no. 60, November 1962, 2.

³¹⁹ "Sigurni ili nesigurni koraci" [(Un)certain First Steps], *Crvena Zastava*, no. 56, September 1962, 10.

This was definitely the case of Svetislav Zahar. As a student in his final year of technical high-school, Zahar received his practical education in the Crvena Zastava factory and in 1960 he was one of the managers of the construction site of the new Crvena Zastava factory. He soon received the stipend from the factory and enrolled in the Faculty for the Mechanical Engineering and was presented in the factory's newspapers as a future expert.³²⁰ After the graduation he was immediately employed in the factory. However, less than two years later, he resigned and decided to continue his education in the Faculty for the Mechanical Engineering, where he soon got elected as the assistant, while the stipend invested by the factory for full five years of his education was waived.³²¹ While the professional development of Zahar was quite unique and cannot be taken as the example of average worker's or even engineer's biography in the Crvena Zastava, it is still instructive how after almost two years of work in the factory he decided to leave, even though he had been preparing since high-school for this job and in spite of a high salary. At the same time, while the reasons for waiving the stipend he was supposed to repay to the factory after his resign remain unknown, the fact that the factory lost money and time in creating this "cadre" shows the consequences of the problem of engineers constantly leaving the factory, though it has to be stressed that the true reasons for Zahar's resignation are unstated.

The other problem to consider is the constant introduction of the new workers who by the rule came from the countryside, and among whom great majority were completely unqualified.³²² Official data at the state level confirm that during the first ten years of the industrialization in Yugoslavia more than half a million of peasants were permanently

³²⁰ "Tri školske biografije" [Three School Biographies], *Crvena Zastava*, no. 54, July 1962, 10.

³²¹ ZCZ, Personal Files (PF), Svetislav Zahar.

³²² Dobrivojević, "Život u socijalizmu", 74.

employed in the industry.³²³ The data of the workforce in the Crvena Zastava factory also confirm high rise in number of workers – in the period 1948-1962 the number of employees rose from 3,780 to 8,779; at the same time this great rise actually started in 1955/56 and is clearly related to the start of the automobile production.³²⁴ The fluctuation of the workforce was also immense and according to data for the first ten months of 1949, out of 939,200 workers employed in industry during that period, only 182,000 kept their jobs permanently.³²⁵ With their agricultural background, poor or complete lack of education, and constant fluctuation between the jobs in factories or between factory and the village, it can be argued that the level of training and education they received was rather limited. At the same time, at least by the middle 1950s their living standard was extremely low and they could not enjoy any of the benefits young engineers could, only widening the social gap between old and young uneducated workers, and the engineers.³²⁶

With the sharp rise in production in the Crvena Zastava factory, the problem of constant input of young and unqualified workers became acute, and by 1961 almost 80% of the semi-qualified and unqualified workers were under the age of 25, who were in effect the “new” workers of the post-war generation.³²⁷ The factory’s management was constantly trying to organize practical courses and seminars in order to provide them with some qualification and to create a more efficient workforce. While these courses did in fact produce some tangible results, creating a workforce which was able to deal with the new technology, workers were in most of the cases using these courses primarily as means of social promotion and were, as their

³²³ Dobrivojević, “‘Svi u fabrike!’”, 114.

³²⁴ Janković, 183.

³²⁵ Dobrivojević, “‘Svi u fabrike!’”, 114.

³²⁶ Dobrivojević, “Život u socijalizmu“, 83-84.

³²⁷ “Slabi higijenski uslovi” [Poor Hygiene Conditions], *Crvena Zastava*, no. 31, March 1961, 5.

more educated colleagues, trying to find the employment in administration, away from the factory's workshops.³²⁸

However, this was not always an easy task to perform since young workers who filled the shop-floor of the Crvena Zastava factory usually came from the public trade schools, which as a rule admitted students who were described as “useless leftovers in the colander of various selections”.³²⁹ It was not uncommon that trade school students failed their courses *en masse*, with percentage as high as 65% of those who failed one or more courses in one semester. Factory schools and courses experienced, expectedly, the same problems. Without entrance exams, the students were extremely different in their starting knowledge and experience, and the teaching of such diverse group was almost impossible; but when the entrance exams were introduced, only a small number of students managed to pass them.³³⁰

Old workers that still remained in the workforce were by the early 1960s completely alienated by the system and their workplace. In one of the articles from the factory's newspapers it was openly stressed that they “work very little and occupy the space of the young workers”.³³¹ This kind of attitude on the shop-floor level was contagious and at least some of young workers were soon accustomed to the practices of their older colleagues, combining it with their peasant mentality and attitude towards the work in general. On several occasions it was stressed in the factory's newspapers that “it is not uncommon that workers wait for full hour to start their job”, and whatever the cause may have been for this postponement, their supervisors were “avoiding the fines for the undisciplined workers” but were instead

³²⁸ “Šta vam se u preduzeću sviđa a šta ne?” [What do You Like and Dislike in the Company?], *Crvena Zastava*, no. 29, January 1961, 7.

³²⁹ “Gde je uzrok za slab uspeh učenika” [What is the Cause for the Poor Results of the Students], *Crvena Zastava*, no. 9, March 1959, 7.

³³⁰ “Nova generacija majstorske škole” [New Generation of the Mechanics School], *Crvena Zastava*, no. 2, August 1958, 3.

³³¹ “Šta vam se u preduzeću sviđa a šta ne?” [What do You Like and Dislike in the Company?], *Crvena Zastava*, no. 29, January 1961, 7.

“counseling them in order to help them recognize their mistake”.³³² Only the multiple offenders could expect to be eventually fined, and those few who got fired were already tried and imprisoned several times before they were employed in the factory, and their offenses as factory’s workers were usually cases of stealing or fighting inside the factory.³³³

As a result, the constant and fast flow of workers and possibility of a fast upward social mobility, which at least some of the ordinary workers managed to achieve, combined with even faster growth and modernization of production capacities led to a situation in which the factory was filled with unskilled and semi-skilled labor from the villages around Kragujevac. This was part of general urbanization and modernization project of the entire society, but at the same time resulted in “peasantization” of the production practices. Results from the extensive research on absenteeism in the Crvena Zastava factory conducted in mid 1970s (1974-1979), seem to prove these theses.

For example, workers’ absenteeism was six times higher in the production sector than in administration, and was also higher among the younger workers where only 49% of them were never late for work, compared to 78% among the older workers.³³⁴ One of the reasons for this absenteeism was found in workers’ doing agricultural and other work outside the factory, while others were attributed to the global social changes and organizational structures. The only viable explanation given in the report was that the younger workers were estranged from the factory work since they had a more humanistic education and frustrated ambition due to impatience for social promotion and economic advancement, therefore being less adapted to

³³² “Više kontrole” [Higher Control], *Crvena Zastava*, no. 12, June 1959, 7

³³³ “Sa disciplinske komisije” [From the Disciplinary Committee], *Crvena Zastava*, no. 61, November 1962, 7.

³³⁴ Branislav Čukić, *Apsentizam u radu i samoupravljanju : istraživanje u Zavodima "Crvena zastava"* [Absenteeism from Work and Self-Management: Research from the Red Flag] (Kragujevac : Svetlost, 1985), 49-50.

factory's working environment than the older generations.³³⁵ However, this research was done in period when self-management was still dominant way of organizing work, and part of official discourse, so it would be difficult to expect criticism.

At the same time, the fact that agricultural work among the factory workers was part of their income, working practices, or simple seasonal ritual, clearly shows just how slowly old practices were abolished, whatever the true number of them may have been. Even in the 1980s, songs of the workers, and especially among the older ones, and younger who came from rural areas, reveal that the main topics are village life or other reference to benefits of rural life, idealistic view of the coexistence between people and the nature.³³⁶

The introduction of the advanced technology without any doubt had sparked the need for educated workers, and with the constantly rising production, the project of their education on the technical level seems to be successful. On the other hand, while the workforce in general did become more educated and capable of performing even complicated tasks in the process of production of automobiles, this technological progress had dubious impact on the creation of the workforce in the Crvena Zastava factory. In an idealistically envisioned socialist society of social equality, right from the start there was a sharp division between the classes, based not only on their educational level, but also their income and social status. Inside the factory, this created great social rift and gap between the managerial structures and the workers themselves who became socially alienated. As a sort of microcosm of the Yugoslav society in general, the story of social structures of the Crvena Zastava factory and the dynamics of their everyday

³³⁵ Čukić, 53, 64.

³³⁶ "Glasovi sa razmeđa. Poezija radnika Zavoda 'Crvena Zastava'" [Voices from the Crossroad. Poetry of the Red Flag Institute Workers] (Крагујевац: Светлост, 1983), 23-29. Words and motives such as oak or birch tree, sunset over the river Morava, apples, sunflowers, the sun, are much more common in these poems than motives from the factory but there are songs celebrating forgery and other production sectors in the Crvena Zastava factory as well.

communication show that the “managerial structures” were left with very few options for maintaining the critical level of social and political support other than an open buyout.

4.3 Learning by Doing

“With the experience gained through everyday work in production on our machines which we procured and installed in that workshop, we created our own trained cadres, in their expertise and numbers. That kind of mass training of people we could not have financed or organized in other factories. We were able to train foremen and brigadiers for this workshop, and now they became instructors in everyday production for new cadres for new factory.” (Momir Zečević, the first director of the automobile factory)³³⁷

These memories of Momir Zečević, who as a young engineer in 1962 became the director of the new Crvena Zastava automobile factory, point to basic problems of introduction of new, or at least previously unfamiliar technology in any kind of industrial facility: while obtaining and providing sophisticated machinery, new buildings and complete blueprints for a technologically advanced production is important precondition for the establishment of any kind of new production program, workers have to be experienced, educated and trained to be able to work with these machines. Furthermore, this kind of knowledge does not come with the machinery; it has to be acquired through the process of learning and this creates another set of problems. As Arrow argues by making an analogy with the students in the school, even when they are exposed to the exactly the same “educational experiences” the level of experience they bring to the class is necessarily different, and so is their performance, or the “learning curve”.³³⁸ Starting with this hypothesis, it seems that the experience shapes knowledge in a

³³⁷ Zečević, 97.

³³⁸ Kenneth J. Arrow, “The Economic Implications of Learning by Doing”, *The Review of Economic Studies* 29, no. 3 (June 1962), 155.

twofold manner – as a precondition to any kind of learning, whatever its level might be, and as a more dynamic category or a mean through which the knowledge can be acquired.³³⁹

The small initial group of the Crvena Zastava factory workers quickly reconstructed the buildings damaged during the war, with automobile repair-shop being repaired first. This workshop was the easiest to repair since it was the only one which was in continuous use during the war, but other workshops were soon restored as well.³⁴⁰ By the end of 1945 the reconstructed workshops repaired around 300 different vehicles, 100,000 rifles and machine guns and 30 cannons for the Yugoslav and the Red Army needs.³⁴¹ However, while these numbers are impressive and maybe even overblown, the fact remains that what was once a factory basically continued its work after the war as a large repair shop, possibly producing only smaller parts for the more complex machines, but even that was done in a workshop manner and not in serial production. The previously mentioned story of the first managing director of the factory, Voja Radić, also points to the conclusion that until the start of the automobile production, the factory in Kragujevac operated basically as a large workshop. The introduction of new production program based on the technology of the Italian automobile manufacturer Fiat in 1954/55 actually marked the start of the process of creating an up-to-date industrial facility and the first task was to educate and prepare the workers as well as technicians for this kind of production.

At the moment when the contract with Fiat was signed, the factory could rely on 15 engineers and 70 technicians but the problem was that “none of them had ever even seen what

³³⁹ Arrow, 155-156. The author puts forth the notion that the experience gained through continuous production practice can be the source of knowledge; learning through experience.

³⁴⁰ *Od topa do automobila, 1853-1973*, 48-49.

³⁴¹ Janković, 21-22.

an automobile factory looked like, let alone which machines it had”.³⁴² With some practical trial-and-error type of experience gained in the previous period and through assembly of 162 “Jeep” vehicles in 1953 (see chapter 3.2), and with the remaining workforce being even less prepared for this kind of production, the prospects for successful organization of the automobile production were at least disheartening. Nonetheless, the workers’ council decision about the switch to the automobile production was reached, the new managing director with respectable experience acquired in different factories in Yugoslavia during the previous decade had arrived by 1955, and in the organization which was managed for more than one hundred years by the military establishment, failure was not an option.

However difficult the task that laid ahead of these Yugoslav pioneers in automobile production might have been, there seemed to be some calm and composed heads manning this project.³⁴³ The first task was to educate and prepare the engineers and technicians who had enough previous experience and knowledge to understand new technology and who would later on be able to proscribe adequate procedures, norms and to create necessary technical documentation. This “industrial squad”, as it was called in later years by managing director Raković, composed of only 14 engineers and technicians with Raković as a leader – they packed in a small bus and started in June of 1956 a study tour across the Europe, first visiting the Fiat factory in Turin, but also many other automobile and machine factories in France, Germany, Switzerland, Austria and Czechoslovakia, as well as automobile exhibitions in Turin and Hannover.³⁴⁴

³⁴² Ibid., 50.

³⁴³ This remark is primarily directed towards the then new managing director Raković. He started his career after the war working in the national railroad company; since 1948 he was employed in the planning department of the Directorate of the Military Industry, in the Ammunition Department; he came in the “Crvena Zastava” from a position of a technical director in the “Tito” ammunition factory in Vogošća (Bosnia). Detailed biography of Prvoslav Raković in Janković, 49; 165-166.

³⁴⁴ “Bili smo industrijski odred” [We Were Industrial Squad], *Auto industrija*, no. 12 (1973), 5. Interview with

Each member of the “squad” was assigned to focus on a particular production segment according to his expertise, and later on all these observations were compiled in a single volume of “little more than one hundred typed pages” which became the first professional edition about the automobile production in the country.³⁴⁵ The study tour was also crucial for the final decision about the program of future production, since only then was it decided that this program should be based on a small “people’s car”, as was the case in most Western European countries at the time.³⁴⁶ It seems that this study tour produced good results and the concept was applied again several months later, only this time it was expanded to include representatives of the entire Yugoslav motor industry. On October 1956, officially organized by the Association of Motor and Motor Vehicle Producers, but most likely through previously established contacts during the Crvena Zastava tour, another “squad” of 15 engineers, one from each of the motor and automobile factory in Yugoslavia, some of the most famous automobile factories in Western Europe.³⁴⁷

For the Crvena Zastava factory, several important directions of its internal development may be reconstructed. First, limits of the workshop manner of automobile assembly appear to have been quickly reached and the new organization of the work was needed in order to

Prvoslav Raković; *Od topa do automobila, 1853-1973*, 61; Janković, 53. These and other sources give in general the same story, yet the only difference is the date of this study tour, ranging between summer 1956 and spring 1957. I opted for the earlier year since the production in 1957 showed increase of production by 126% compared to the previous year, while in 1958 it had even dropped compared to 1957 (1955-1,051; 1956-1,621; 1957-3,677; 1958-3,596). I attribute this sharp rise in production to the experience gained by the “industrial squad” during their study tour.

³⁴⁵ U Evropu po znanje” [In Europe for Knowledge], *Crvena Zastava*, no. 1350 (March 2003), 21. Interview with Prvoslav Raković; *Od topa do automobila, 1853-1973*, 61

³⁴⁶ AJ, 253, 1. Approval of Federal Executive Council (Secretariat for Industry) for expansion of the license agreement with Fiat, October 5, 1956; Janković, 53; James M. Laux, *The European Automobile Industry* (New York: Twayne Publishers, 1992), 175-203. Due to lack of materials, slow recovery of the market and low purchasing power of the general population, small and simple “people’s cars” became the focus of the reconstruction of the post-war European automobile industry, with “Volkswagen” in Germany leading the way with famous “beetle”; “Citroen” produced “2CV” and Fiat developed model “600” in 1955 which was recognized in Yugoslavia as ideal for local conditions.

³⁴⁷ AJ, 253, 1. Letter of Approval for the “Crvena Zastava” engineer Ljubomir Toševski, October 10, 1956. Yugoslav engineers visited Fiat in Italy, “Renault” and “Chausson” in France, “Mercedes” and “Deutz” in Germany and “Saurer” in Austria.

increase the production. Second, the study tour is chronologically consistent with the first investment project which was approved in 1956 for a capacity of 3,000 vehicles per year (see chapter 3.3). This also points to the conclusion that for the expanded capacities, a new organization of work on the shop-floor was needed. Finally, the production of different parts and components is never mentioned in this period, and it seems that what is in various sources deemed as “production” was nothing more than assembly of imported knocked-down vehicle kits. This is confirmed by the sources where it is stated that the conquering of production in the Crvena Zastava factory started only in 1960; by the time new factory opened in 1962, only 38% of the components for popular people’s car “Fića” were produced in Yugoslavia.³⁴⁸

Concerning the process of learning these conclusions are suggestive. It seems that most of the successes in the continuously rising factory’s output, at least in the period 1955-1960, was achieved without too much investments (see chapter 3.3) in complex machinery or in conquering of the production as such, but predominantly through continuous process of “learning through experience” of automobile assembly – workers were gradually becoming accustomed to the basic automobile factory operations and becoming more efficient, all of which steadily prepared them for the start of the production in the modern factory, which was opened in July 1962. This does not mean that there was no communication with Fiat or other companies which produced specialized tools and machines but rather that these contacts were more focused on learning how to organize work in automobile factory than on the production of parts and components. At the same time, the focus in the period before 1960 was on the

³⁴⁸ “Istina o ‘Zastavinoj’ proizvodnji” [The Truth about Zastava’s Production], *Crvena Zastava*, no. 42 (February 1962), 3. The data in this article are particularly interesting and reliable, since they were used in this special issue of the factory’s newspapers in response to the attacks in daily press, in which “Crvena Zastava” was accused of gaining high profits without much work, basically assembling vehicles completely produced in Italy. The production of the commercial 1,5 t truck was almost completely conquered by 1962, but it does not change the fact that the process of conquering of the production of automobiles in the factory started only in 1960, since most of the “conquered” production was done by the cooperators.

raising of general technical education among the workers, and some information about the courses the workers attended seem to confirm this.

During 1958, “several hundreds” of workers attended various courses in the factory and abroad, but these courses and seminars were focused on more general topics such as technical drawing, material tolerance, technology of metals and even secretarial jobs.³⁴⁹ In the early 1959 courses for welders have been organized for the first time in the factory, since “it was impossible to provide this type of cadres from any other sources” and since the existing workers “neither in quality or numbers [could] meet the production needs”.³⁵⁰ Also, at the beginning of 1959 the official estimate was that the capacity of the existing machinery was used between 7% and 44%, and even in the factory’s newspapers it was recognized that reaching the “higher productivity” was the main goal.³⁵¹ While this call for “higher productivity” can be explained as nothing more than general demand constantly present in any kind of planned economy system, it is nonetheless in agreement with previously expressed statement that it was more urgent task to educate workers, rather than to introduce new machinery.

This notion seems to be consistent with the data from the archival material where before 1960 there are no records of either Italian experts from Fiat coming to Crvena Zastava or Yugoslav workers and technicians visiting the Italian manufacturer, or any other for that matter, except for those previously mentioned, organized in 1956. Some of the communication was necessarily maintained, which is randomly confirmed in various sources, but the main archival materials are silent on this topic. Another side of the proverbial coin was that some of the workers who went to Italy and other Western European countries were not that efficient or

³⁴⁹ “Stručno uzdizanje” [Expert Education], *Crvena Zastava*, no. 6 (December 1958), 2.

³⁵⁰ “Novi kadrovi” [New Cadres], *Crvena Zastava*, no. 8 (February 1959), 4.

³⁵¹ “Naši kapaciteti” [Our Capacities], *Crvena Zastava*, no. 7 (January 1959), 3.

too keen to learn. First of all, the problem was that most of the people who went to Italy were various high ranking managers who, even if they were conducting important negotiations with the Italian partner about the plans for the future development, were not in a position to learn themselves or teach ordinary workers how to produce an automobile. However, it seems that quotidian in foreign currency also draw many others who used their political connections to be selected for specialization in Italy, usually bringing back to Yugoslavia only new automobile or a scooter and several full coffers of various consumer goods.³⁵² These most likely were not isolated cases since they were attacked in the factory's newspapers but most importantly, this also reveals that already by the end of 1958, this was more or less an established practice. In the worst case scenario, some of the people who were sent to Italy did not even speak any foreign language, making it highly unlikely for them to learn anything but the most basic operations.³⁵³

However, between April and October 1960, 11 engineers, 9 technicians and 6 highly qualified workers of the Crvena Zastava factory went for a specialization course in Fiat. The important thing to notice is that their expertise basically covered most of the phases of the automobile production – construction of the new factory building with complete factory installations, specialized tools design and manufacture, right down to the introduction of synthetic dyes in the factory's paint shop.³⁵⁴ Beside this group, three administrative executives received their specialization in different factories in Italy, West Germany and France, in working with the latest generation of IBM computers.³⁵⁵ While these numbers on the first glance seem to be small, official statistics for the period 1952-1960 and for the entire

³⁵² “Ima ih i takvih” [Some of Them are Like That], *Crvena Zastava*, no. 6 (December 1958), 6. This article actually describes people starving themselves, just to save enough foreign currency to buy what they obviously could not do without.

³⁵³ “Ima ih i takvih”, 6.

³⁵⁴ AJ, 253, 15. Series of documents, mostly requests and authorizations for specialization. All of these were took place in the period April-October 1960, and depending on the task, the workers remained abroad between seven days and two months.

³⁵⁵ AJ, 253, 15. Authorization for specialization in work with IBM computers, April 12, 1960.

automobile and motor industry in Yugoslavia, which in 1960 consisted of 26 different factories, confirm that only 19 technicians, 93 expert workers and additional 80 “persons obligated by the license agreements” ever went to foreign companies for specialization.³⁵⁶

The number of workers in specialization courses in Italy was on a continuous rise since 1960 and by the beginning of 1962, 67 “comrades” engineers, technicians and highly qualified workers were selected for specialization courses in Italy, out of which 49 were enrolled in the four months long audiotape Italian and English language courses as preparation for their course.³⁵⁷ The memories of one of these workers involved in the process of conquering of the automobile production are crucial for better understanding how this process evolved on the shop-floor level:

“I worked in ‘Zastava’s’ foundry [...] where I used to manufacture components for the weapons, tools and machines. With certain experience and by recommendation, I was transferred to the group for mastering the automobile production. This was a new job for all of us model makers, locksmiths and whitesmiths and our task was to transform the blueprints into the model of future automobile and to use this as a template in designing forming press tools. Alongside with mastering [of the automobile production] we learned how to do this, with great help from ‘Fiat’ experts. We did not have adequate conditions in our factory so we spent a lot of time in workshops and laboratories of our business partner in Italy, where we were ‘stealing’ the knowledge.”³⁵⁸

Zečević in his memoirs confirms this story since he was responsible for the selection of the workers who had to start the process of mastering the automobile production. According to

³⁵⁶ AJ, 253, 15. “Specialization of Cadres”, official study of the Association of Motor and Motor Vehicle Producers, October 25, 1960, 1. The number of 26 different factories does not mean that all of them were producing vehicles; in fact, most of them were highly specialized producers of components, such as speedometers, or shock absorbers, which is why they were formally considered a part of the Yugoslav motor and automobile industry.

³⁵⁷ ZCZ, “Crvena Zastava” Institute’s Steering Committee, 1962 volume. List of workers designated for foreign language courses, January 25, 1962.

³⁵⁸ “Učili i stvarali” [We Were Learning and Creating], *Crvena Zastava*, no. 1352 (August 2003), 9. This story is not dated in the interview, but since these memories were presented in chronological order, with next story referring to the events of 1963 (not relevant for this chapter), the story presented here must have happened before 1963.

his words, he had a free hand in this process and he chose only highly educated technicians with at least ten years of experience.³⁵⁹ Combining this story with the existing archival material, a general model of the learning process in the Crvena Zastava factory can be constructed. The most pressing issue when the assembling of automobiles started in 1954/55 was the inadequate level of technical knowledge of the workforce. Existing technicians and expert workers were educated for and had experience in the armament production making their knowledge and expertise somewhat inadequate, yet important as a starting point for the process of learning how to assemble and later on, produce an automobile. This small group created the core of expert workers in the future automobile factory.

Younger workers, who were in any case presenting the future majority of the workforce in the Crvena Zastava factory, first had to be technically educated enough to be able to specialize in different procedures and operations unique in automobile production. This was achieved through in-factory courses and through the experience gained during their work on the automobile assembly. While these parallel processes were not in each case a success story, they nevertheless produced enough educated workers and technicians who were able to communicate more or less on an equal level with their Italian counterparts and eventually to start the production in 1962 in the Crvena Zastava factory as one of the most modern automobile factories in entire Europe at that time. Therefore, in the time span of seven to eight years, workers in the Crvena Zastava automobile factory evolved from a handful of expert gunsmiths followed with several thousand ordinary workers with highly diverse background and experience in working in any kind of factory, to a group of predominantly young, skilled group of workers and technicians able to efficiently enough operate modern and complex industrial facility.

³⁵⁹ Zečević, 86.

Conclusion

From the very beginning of the period of reconstruction and industrialization of the country after the Second World War the Yugoslav government realized the potential of the automobile and motor industry as the leading sector of the Yugoslav project of catching up in “revolutionary leaps” with the developed European countries. In the absence of relevant experience in this industrial branch, both in terms of technical equipment and the professional workforce, the Yugoslav government had to rely on foreign knowledge and experience. As one of the most loyal follower of the Soviet Union, Yugoslavia first tried to establish its automobile industry on a Soviet model. The plan was abandoned soon after the Tito-Stalin split of 1948 and in the changing political climate between Yugoslavia and the Western countries, the help eventually came from Italy. Cooperation between Fiat, the giant of the Italian and European automobile industry and Yugoslav Crvena Zastava, since its humble beginnings in 1954/55 eventually grew to a fully blown technical and economic cooperation between the two companies. Based on the Fiat’s technology and its heavy investments, the Crvena Zastava factory by 1962 managed to evolve from technically outdated weapons and armament producer into one of the most technically advanced automobile factory in Europe. Its network of suppliers was stretched across Yugoslavia, thus linking together a number of other industrial sectors, thus supporting and stimulating their development and consequently the development of the entire Yugoslav industry.

However, this success story was not that straightforward. The main backdrop on which the process of the technology transfer from Italy to Yugoslavia was staged was the Cold War confrontation. As an “iron fist of communism” Yugoslavia was designed to be the most

accurate copy of the Soviet Union and the “designing” and “copying” was being implemented in every aspect, with great deal of assistance from the Soviet advisors. However, intensive as it may have been, this process ended abruptly in 1948.

As an outcast from the Soviet bloc, Yugoslavia was not instantly recognized by the American administration or the West European countries as a potential partner, nor were these “lapsed Yugoslav Bolsheviks” willing to stray from the Leninist course. On the other hand, proving the correctness of the Yugoslav independent way to communism and the erroneous of all of the other socialist countries, in reality proved to be much more difficult and opening towards the Western aid soon became the only solution for maintaining the political and economic stability of the country.

On the other side of this Cold War divide, the political and propaganda potential of having a defector-country from the Soviet sphere of influence becoming rich and developed through an open and friendly cooperation with the West was recognized soon enough. Direct Western aid was quickly provided, but the long term solution had to be found, and one of the concepts was the development of the Yugoslav economy in order to become self-sustainable and competitive on the open market. Important part of this project was the transfer of advanced technology from the Western countries to Yugoslavia.

In the process of the technology transfer between Yugoslavia and the Western countries, the main agent was Italy. As one of the countries which received greatest amount of investments among the West European countries in her post-war economic development, Italy became a model for the rest of the Third World countries of the successful development in cooperation with the American administration. Yet, Italy also played a more active role since already in the 1950s it started to invest heavily in the industrial development of the Latin

American, African and the developing European countries. In most of the cases this projects were backed up by international financial institutions, which more often than not acted as a cover screen of the American diplomacy. As one of the leading industrial giants, Italian automobile manufacturer Fiat was involved in great number of these projects.

Thus, stretched between the two superpowers in their tug of war, Yugoslavia proved to be an important testing ground for their policies towards the countries in their respective sphere of influence but more importantly towards their potential allies. In the case of the Soviet Union, some of the main features of the process of the Sovietization of the East European countries, which accelerated only after 1949, were already tested and proved in Yugoslavia during the short but condensed period of mutual cooperation. In case of the USA, the experiences gained from the cooperation with Yugoslavia through Italy as the main agent were invaluable in the creation of the American policies directed towards the Latin American and other Third World countries.

On the level of the internal political and economic development of Yugoslavia, the process of technology transfer was not less complex, and in that sense, the country had experienced double “shock-therapy”. Implementation of the Soviet technology and model of industrial organization started with the deconstruction of the previously established capitalist model of organization in the existing industrial facilities, and with parallel process of the creation of the new socialist society based on the vast and uniform working class. At the same time, since Yugoslavia was predominantly peasant country, the “planners” had the advantage of painting on the clean canvas. On the other hand, Western technology had to be adapted to the Yugoslav, however specific it may have been, still very much socialist planned economy. Therefore, even though technology transfer in every instance is necessarily unique, the

“uniqueness” of the Yugoslav case proved to be exceptionally complex and staged on the backdrop of intense contradictions, and not only those inherent in every socialist system, but also those coming from the introduction of the practices which originated in the capitalist systems.

Obstacles in this process of adaptation and implementation of foreign technology to this kind of environment in many instances proved to be almost impossible to solve institutionally. The need for rapid decision-making in the technologically advanced production was not in compliance with the highly bureaucratized political and economic system in Yugoslavia. This was one of the main reasons why the whole system was often bypassed, and the major decisions were frequently made by handshake between people and groups who were supporting certain projects or concepts of the industrial development of the country. On the other hand, this principle has opened the door for political interventionism and right from the beginning the interregional struggle had started among the different party leaders who were trying to channel the much needed investments to their own republics, regions and even towns.

The final result was not what either Yugoslav planners or Western diplomats had hoped for. While superficial result was achieved relatively quickly and the cooperation based on technology transfer between the West and the East had produced the desired outcome, showing that it is possible for a socialist type of economy could be successfully married to the Western technology and produce in joint effort modern Western type of automobile, the underlying social and economic results were less impressive. Sparked by the political necessity of the one side, and the diplomatic strategy of the other, the economic rationale only came at the second place, and the results seem to be equally ordered. Finally, in the process of creation of the Yugoslav society, evidence from the Crvena Zastava suggest that the introduction of the

Western technology, while envisioned by the LCY leaders as one of the tools of legitimization of their rule, only helped to estrange the workers from the political system the Party had created and this was true for all of the structures, from ordinary workers to the top managers.

The importance of this thesis goes far beyond just another addition to the history of the economic development of socialist Yugoslavia. Due to its specific political and economic development in the first decade after the Second World War, ranging from being the most loyal Soviet ally, to the independent socialist country whose prosperity was based on extended economic and political relationship with the West, the history of development of the Yugoslav automobile industry in its formative phase offers important insights on various topics. It is a part of the history of the European socialism in the post-war period, and as an obvious testing ground for many of the Soviet policies which were later on implemented in other East European countries, it offers important information which could be revealing in the tackling with the question if and how were the Soviet policies and practices adapted to the local conditions in the rest of the countries under its political sphere as a consequence of the failed attempts to keep Yugoslavia in the Eastern bloc. This topic also enlightens the process of the European post-war industrialization in which automobile industry played very important role. The Yugoslav case can be used as a case study of perception of this development in the socialist countries but it also shows how difficult and problematic was the politically very fruitful but economically unsustainable process of cooperation between “capitalist” and “communist” countries. The Third World perspective is no less important since Yugoslavia was the testing ground for both Soviet Union and the USA. The results of these specific “case studies” conducted in Yugoslavia were important in creation of the policies of both superpowers towards the Third World countries. Finally, in the context of the Cold War,

communication between the East and the West, as shown in the case of the development of the Yugoslav automobile industry, was more active and diverse than the heated conflict between the two entrenched blocs would suggest. Furthermore, the results of my analysis clearly show that the automobile industry played the important role in this process of communication, thus showing that the so called Iron Curtain was not that impenetrable.

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