

Rubber industry in Southern Vietnam (1954-1975): An economic dimension

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Abstract:

This paper examines the significance of the Statistical Yearbook of Saigon's government in providing a comprehensive overview of the rubber industry in Southern Vietnam in the period 1954 to 1975. Prior to 1945, rubber plantations played a crucial role in the economy of French Indochina. After the French left Vietnam following the Geneva Agreement in 1954, the Saigon government endeavoured to take control of the rubber industry. However, due to the war and the incompetence of Southern Vietnam's officials, the rubber industry in the region experienced instability during the period 1954 to 1975. Consequently, the Saigon government struggled to control and develop economic activities. This paper contends that despite these challenges, the rubber industry remained pivotal in Saigon's economy after 1954. This claim is supported by the expansion of rubber plantations, the industry's contribution to Southern Vietnam's exports, and its impact on the overall economy and society.

Keywords: agricultural reforms, French influence, rubber plantations, Saigon, Southern Vietnam.

Classification numbers: 7, 8.1

1. Introduction

Together with the French exploitation in Indochina, rubber cultivation was introduced in Southern Vietnam, quickly becoming a pivotal agricultural product in Vietnam's economy during the first half of the twentieth century. Recognizing the significance of the rubber industry in Southern Vietnam's society and economy, both the French colonial government in Indochina (1897-1945) and the Saigon regime (1954-1975) acknowledged its importance. Consequently, when the French army withdrew from Vietnam in 1954, the Saigon government deployed various strategies to manage this industry and replaced French influence with Vietnamese and Chinese stakeholders in rubber plantations. However, between 1954 and 1975,

significant plantations saw minimal changes, as French bourgeoisie maintained their positions within the Republic of Vietnam (RVN)'s economy, working with the same personnel and managers until the early 1970s. Failing to eliminate French influence in the rubber economy, the Saigon government turned to supporting large plantations to increase commodity production for foreign demand and generate revenue for the RVN. This paper maintains that despite political movements, French investors and major firms continued to play a significant role in Southern Vietnam after 1954. Additionally, the paper emphasises the rubber industry's position in Southern Vietnam's economy, providing specific details regarding its cultivated lands, production, exports, and contributions to the region's economy.

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Findings from this analysis gain new insights into the rubber industry in Southern Vietnam in the period of 1954-1975, complementing previous research that primarily focused on labour struggles and French control of rubber economy before 1945. By presenting a clearer understanding of the RVN's economy, this paper proves valuable for historians studying Southern Vietnam under the Saigon regime. It also serves as a helpful reference for educators teaching Vietnamese history, especially in economic courses that cover French and American investments and their influence on the RVN. Furthermore, it contributes to the historical narrative of Vietnam's rubber industry, one of the country's most significant and profitable sectors. Business professionals in the rubber industry can also draw lessons from this analysis to enhance their work.

2. Literature review

Rubber has long been closely connected to Vietnam's society and economy since the early 20th century, garnering considerable attention from scholars investigating the development of the rubber industry in Southern Vietnam and its role in Vietnam's pre-1975 economy. Regularly, Vietnamese scholars primarily focus on studying this subject during the French colonial period (1897-1945), as rubber was considered a significant contributor to the colonial economy. However, due to difficulties in accessing and utilizing French primary materials, studies on the rubber economy before 1945 have been scarce in Vietnam. Notably, D.V. Vinh's *100 Years of Rubber in Vietnam* published in 2000 [1], stands out as a prominent work in this area. This work provides a comprehensive overview of rubber, spanning its early days in Vietnam to the modern period, including the origins of rubber in Vietnam, the rubber economy during the French colonial period, and particularly the rubber labour movement throughout the twentieth century. Another noteworthy publication edited by D. Phong (2005) [2], titled *History of Vietnam's Economy 1945-2000, Vol. 2: 1955-1975* offers further insights

into Southern Vietnam's economy, encompassing the products and value of the rubber industry. This study situates the rubber industry within a broader context of Southern Vietnam's economy to highlight its role in the Republic of Vietnam's economic landscape. The majority of other works concentrate on the daily lives of rubber labourers, their struggles, and their contributions to Vietnam's revolution. This focus is evident in studies such as Nguyen Hai Trung's *The Rubber Hell*, Tran Xuan Tri's *Rubber Plantation in Cochinchina: An Escape for a Poor Life or a Path to The 'Hell on Earth' of Vietnamese Workers?* as well as other works such as *History of Movement of Rubber Labor in Dau Tieng Plantation (1917-2010)* and *History of Movement of Vietnam's Rubber Labor (1906-2000)*. Numerous other studies delve into labour movements in various rubber plantations in the provinces of Binh Long, Dong Nai, and Binh Duong. These works indicate that previous Vietnamese scholars have mostly focused on the role of rubber labourers in Vietnam's revolution, paying little attention to economic and social contributions of the rubber industry. Recently, the Vietnam Rubber Group published a narrated book titled *History of Rubber in Vietnam, Vol. 1: 1897-1975* [3]. This book partially supports previous research by providing additional information about the rubber economy in Southern Vietnam during the period 1954-1975, drawing from Vietnamese, French, and English primary sources. However, this work mostly offers descriptive accounts of events related to rubber plantations, the rubber industry, and the rubber labour movement, without delving into the attempts and role of the Saigon government in controlling the RVN's rubber industry or the dominance of French plantations in Southern Vietnam's economy.

Foreign scholars have also made significant contributions to the study of Vietnam's rubber industry in the twentieth century. French scholars, in particular, possess distinct advantages due to their access to and utilisation of primary materials on this subject. However, their focus primarily lies on the

period from 1897 to 1945 when rubber plantations were owned by the French. Colonial historians show great interest in rubber plantations during the French colonial era, exploring topics such as the role of rubber in French Indochina's economy, the daily lives of workers, and their movements for social and political change. Several famous articles and books on these subjects include "Le prolétariat des plantations d'hévéa au Vietnam méridional: Aspect social et politique (1927-1937)" [4], "La situation des plantations d'Hévéas dans le monde de 1939 à 1948" [5] and "Des plantations coloniales à la production socialiste: La 'vietnamisation' de l'hévéa (1956-1975)" [6]. In contrast to research on the RVN's rubber industry, historians tend to focus more on Southern Vietnam's land reforms and the Saigon government's efforts to replace French influence while forging closer ties with the American economic system from 1954 to 1975. Particularly noteworthy is M. Aso's work, "Profits or people? Rubber plantations and everyday technology in rural Indochina" [7] and *Rubber and The Making of Vietnam: An Ecological History, 1897-1975* [8]. Aso argues that the Saigon regime endeavoured to "Vietnamise" the rubber industry after 1954 by improving technologies and transforming the lives of workers to gain control over this industry. M. Aso's comprehensive book covers all aspects of the rubber industry and provides a general overview of its development under the Saigon regime [6]. He can be regarded as a key foreign scholar who extensively studied RVN's rubber from 1954 to 1975. However, it is important to note that in this book, the author places more emphasis on the role of rubber in the Vietnam War, particularly in relation to both sides of the conflict -RVN and DRV - rather than providing detailed information about the development of the rubber industry under the administration of the Southern Vietnam's government.

In addition to the aforementioned studies, this paper aims to delve deeper and provide more detailed data to precisely illustrate the developments

within the rubber industry in Southern Vietnam from 1954 to 1975. Rather than merely describing the state of the rubber economy in Southern Vietnam, it seeks to highlight its characteristics, examine the Saigon government's attempts to gain control over this profitable sector, and explore the influence of French rubber plantations within the rubber system. By scrutinizing Vietnamese documents, this paper endeavours to contribute additional knowledge to the neglected aspects of previous studies on Vietnam's rubber industry in the twentieth century.

3. Methodology

To depict the development of the rubber industry in Southern Vietnam (1954-1975) and argue its role in the RVN's economy, this paper primarily relies on the collection and analysis of specific and primary information obtained from the Statistical Yearbook of Saigon's government during the specified period. It is noteworthy that the RVN's government diligently recorded economic activities, clear and precise data on the rubber industry each year. Utilising a quantitative methodology, the author analyses the gathered data relating to the rubber industry. Furthermore, information from RVN documents is compared with data from various sources. These methodological approaches enable the paper to present a comprehensive picture of Southern Vietnam's rubber industry from 1954 to 1975, incorporating specific data that has not been previously examined in earlier studies.

4. Factors affecting the rubber industry in South Vietnam (1954-1975)

The rubber industry in South Vietnam can be divided into two different periods: a period of robust development from 1954 to 1964, followed by a decline in the late 1960s and early 1970s. The differences between these two periods were influenced by various external and internal factors, including both political and economic reasons.

Firstly, the rubber industry was directly impacted by changes in international rubber prices and consumer trends. The environment for the rubber industry was quite favourable in the 1950s, leading to significant production achievements. However, the price of natural rubber declined substantially from 1958 to 1963, dropping by half during the period 1960-1963 to reach just \$476/tonne [9, 10]. Furthermore, between 1960 to 1967, the price of rubber products continuously decreased from \$0.71 to \$0.37/kg [8]. As profitability decreased, rubber producers reduced fertilization, limited new tree planting, and focused only on exploiting existing plants. Additionally, alongside falling price, there was a reduction in global demand for natural rubber, resulting in limited markets for South Vietnam's rubber. Starting from 1960, as the production of synthetic rubber surpassed that of natural rubber worldwide, many countries began shifting towards using synthetic alternatives instead of importing natural rubber. For example, between 1966 and 1968, North America supplied 49.8% of the world's synthetic rubber, significantly reducing the United States' demand for South Vietnam's natural rubber products [11]. These conditions restricted the expansion of larger rubber plantations in Southern Vietnam during the period of 1954-1975.

Secondly, in effort to replace French-owned estates in the rubber industry, Ngo Dinh Diem encouraged Vietnamese middle and small holders to increase rubber cultivation through the Land Development Plan (LDP). He also issued Decree 414-KT and Government Decision 287-KT to establish the Rubber Cultivation Development Fund (RCDF) and subsequently the National Agricultural Credit Bureau (NACB), which provided loans to planters [10]. Diem aimed to raise 90,000 ha of rubber plantations. By 1959, the Saigon government had established 12 "dinh điền" zones with 84 small farms. In 1963, there were 18 districts across 22 provinces, encompassing 208 small plantations [12, 13]. These policies contributed to the expansion of rubber cultivation,

particularly for especially for middle and small plantations, while impeding the growth of French-owned estates with large plantations.

Thirdly, Southern Vietnam's rubber industry suffered significant damage during the American war. In 1958, the forces of the Democratic Republic of Vietnam (DRV) attacked the Dau Tieng plantation with the aim of gaining control over rubber firms in Southern Vietnam [14]. Starting in 1961, the Saigon regime implemented the "Strategic Hamlet Program," which compelled labourers and farmers in RVN villages to relocate to hamlets built by the government in order to sever their connections with the National Liberation Front for South Vietnam (NLF) and the DRV's armies. This policy resulted in a shortage of labour in most middle and small plantations. From 1965, the Battle of Dong Xoai disrupted all economic activities in the Thuan Loi and Phu Rieng plantations in the province of Phuoc Long. The Dau Tieng and Ben Cui plantations in Binh Duong came under control of the DRV's army and ceased operations in October 1965. Following the Tet Offensive in 1968, the RVN's military forces attacked rubber plantations in the Southeast regions and locations near the Cambodian border to eradicate hidden bases of DRV soldiers. As a result, a significant number of rubber cultivations suffered damage. In 1968-1969, 34,000 ha of rubber were left uncultivated and unexploited. For example, in the province of Long Khanh, 45.7% of rubber estates were abandoned, the Dau Tieng Plantation decreased from 9,200 ha of cultivated land to 2,500 ha, and 35% of plantations owned by the SIPH (*Societe Indochinoise de Plantations d'Heveas*) were damaged [10]. These challenging conditions had a detrimental impact on the development of Southern Vietnam's rubber industry and resulted in a diminished contribution of rubber to the RVN's economy and society, particularly from the late 1960s.

Furthermore, each type of plantation had its own reasons for the reduction in rubber planting and

production. For instance, French-owned firms were affected by the French army's withdrawal from Vietnam in 1954-1955, a lack of financial assistance, and the Saigon government's policies aimed at developing small rubber farms to replace their position. In contrast, middle and small farms, as well as governmental plantations, faced challenges such as a shortage of skilled labour and management, inadequate technical support, and limited investments in comparison to larger operations.

5. Rubber areas

Under the Saigon regime, rubber plantations in Southern Vietnam can be categorised into 4 types: large-scale plantations (more than 500 ha, primarily owned by French estates), middle-sized plantations (ranging from 100 to 499 ha), small plantation (under 100 ha, newly established and owned by Vietnamese individuals), and "dinh điền" or new plantations created under Saigon's Land Development Program (LDP) with government support. After 1954, all French plantations under 500 ha were transferred to Vietnamese planters (Fig. 1). However, the French retained control over significant firms with sizes exceeding 500 ha, therefore maintaining their dominance in Southern Vietnam's rubber industry [8].

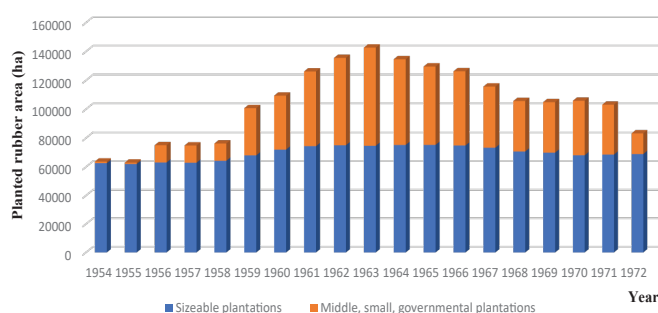


Fig. 1. Planted rubber area in hectares from 1954 to 1972. Sources: [8, 15-17].

Rubber cultivation experienced rapid growth from 1959 to 1964, reaching its peak at 134,700 ha, more than double the cultivated area in 1954 (63,000 ha) [9]. The number of plantations also increased, from 270 (in all sizes) in 1959 to 304 in 1960 and

335 in 1961. This indicates that Ngo Dinh Diem's policies promoting new tree planting were relatively effective during this earlier period. However, despite its substantial area, rubber accounted for only 3% of all cultivated lands in the RVN, with rice fields holding the top position. In 1954, rice fields covered 1,572 million ha, which was 25 times greater than rubber areas (62,731 ha) [15]. By 1965, rice fields had expanded to 2.4 million ha, surpassing rubber plantations by a ratio of 18 to 1 [18]. By 1972, due to the detrimental effects of the war, rubber land had dwindled to only 83,000 ha, in stark contrast to the 2.7 million ha of rice fields [17].

Rubber cultivation was primarily concentrated in Southeast Vietnam, particularly in the provinces of Binh Duong, Binh Long, and Long Khanh, while the Tay Nguyen region made a relatively small contribution with "dinh điền" and small-scale plantations. For example, in 1954, provinces Bien Hoa and Thu Dau Mot collectively accounted for more than 51,000 ha (out of the total of 62,731 ha) of the RVN's rubber, while Tay Nguyen had only 1,021 ha [15]. In 1965, with the completion of the LDP, rubber land in Tay Nguyen increased to 15,590 ha (12.3% of the total), but it still paled in comparison to Southeast Vietnam, which held 87.7% of the rubber plantations [18]. In 1972, despite the damages inflicted by the war, this region continued to maintain its advantage with 79,200 ha (95%), while plantations in other regions significantly reduced, surviving with only 4,100 ha [17]. In summary, regardless of the prevailing conditions of war or peace, Southeast Vietnam, particularly with its French-owned estates, consistently played a major role in the rubber industry of the RVN.

Large plantations were the leading contributors to the RVN's rubber industry (Fig. 2). From 1954 to 1958, they accounted for about 90% of the total rubber area. However, as the Saigon regime provided support for the developments of middle-sized, small, and "dinh điền" plantations, the land occupied by

large firms diminished to 66% by 1960. This ratio increased slightly to 66.5% by 1969, but large plantations still remained the primary holders of rubber land [17]. In 1972, as middle-sized and small estates were damaged by war, the area of sizeable plantations increased to 86%. As M. Aso argued, the biggest beneficiaries during this period were the large planters, most of whom were French bourgeoisie, as they expanded their cultivated land from 64% in 1943 to 82% in 1970 [8, 19]. In contrast, middle-sized farms maintained a size of 206-207 ha each, while small farms experienced a reduction in size from 21 ha to 9 ha/each [19].

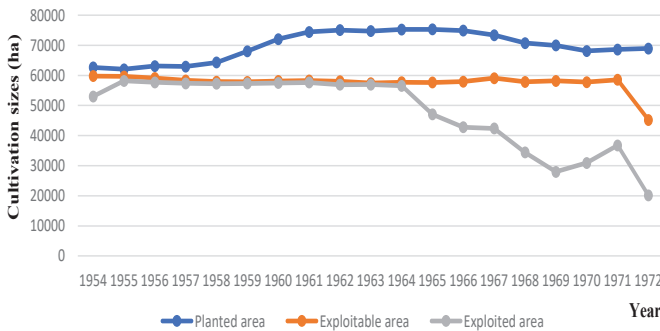


Fig. 2. Cultivation sizes (in hectares) of large plantations in Southern Vietnam from 1954 to 1972. Source: [17, 18, 20, 21].

The area of large plantations increased from 1955 to 1964, reaching nearly 80,000 ha, but experienced a decline in the late 1960s and early 1970s. Approximately 500 ha were newly planted in 1955-1956, and during the period of 1960-1965, new plantations exceeded 1,000 ha annually. Between 1955 and 1963, a total of 16,882 ha were planted with new rubber trees [9]. However, due to the impact of the Tet offensive, there was limited new rubber land in 1968-1969. From 1970 to 1972, more than 1,000 ha of rubber were planted, but the survival rate was low due to the ongoing war [19]. The exploitable land consistently accounted for around 85-90% of the total planted areas, except in the early 1960s when a significant number of trees were newly planted and had not yet reached tapping

age. Interestingly, before 1965, the gap between exploited and exploitable plantations was minimal as that period experienced little impact from the war and was peaceful for rubber production. However, in the late 1960s, the exploited land only represented 50% of the exploitable plantations, declining further to 44% in 1972 due to the war (20,100 ha out of a total of 45,200 ha) [17].

This paper argues that despite the efforts made by the RVN's government to control the rubber industry and promote the involvement of small holders as replacements for the large French estates, these attempts were unsuccessful. The French continued to wield significant influence in the rubber economy, and the majority of rubber lands from 1954 to 1975 remained unchanged in comparison to the previous period [22]. In 1954, the estimated size of French-owned large plantations stood at 63,752 ha [10]. By 1962, the land area occupied by large plantations had increased to 73,850 ha, with 78% of the rubber trees having been planted prior to 1954 [23]. New rubber plantings between 1955 and 1962 accounted for a mere 22% of the total. This figure not only underscores the prominent position of French-owned firms but also serves as one of the reasons for the decline in the RVN's rubber production, as the existing rubber trees had aged and their productivity had become limited. Around 35% of rubber trees were over 30 years old, while 22% of newly planted areas, which were under 7 years old, were still awaiting tapping. The deterioration of rubber plantations became more pronounced in the 1970s. Trees over 40 years old (planted before 1930) constituted 33.2% of the rubber cultivation, while rubber trees aged 35-40 years accounted for 11.6%, and those aged 27-36 years (planted during the period of 1936-1945) represented 24.3%. Thus, in 1972, a staggering 69.1% of rubber cultivation in Southern Vietnam consisted of trees that were over

27 years old, having been planted during the French colonial period [12].

By 1963, French firms still retained ownership of plantations and factories, valued at \$100 million. Twenty-three French-owned plantations occupied three-quarters of the rubber lands and accounted for 90% of rubber exports in South Vietnam, valued at \$30 million [6]. There were ten prominent French factories in the RVN's rubber economy, namely, *Plantations des Terres Rouges (PTR)*, *Societe Indochinoise de Plantations d'Heveas (SIPH)*, *Les Caoutchoucs du Donai (LCD)*, *Societe des Caoutchoucs d'Extreme-Orient (CEXO)*, *Ste des Plantations et Pneumatiques Michelin*, *Ste des Heveas de Tay Ninh*, *Ste des Plantations d'Heveas de Xuan Loc*, *Les Caoutchoucs de Phuoc Hoa*, *Compagnie des Hauts Plateaux Indochinois (CHPI)*, and *Societe des Plantations de Cau Khoi (SPCK)*. Together, they possessed 29 large plantations in the Southeast region, covering 71,200 ha (95.3%), and yielding 64,200 tonnes of rubber products (93.1%) [14]. *Plantations des Terres Rouges (PTR)* alone was valued at 925 million piasters and held the five largest plantations, encompassing lands, rubber plants, and a manufacturing factory. In 1971, most of the exploited rubber land belonged to French-owned plantations. The PTR and CEXO factories exploited a total of 14,690 ha out of the 15,120 ha in Binh Long. In Long Khanh, French factories occupied 7,984 ha out of 8,070 ha. In Tay Ninh, they exploited 3,570 out of 4,340 ha. In Binh Duong, the *Michelin* factory operated in 1,410 out of 1,550 ha. In Phuoc Tuy, the ratio was 700 out of 1,160 ha, and in Phuoc Long it was 340 out of 550 ha [10].

“Dinh điền” plantations in the Tay Nguyen region were established and expanded in the late 1950s and early 1960s to compete with the French-owned plantations. Between 1957 and 1963, the RVN's government constructed 13 large “dinh điền” in provinces of Kontum, Pleiku, Daklak and

some provinces in the Southeast region. By 1964, an additional 31,408 ha had been planted across 11 provinces. However, the survival rate was disappointingly low, standing at only 41.2%. For instance, in Binh Duong, 1,337 ha were planted, but only 50 ha survived. In Phuoc Tuy, all 294 ha of rubber plantations perished. In the Tay Nguyen region, only 50% of the newly planted rubber survived until 1964 [10, 24]. Several factors contributed to this low survival rate, including a shortage of experienced labour, unsuitable weather and land conditions, and the adverse effects of war. This reality highlights the failure of Ngo Dinh Diem and the RVN's government in replacing the French plantations and underscores the continued influence of French bourgeoisie in the RVN's rubber economy.

6. Rubber production

From 1954, the RVN actively promoted the exploitation of various types of rubber products due to the high profitability this industry offered to both private companies and the government. The rubber production in Southern Vietnam experienced a significant increase after 1945, rising from 12,000 tonnes to 71,500 tonnes by 1963, which amounts to a nearly sixfold growth in just 18 years. The peak production year was 1961, with 78,140 tonnes [1, 9, 17]. However, after 1962, production began to decline, reaching a low point of 13,000 tonnes by 1965 [18]. With the direct involvement of American soldiers in the anti-American resistance war, rubber production continued to decrease, averaging nearly 40,000 tonnes annually from 1965 to 1968, and dropping to less than 30,000 tonnes after the Tet Offensive in 1968. This decline was a result of the attacks by American and RVN soldiers on all rubber plantations located around Saigon and in the Southeast region, aiming to destroy the military bases of DRV and NLF soldiers. By 1974, rubber production had plummeted to a mere 20,000 tonnes,

marking a fourfold reduction compared to the peak output in 1961. This indicates a gradual decline in rubber production from the early 1960s to the early 1970s. According to the World Bank, during this period, the RVN's rubber supply averaged around 21,000 tonnes of rubber per year. Despite the potential for substantial profits in Southern Vietnam's economy, RVN's rubber played a minor role in the international market. In the 1950s and 1960s, the three Asian countries of Malaysia, Indonesia, and Thailand accounted for 80% of the world's natural rubber supply, with other countries such as India, Sri Lanka, Liberia, and Nigeria contributing 12%. The RVN's share was only around 3%, placing it in fifth position within the global rubber system. However, its contribution diminished sharply over time, dropping to 3.5% in the period 1955-1957, 1.6% in the period 1965-1968, and a mere 0.6% from 1972 to 1974 [11].

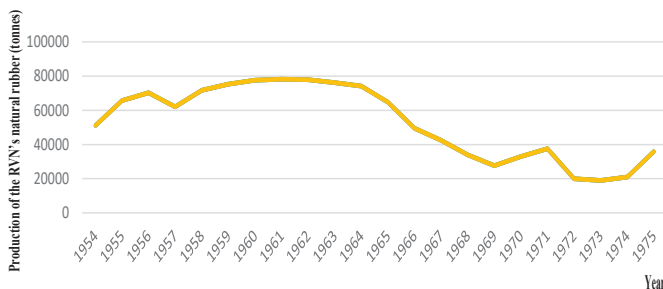


Fig. 3. Production of the RVN's natural rubber in tonnes from 1954 to 1972. Sources: [1, 9, 15, 17, 18, 25].

The main argument presented in this paper is that the large plantations owned by French bourgeoisies made the greatest contribution to Southern Vietnam's economy, surpassing that of small and middle-sized plantations, as they accounted for about 85% of the RVN's rubber output. In 1954, these large plantations produced 50,345 tonnes, which increased to 68,000 tonnes in 1960, representing 88.3% of the total RVN's rubber production (Fig. 3). Furthermore, in 1961, their contribution reached a staggering 90.8% [14, 15]. Despite a decline in production during the early 1960s, the large estates still maintained control, accounting for 86.8% in 1965 [18]. Even

in 1967, although their actual production was significantly reduced to 39,414 tonnes out of a total of 42,000 tonnes, the large plantations continued to contribute 93% of the RVN's natural rubber output. It can be argued that American and RVN's soldiers avoided damaging the French-owned rubber estates due to their high profitability, while targeting the middle-sized and small plantations, which were predominately owned by Vietnamese individuals and served as hidden bases for DRV and NLF soldiers. Moreover, these smaller plantations lacked the financial and technological support provided by the RVN government. Additionally, the new "dinh điền" plantations experienced a mortality rate of over 50% between 1957 and 1963, and the surviving plantations yielded low output. As a result, from 1954 to 1965, the combined production of all small and middle-sized plantations amounted to approximately 6,000-9,000 tonnes annually, which was less than one-sixth to one-seventh of the output of the large plantations [26, 27].

From 1954 to 1965, Tay Nguyen could only supply around 1,000 tonnes annually, while the Southeast provinces produced more than five times that amount. Remarkably, in the years 1954-1955, the Southeast provinces contributed more than 50,000 tonnes, whereas the Tay Nguyen region produced more than 700 tonnes. By 1965, Tay Nguyen's output decreased to less than 700 tonnes, while rubber firms in the Southeast region saw a significant increase, producing 80 times more rubber than Tay Nguyen [18]. In particular, in 1971, Tay Nguyen produced a mere 200 tonnes due to the destruction caused by the war [17]. Among the Southeast region's rubber industry, Binh Long and Binh Duong provinces stood out, occupying 50% of all rubber lands and contributing significantly to the overall production. Binh Long ranked first, averaging an output of 24,000

tonnes in the 1950s and 1960s. However, by 1968, its yield had declined to 18,000 tonnes, with 99.5% originating from large plantations. Long Khanh secured the second position, but its production continuously decreased, reaching only 8,600 tonnes in 1968.



Fig. 4. Different types of production from large size rubber estates, in tonnes, from 1954-1972. Source: [17, 18, 21].

Various types of rubber products were produced in Southern Vietnam, with natural products comprising the majority while processed goods remained limited (Fig. 4). Smoked sheets stood out as the most significant product, accounting for around 60-70% of the annual output. Other crepes, including ordinary, flat bark, and sernamby, held the second position, representing 33.2% in 1959 and 30% in 1960. Sole crepes had the smallest contribution, especially in 1968 with 62 tonnes and 78 tonnes in 1972. With the involvement of multiple factories in the processing industry, RVN was able to offer a wider range of rubber products, such as tires and tubes for bicycles and motorcycles, sandals, and mattresses. Notably, not only French-owned planters but also Chinese and Vietnamese companies participated in this lucrative economy. In 1965, there were 47 firms in Saigon engaged in rubber exportation, although most of them were small enterprises [14]. Additionally, in 1974, there were two Chinese and Vietnamese-owned two firms in Bien Hoa, along with 20 large enterprises and 110 small organizations in Saigon [28].

Table 1. Bicycle tire and tube production (in units) in the RVN from 1967 to 1968. Source: [29].

Factory	Tire		Tube	
	Year 1967	Year 1968	Year 1967	Year 1968
Michelin	1,254,260	1,144,805	1,254,883	1,333,914
Dutaco	408,638	364,627	310,833	362,514
Filanco	49,100	41,275		
My Hanh	11,726	180		
Duc Loi	826	800		
Liandrat	0		390,341	320,500
Dong Ich	0		37,160	10,486
Viet Tan	0		21,150	6,203
Pham Hiep	0		200	
Total	1,711,998	1,550,707	1,956,057	2,021,458

As shown in the Table 1, both French and Vietnamese factories involved in the rubber industry, specifically in the production of tires and tubes for bicycles and motorcycles. Among them, French firms held a prominent position, with the Michelin factory taking the lead. Established in 1953, the Michelin factory alone produced over 70% of all rubber products. There were also 30 medium-sized factories engaged in sandal production, but only the Bada factory, owned by a French holder, was able to produce high-quality products using modern technology. In the late 1960s, rubber factories primarily catered to military demand [24]. However, the RVN's rubber processing industry was still in its early stages, and Saigon continued to import technologically advanced rubber commodities.

7. Exportation and rubber's role in RVN's society and economy

The majority of rubber production in the RVN was dedicated to exports, with only a small portion being consumed domestically. In 1960, a mere 2,000 tonnes were allocated for local demand, while nearly 78,000 tonnes were earmarked for foreign

markets [25]. Exportation experienced a sharp increase, reaching 27,503 tonnes from 1954 to 1961. However, starting from 1962, rubber exportation witnessed a rapid decline, with figures falling below the 1954 levels after 1966 due to the impact of low global natural rubber prices and the ongoing war situation [2]. Notably, the years 1969-1970 marked the lowest point in exported rubber weight, with just over 20,000 tonnes. The RVN's contribution to the global natural rubber market dwindled from 3% to 0.6% in the 1970s, which was considerably low in comparison to neighbouring countries like Malaysia, Indonesia, and Thailand.

Similarly, the value of rubber exports followed a pattern of increase from 1954 to 1961, but then experienced a continuous decline until 1971. In 1957, although the RVN exported only 79,950 tonnes of rubber, it generated a value of 1.7 billion piasters, reaching its peak. In the subsequent years, the value of rubber exports declined, although it was still higher than that of 1954. For instance, in 1959-1960, it exceeded 1.6 billion, and in 1961, its value decreased to 1.53 billion, despite the highest weight of exports at 83,403 tonnes. This decline in value was attributed to the drop in international natural rubber prices to \$526 per ton. Interestingly, except for a few specific years, including 1954 (the year of governmental transfer), 1965 (with direct American involvement in anti-American resistance war), and the period of 1968-1971 (marked by the negative impact of the Tet Offensive), the value of rubber exports remained consistently high, surpassing one billion piasters [14]. The lowest year was 1970, with a value of 708 million piasters. In 1973 and 1974, the value increased again, reaching over \$13 million and \$14.4 million, respectively, as RVN's planters exploited and exported both new production and existing stockpiles [30].

Remarkably, the types of rubber exportation from the RVN were quite diverse, with an increasing presence of processed commodities alongside crude and natural ones. In 1956, the list of exported commodities included both natural and manufactured rubber products such as bicycle tires, mattresses, and sandals. However, the volume of manufactured rubber was minimal and insignificant, with 22 tonnes in 1957, 10 tonnes in 1958, 4 tonnes in 1960, and nearly zero in other years of the 1950s and 1960s [18]. In 1968, RVN's exportation of manufactured rubber was limited to bicycle tires only [21]. In contrast, the RVN had to import 5,000 to 6,000 tonnes of manufactured rubber to meet its domestic economic demand. It was not until 1972 that 1,662 tonnes of manufactured rubber goods were exported, with a value of 30.8 million piastres [17]. These data show that the RVN mainly exported natural rubber during this period, despite efforts to improve the rubber industry. Natural rubber, therefore, contributed significantly to export revenues, such as 1.225 billion out of a total of 1.227 billion piastres in 1966 and 612.2 million out of 612.6 million piastres in 1967 [20].

Rubber also made a substantial contribution to the RVN's economy by providing numerous jobs in plantations and factories for Vietnamese workers and their families. In some provinces, large plantations employed and supported the livelihoods of up to 50% of the local population. In 1958, there were 14,044 workers in rubber estates, and within two years, this number nearly tripled, with workers spread across 304 plantations [22]. By 1961, 335 rubber firms employed 41,045 workers, accounting for 67.2% of the workforce in all types of plantations, including rubber, tea, coffee, and more [11, 25]. In 1963, 445 rubber plantations provided employment for 41,217 individuals, representing 68.5% of the total plantations' workforce. This included 17,925

skilled workers, 12,379 unskilled ones, 9,944 part-time workers, 8 professional employees, and other officials and managers [18]. The rubber industry also generated additional demand for supplies, housing, education, and healthcare. In 1960, the RVN had 160 factories in the rubber industry, and this number increased to 197 industrial and commercial firms by 1966 [17]. These enterprises yielded considerable profits, amounting to 551 million piastres in 1957 and rising to 645 million in 1961 [10].

The rubber industry was a significant source of revenue for the Saigon regime, as it contributed various types of taxes, including export tax (70%), land tax (6%), business income tax (10%), consumption tax (3%), general tax (6%), and other taxes (5%). The export tax was raised from 3% in 1954 to 12% and then to 40% in 1960 [9]. As a result, the government's income from exported rubber taxes also experienced a rapid growth, from 48.1 million piastres in 1956 to 161.6 million in 1961-1962, which represents an increase of more than threefold in just five years [15, 31]. In 1963, the value of exported rubber reached \$33.5 million, with the government collecting \$13.4 million or 500 million piastres (40%) in taxes, while private factories gained a profit of 230 million piastres [14, 25].

Due to the lucrative nature of the rubber industry, the RVN government prioritised investments in profitable rubber plantations and made efforts to avoid damaging them during the war. When the rubber industry faced difficulties due to both internal and external factors, the government reduced the export tax from 40% to 20% in 1970 to incentivise traders to engage in rubber exploitation [4]. Prime Minister Tran Van Huong issued Decrees and Instructions to halt the destruction of rubber plantations after the Tet Offensive in 1968 [32]. In 1970, the Saigon government developed a plan with two main objectives: 1) to cultivate 30,000 ha of uncultivated

land and improving plantation technology to achieve an annual production of 70,000 tonnes within the next five years, and 2) to plant 50,000 ha with an annual production of 100,000 tonnes [28]. A rubber conference held in late 1973 aimed to enhance the competitive ability of Southern Vietnam's rubber industry, with key targets of producing 38,130 tonnes, exporting 11,360 tonnes, and generating \$42.7 million [1].

Rubber production consistently accounted for around 50-75% of the RVN's total export value from 1954 to 1972, despite rubber plantations occupying only 3% of cultivated land (Fig. 5). Among the various rubber products, smoked sheets RSS1 held the highest value. In 1957, American economist Sheldon Tsu argued that rubber would surpass rice as the RVN's most important export. From 1956 to 1960, rubber consistently contributed over \$40 million to the total export value of the RVN (\$60-80 million), while rice only generated \$3,000 in 1956 [33]. In 1959, rubber accounted for 62% (\$46.5 million) and in 1960, approximately 57% of the RVN's total exported value, while rice fields covered 11% of RVN's cultivated land (170.85 km²) but contributed only \$27 million, with industrial products exporting a mere \$4 million [25, 33]. In 1965, rubber generated 901 million piastres, representing 76.21% of all exportation, which was more than 13 times higher than the contribution of rice exports (11.05%). Other agricultural goods such as meat products, tea, coffee, and fruit accounted for 10.10% of the total export value [10]. Even in the late 1960s, despite a reduction in rubber exports, it still provided \$24 million, while industrial products contributed only \$1 million, as rice and other food types were not allowed for export [33]. In 1970 and 1971, rubber still represented 70% of the RVN's total export value, but in 1972, due to the war, it dropped to 36% (1.5 billion piastres), falling behind the value of fish, crustaceans, and seafood products (1.6 billion

piasters) [17]. Consequently, from 1954 to 1975, rubber held the leading position as the main exported commodity of Southern Vietnam’s economy, although its prominence decreased in the early 1970s.

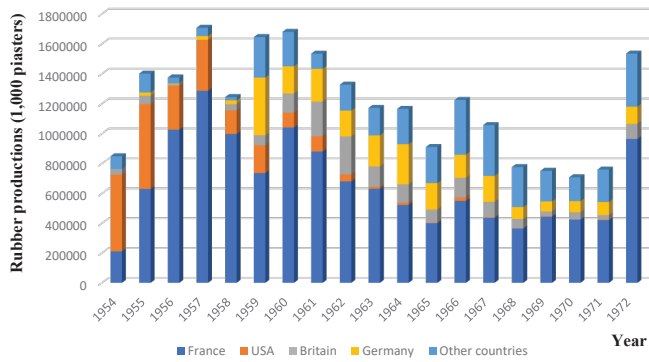


Fig. 5. The RVN’s rubber export markets by value (units in 1,000 piasters). Sources: [15, 17, 18, 23].

The market for the RVN’s natural rubber encompassed more than 20 countries, including Denmark, Taiwan, Poland, Greece, the United States, Japan, Algeri, Morocco, French West Africa, Switzerland, Spain, Sweden, Mexico, Cuba, and Finland. However, the main markets were France, Britain, West Germany, and Japan. Among these, France emerged as the leading consumer of the RVN’s rubber. With the exception of 1954 when the United States imported a significant amount of Vietnam’s rubber, France consistently held the highest position in subsequent years. This market regularly accounted for over one billion piastres annually, while other markets contributed around 80-90 million piastres per year or less [15, 23]. The lowest point for French importation occurred in 1954 when France only imported 12,669 tonnes (22.6%), valued at nearly 200 million piastres. The highest year was 1957 when France imported 55,364 tonnes (72.8%) valued at 1.28 billion piastres out of the total 1.7 billion piastres of rubber exportation. However, starting from 1964, the amount of money from France declined sharply as the price of natural rubber

decreased, and other markets such as Japan and Italy made greater contributions. By 1972, French importation accounted for only 30% of the RVN’s total rubber exports.

Interestingly, despite America’s attempts to replace the French-owned plantations, it had a negligible contribution to the RVN’s rubber exportation. Prior to 1960, America was the second-largest market for the RVN’s rubber products. However, its contribution declined rapidly after 1961, with only seven tonnes imported in 1972 and zero tonnes in 1970. This decline can be attributed to America’s development of technology for producing synthetic rubber, which reduced its demand for natural rubber. Since 1960, global production of synthetic rubber exceeded that of natural rubber, leading many countries to prioritise using synthetic goods instead of importing natural rubber [11]. West Germany emerged as a replacement for America’s position in the 1960s, along with Britain, both of which played a significant role in the RVN’s rubber exportation during that period. However, in the 1970s, Italy, Japan, and Singapore became prominent importers of rubber from Southern Vietnam. Remarkably, from the late 1960s, other markets also contributed significantly to Vietnam’s exportation, with their share increasing to 25% in 1965, 35.6% in 1968, and reaching a peak of 68% in 1972 [12].

8. Conclusions

Rubber industry held a significant role in both the colonial economy of French Vietnam and Southern Vietnam from 1954 to 1975, impacting various aspects such as social, economic, political, and military affairs. This position was evident not only in the numbers related to area, production, exportation, and value, but also in the treatment of rubber plantations by the Saigon government, the French bourgeoisies, and even the DRV. Both Southern

and Northern Vietnam recognised the fundamental importance of rubber plantations as military bases for their armies and a vital financial resource for their economies. The policies of the RVN, including the establishment of “dinh điền” and the encouragement of middle-sized and small rubber farms, were attempts to replace French owners in controlling the rubber economy in South Vietnam, as this industry offered substantial profits in all circumstances. Even rice, the most significant agricultural product, lost its influence compared to rubber.

Rubber became the leading exported product, helping the RVN mitigate its trade deficit. The activities of the Saigon regime, such as the establishment of the Vietnam Institute for Rubber Research (IRCV) and financial support provided to planters, facilitated the cultivation and efficient exploitation of rubber plantations. In 1958, Decree 287-KT enabled 100-ha plantations to receive a loan of 3 piastres per kg of exported rubber with an annual interest rate of 2% [1]. The exchange rate for sales in Saigon steadily increased, enabling rubber companies to accumulate more piastres for investment in rubber tree utilisation and labour wages. Prior to June 18th, 1966, the exchange rate was \$1 USD to 35.35 piastres. From 1966 to October 5th, 1970, it was 80.80, and then it rose to 277.75 piastres. In 1971, the rate fluctuated from 277.75 piastres to 404, and then 414.10 piastres per \$1 USD. In 1973, it sharply increased to 500 piastres [17].

Southern Vietnam, however, failed to replace the French role in rubber industry, and the government had to support sizeable plantations and rubber factories to maximise profits from this sector. Aso argues that there was a lack of small holders in Vietnam’s rubber system prior to 1954, and Ngo Dinh Diem’s early policies aimed to “Vietnamise” rubber estates by encouraging small farms and establishing new “dinh điền”. However, Saigon faced challenges

due to the shortage of professionals and skilled managers to oversee the entire rubber industry. The RVN’s projects in the Tay Nguyen region proved unsuccessful, with a significant number of rubber trees dying and only minimal output being generated. While there were some developments in processing and manufacturing rubber goods, their impact remained limited. Due to the financial demands of the Vietnam War, Saigon had no opportunity to support French-owned firms in rubber exploitation and the exportation of natural rubber. This indicates that the large French-owned plantations consistently held the key position in Southern Vietnam’s rubber industry as it supplied about three-quarters of the production and exportation. The power of the French bourgeoisie and the United States’ investments also underscored the fact that the RVN was heavily reliant on external factors and still in the early stages of development as an economy.

COMPETING INTERESTS

The author declares that there is no conflict of interest regarding the publication of this article.

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