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Final Thesis

Coal Mining in the Socio-Economic History of Akabira, Hokkaidō

Changes Between the Postwar Period and the Turn of the Century

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要旨

戦後日本において、石炭は国と国内経済の復興に必要な資源として重要な役割を果たした。また、１９５０年の朝鮮戦争の勃発によって、鉱業はさらに不可欠な産業になった。しかし、その直後、日本の石炭産業は困難な状況に陥った。国内経済を安定させ、国際市場に進出する必要があった日本は、産業の合理化に注力することを決めた。その一方で、世界中で石油価格が下落しつつあった。突然、合理化という目的を達成するために、発展しつつある石油産業がコストのかかる鉱業に取って代わる可能性が出てきた。その結果、１９５０年代からの約２０年間にわたり、日本の「エネルギー革命」によって、石炭は主要なエネルギー源としての地位を失った。

鉱業が膨大な数の炭鉱労働者を雇用していたため、日本政府は鉱業の整理を管理しようとしていた。１９５０年代において、非効率的な炭鉱を閉山し、効率的な炭鉱を支援することを目指す「スクラップ・アンド・ビルド」と呼ばれる政策を通じて鉱業の収益性を回復させようとしたが、１９５９年までにそれが不可能であることが明らかになった。１９６０年代に、日本政府は鉱業の斜陽に対する管理的な対応にとどまった。１９６２年から、「石炭政策」と呼ばれる一連の政策を通じて日本の鉱業の衰退を管理した。困難にもかかわらず石炭を支援しようとした１９５０年代に対して、１９６０年代に政府は石油の優位性を全面的に受け入れた。

「エネルギー革命」によって引き起こされた鉱業の危機は、日本の炭田に悪影響を及ぼした。鉱業が地域の主要産業であったため、炭鉱が閉山されるにつれて、各自治体は不況に陥った。北海道、空知地方の石狩炭田に位置する赤平市の戦後史は、その過程の例である。鉱業が主要産業であった１９５９年までの期間に増加していた人口は、１９６０年代の石炭危機により急速に減少し始めた。また、主要炭鉱が閉山したことに伴い、市税の大部分を占めていた鉱産税の収入は減少した。そ

のため、存続しようとしていた赤平市は、日本政府からの財政援助に依存するようになり、１９７０年代頃から政府の支出が市の歳入の半分以上を占めるようになった。鉱業の危機は、赤平市の状況を悪化させ、市は本格的な衰退の途を辿ることとなった。

炭鉱の閉山は、赤平市の社会的・経済的な状況にも悪影響を及ぼした。炭鉱の閉山に伴う不況により、炭鉱労働者だけではなく、経済の複数の分野の労働者も市を去った。人口減少と経済危機の影響により、商業施設の数と収益が減少し、学校の生徒数や教職員数も減少した。さらに、医療施設も閉鎖され、医療従事者も市を離れ、赤平市の文化団体の数やその人員数も減少した。１９６０年代から、経済的に困難な状況に陥った人が利用できる安価な公営住宅の戸数およびその入居者数も増加した。市の衰退の唯一の例外は、２０世紀の後半を通じて労働者数が安定を保ち、生産量も増加し続けた製造業であった。

赤平市は、全国的な鉱業危機により衰退した空知地方の唯一の市ではない。これまで詳細に研究されてきた夕張市は、鉱業衰退のもう一つの典型例である。赤平市と夕張市の戦後史を比べると、複数の共通点が現れる。赤平市と同様に、２０世紀の後半を通じて、炭鉱の閉山により夕張市の人口や労働者数が減少し、医療施設が閉鎖され、学校の生徒や教員及び医療従事者が市を去った。さらに、両市の最後の炭鉱が２０世紀末頃に閉山されたため、市の戦後史を分析することで、日本の鉱業危機が地域社会と経済にもたらした長期的な悪影響を明らかにすることができる。

鉱業の危機に起因する赤平市の衰退は、地域が単一産業に依存することの危険性を明らかに示す。その過度な依存は、地域社会を国内の変化だけではなく、グローバル化が進む世界市場の動向に晒すこととなった。こうした変化に直面する中で、経済の多角化が有効な解決策として浮上する。しかし、石炭の危機を認識した後にも鉱業への依存を継続した赤平市の戦後史は、産業の多角化がいかに困難な課題であったかを示している。その結果、自治体の対応における限界が存在したので

はないかという疑問が生じる。さらに、財政援助にとどまらず、日本政府がどこまで変革を推進することに注力していたのかという重要な問題も浮上する。これらの話題をより深く分析した研究は、将来、赤平市と同様に産業危機に直面する地域社会における意思決定の参考となる可能性がある。

本研究の目的は、赤平市の社会的・経済的な現代史を通じて、日本の高度経済成長がもたらした繁栄の例外を明らかにすることである。そうすることで、これまで光が当てられてこなかった赤平市の人々を、歴史的に再評価することを目指している。

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INTRODUCTION

JUST ANOTHER MINING CITY

Akabira is a former coal-mining city located in the Sorachi subprefecture, which occupies the western part of central Hokkaidō. Together with a small number of other nearby municipalities such as Bibai, Mikasa, and Ashibetsu, Akabira lies in the Ishikari coal basin, once one of the major hubs for coal production in Japan. Between the late nineteenth century and the first half of the twentieth century, the area was a thriving center for the coal industry and operating mines were plentiful. However, the Japanese energy revolution beginning in the fifties did much to erase the flourishing communities residing in the Ishikari coalfield. Suddenly, the country's shift from the use of coal in favor of petroleum as its primary energy source rendered the coal industry superfluous. The growing concerns regarding the environmental damage resulting from the use of coal additionally jeopardized its position in the national energy mix.[1] The following decades thus saw the sector facing its own demise, which the Japanese government attempted to somehow keep under control. Many were the issues raised by this transformation, such as unemployment, depopulation, and the weakening of the overall circumstances of multiple mining municipalities across Japan. The question of how to revitalize and promote these different towns after half a century of decline is a matter of contemporary discussion that has yet to find a satisfactory solution.

In recent times, the experience of a Japanese community facing its former mining past has repeatedly been described in relation to Yūbari, similarly located in the Ishikari coal basin some sixty kilometers south of Akabira.[2] Outside of Hokkaidō, the coal-mining areas of Kyūshū have similarly enjoyed significant attention in the form of studies concerning the Chikuho coalfield and the Miike coal mine, located in northern Fukuoka

[1] Tai Wei LIM, "The Final Coal Mine Closures in Japan: A Historical Overview Utilizing the Conceptual Perspective of Mine Closure Policy Implementation Studies" in Tai Wei Lim, *Energy Transitions in Japan and China*, Singapore, Palgrave Macmillan, 2017, pp. 143-144.
[2] Suzanne CULTER, *Managing Decline: Japan's Coal Industry Restructuring and Community Response*, Honolulu, University of Hawai'i Press, 1999.

prefecture and between southern Fukuoka and northern Kumamoto respectively.[3] More broadly, the national experience of the coal industry within the broader context of the booming Japanese economy has been analyzed in great detail from an economic and industrial policy perspective. The different phases of growth, followed by unrelenting decline, have been the subject of much attention. Overall, it can consequently be stated with a good degree of certainty that the major aspects of the contemporary history of the Japanese coal-mining sector and its communities are well known. Within this framework, the study of the other mining societies of Japan can consequently appear redundant. Notwithstanding the existence of regional differences, it could be argued that a shared experience of Japanese coal-mining communities in the face of crisis can be inferred from the history of any specific former mining center. In light of the existing knowledge regarding Yūbari and the Chikuho coalfield, it can thus be tempting to see the study of other areas as an inquiry into "just another city".

However, the significance of reconstructing comprehensive histories of individual cities and groups cannot be ignored. On a global level, understanding the internal dynamics of each former mining community proves key in describing the consequences of industrial activity on individual municipalities or regions. This analysis takes on great significance within the contemporary rise of globalization, which has seen multiple former mining centers worldwide struggle considerably. At the same time, the detailed study of these stories also takes on the additional role of potentially informing the decision-making process in other areas as well. While it is certainly true that the experiences of these former mining cities often display shared elements, overgeneralizing their circumstances risks ignoring the finer details marking their individual course. In turn, this could result in overlooking the different solutions that each community employed when facing its growing issues.[4] By focusing on each story in greater detail, the detailed recollection of individual experiences and approaches could instead ultimately prove useful when detailing the contemporary path towards recovery

[3] Matthew ALLEN, *Undermining the Japanese Miracle: Work and Conflict in a Coalmining Community*, Cambridge, Cambridge University Press, 2009.
[4] Cristina MARTINEZ-FERNANDEZ, Chung-Tong WU, Laura K. SCHATZ, Nobuhisa TAIRA, José G. VARGAS-HERNÁNDEZ, "The Shrinking Mining City: Urban Dynamics and Contested Territory", *International Journal of Urban and Regional Research*, 36, 2, 2012, pp. 245-249.

of different ailing regions. As noted by Tai Wei Lim, this could be the case when considering the experience of Japan as the foundation on top of which other parts of Asia facing the same dynamics could learn. As a key player in the regional economic landscape, the study of the course of the ailing Japanese coal-mining communities thus appears particularly relevant.[5]

Additionally, while it is possible to describe the general course of Japanese coal mining based on the existing insight, this does not imply that so-far-underappreciated local experiences hold a lesser intrinsic value. The possibility of looking into the past and finding local ties with a broader story finds merit in its ability to reinforce the accuracy of that reconstruction itself. Similarly, delving into the detailed experience of an area to find differences from a broader narrative makes it possible to refine the historical account and paint a more comprehensive picture of reality. Furthermore, subsuming local shared experiences into a greater whole without inquiry, regardless of their potential similarities or differences, is choosing to frame specific pieces of reality as less significant than others. To the people experiencing the decline of the Japanese coal mining industry within their local community, that is *their own story*, which may or may not fit into a broader perspective. Consequently, the study of former coal-mining areas other than Yūbari, Chikuho, or the Miike mine makes it possible to better understand the unfolding of the contemporary history of one of the former key industries of Japan. The national downfall of coal is a significant exception to the Japanese "economic miracle" that brought greater well-being for large segments of the Japanese society. Its diverging nature stands in stark contrast to the greater picture of virtuous transformations of the Japanese experience of the late twentieth century. A nuanced understanding of its processes appears most significant to correctly portray the course of the Japanese economic growth of recent times.

Reconstructing the contemporary social and economic history of Akabira thus aims to provide these additional details to the broader Japanese story and highlight some of the consequences of industrial transformations on a local community. So far, Akabira has only been the subject of very limited attention, which leaves its individual experience

[5] Tai Wei LIM, *The Final Coal Mine Closures…*, cit., pp. 145-148.

underappreciated. Nonetheless, its relevance to the national history of coal is most obvious, as apparent from its intrinsic features. At its peak, Akabira was home to a population of a few tens of thousands of people, a great part of whom worked in the mines. The last major coal mine located in Akabira ceased its activities in 1994, making the city's experience particularly relevant in understanding the local course of coal mining throughout multiple decades of industry struggle and transformations. On top of providing an additional outlet for inquiry, its location in the Ishikari coal basin also allows for an expansion in the understanding of regional development that adds to the existing knowledge of the experience of Yūbari. This helps frame the course of coal mining in Hokkaidō, and in the Sorachi area in particular, in greater detail. The study of Akabira thus promises to help in understanding whether it is possible to talk about overarching regional tendencies or, conversely, if it would be wiser to look at each community as having its own distinct history. Deeper knowledge of the experience of Akabira can be a building block towards the creation of a more cohesive socio-economic regional narrative, which as of today is significantly limited to the story of Yūbari. Finally, thinking about Akabira gives its inhabitants their rightful place in history, positioning them beyond the definition of the people of just another mining city.

RESEARCH METHODOLOGY, LITERATURE, AND GOALS

This work aims to shed light on the contemporary social and economic history of Akabira in relation to the activity of the coal mines of the city. The timeframe considered spans from the end of the Second World War to the final years of the twentieth century, to accurately gauge local dynamics in the broader context of the national coal crisis of Japan. Its ultimate goal is to present the consequences of the decline of the Japanese coal mining industry on the lives of the people of a local community. Additionally, the research hopes to provide part of the information necessary to further expand awareness of the potential shared experience of the Sorachi region in the face of the decline of coal mining. On top of reconstructing the transformations of the city of Akabira, the research thus intends to compare its findings with the available knowledge regarding the

experience of Yūbari. After all, as of the writing of this research, Yūbari represents the most well-known case study concerning the Ishikari coal basin in this historical phase.

In order to understand the internal dynamics of Akabira, its recent history is rebuilt based on a broad range of quantitative data markers. By covering a wide array of themes, these indicators allow for the consideration of different areas of economic and social life. Key findings first relate to the foundational elements of the community such as demographic, financial, and work tendencies. Further inquiry then allows for the understanding of patterns relating to industrial and commercial activity, changes in the infrastructure of the city, transformations in healthcare, welfare, and safety, and quantifiable trends of education and culture. These indicators provide a solid understanding of the development of Akabira in the fifty-five-year period considered.

Data relating to the different areas of social and economic life of Akabira are mainly gathered from two sets of booklets known as *Akabira shisei yōran* (Summary of Akabira City Conditions) and *Akabira shi tōkeisho* (Akabira City Statistics Report). As Akabira only earned the official title of *shi* in the early fifties, data relating to the early postwar years is additionally collected through the *Akabira chōsei yōran* series, which predates the subsequent *Akabira shisei yōran* booklets. At their core, these publications all present official statistical data relating to the city which was collected or catalogued by the city's administration itself. Hard copies of these different series were regularly published by the municipality until the dissemination of statistical data moved online. However, while the *Akabira chōsei yōran* and *Akabira shisei yōran* series feature yearly releases starting immediately after the war, the *Akabira shi tōkeisho* booklets only appear beginning in 1983.

The *shisei yōran* and *chōsei yōran* sets appear to be the more accessible publications and those designed to be offered to the public at large. Their statistical component is thus often joined by beautiful pictures of the city and its community. Despite consistently featuring these main elements, each yearly release can however differ significantly both in terms of structure and content. While earlier editions focus greatly on statistics, issues starting approximately from the sixties adopt a different approach. Here, the main part of the booklet, with a visually pleasant design, begins by featuring better and larger pictures as well as brief articles describing life in Akabira. The

statistical data itself is instead entirely printed on a supplement making use of a simpler style, which usually employs numbers and tables only. This functional approach is similarly found in the *Akabira shi tōkeisho* series*,* which features no additional content other than the statistical data. Compared to the markers available within the *Akabira shisei yōran* and Akabira *chōsei yōran* booklets, the *Akabira shi tōkeisho* set offers more information and goes into greater detail about the different areas of social and economic life. As of the writing of this work, a copy of the yearly release of all these publications is available at Hokkaidō Prefectural Library, located in the city of Ebetsu, to the east of Sapporo. I was able to handle the material during a nearly two-week trip to Hokkaidō in January 2026. During this time, I visited the library every day to evaluate the available data, digitize it, and make photocopies of the booklets so as to be able to continue working in Italy.

In order to correctly place the experience of Akabira in the broader Japanese historical context, this work also references a diverse set of sources relating to this overarching topic. These include monographs in both Japanese and English, as well as individual articles in English. The most fundamental pieces of work referenced are Laura Hein's *Fueling Growth: The Energy Revolution and Economic Policy in Postwar Japan*,[6] published in 1990, and Shimanishi Tomoki's *Nihon sekitan sangyō no sengoshi: shijōkōzō henka to kigyō kōdō* (History of the Japanese Coal Mining Industry in the Postwar Period: Market Structure Transformations and Company Activity),[7] published in 2011. While the former addresses the broader context of the Japanese energy revolution, the latter focuses on the individual experience of Japanese coal mining in greater detail. Additional sources on the same matter then include *Nihon sekitan sangyō no suitai: sengo Hokkaidō ni okeru kigyō to chiiki* (The Decline of Japan's Coal Industry: Companies and Regions in Postwar Hokkaidō),[8] edited by Sugiyama Shin'ya and Ushijima Toshiaki, and *Tankō to "Nihon no kiseki": sekitan no tamensei wo horinaosu* (Coal Mines and the "Japanese

[6] Laura E. HEIN, *Fueling Growth: The Energy Revolution and Economic Policy in Postwar Japan*, Cambridge, London, Harvard University Press, 1990.
[7] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi: shijōkōzō henka to kigyō kōdō* (History of the Japanese Coal Mining Industry in the Postwar Period: Market Structure Transformations and Company Activity), Tōkyō, Keiō gijuku daigaku shuppankai, 2011.
[8] SUGIYAMA Shin'ya *hen*, USHIJIMA Toshiaki *hen*, *Nihon sekitan sangyō no suitai: sengo Hokkaidō ni okeru kigyō to chiiki* (The Decline of Japan's Coal Industry: Companies and Regions in Postwar Hokkaidō), Tōkyō, Keiō gijuku daigaku shuppankai, 2012.

Miracle": Delving into the Facets of Coal),[9] edited by Nakazawa Hideo and Shimazaki Naoko. The works of Yada Toshifumi concerning the history of the Japanese coal industry are also occasionally referenced.[10] Finally, significant numerical data relating to a multitude of topics in the history of Japanese coal mining is gathered from *Sekitan seisaku shi: shiryō hen* (History of the Coal Policies: References Section)[11]. When talking about Yūbari, this work then references Suzanne Culter's extraordinary *Managing Decline: Japan's Coal Industry Restructuring and Community Response*,[12] which greatly inspired this research. A look at the circumstances of other former coal-mining communities in present-day Hokkaidō is then sourced from *Coal mining Communities and Gentrification in Japan* by Tai Wei Lim, Shimazaki Naoko, Godo Yoshihisa, and Yiru Lim.[13] Finally, individual articles from various authors also provide additional details.

The research begins by tracing the history of Japanese coal mining at the national level between the end of World War II and the turn of the century. The experience of the coal industry is here considered within the broader context of Japanese economic and industrial policy and its focus on rationalization. This makes it possible to present the hardships of the coal industry and its ultimately ruinous competition with imported petroleum in a detailed way. Key to this section are the works of Laura Hein and Shimanishi Tomoki, the content of which is intertwined to form a comprehensive historical account. While the work of Yada Toshifumi offers additional information relating to the early stages of the postwar history of Japanese coal mining, the *Tankō to "Nihon no kiseki"* volume is later referenced when talking about the latter decades of the century.

The second part of this work, focusing on the contemporary history of Akabira, locates its experience between 1945 and 2000 within the broader Japanese context. By making use of the data presented in *Akabira chōsei* yōran, *Akabira shisei yōran*, and

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[9] NAKAZAWA Hideo *hen*, SHIMAZAKI Naoko *hen*, *Tankō to "Nihon no kiseki": sekitan no tamensei wo horinaosu* (Coal Mines and the "Japanese Miracle": Delving into the Facets of Coal), Tōkyō, Seikyūsha, 2018.
[10] YADA Toshifumi, *Yada Toshifumi chosakushū dai ikkan: sekitan sangyō ron* (First Volume of Yada Toshifumi's Works: Writings on the Coal Industry), Tōkyō, Harashobō, 2014.
[11] SEKITAN SEISAKU SHI HENSAN IINKAI, *Sekitan seisaku shi: shiryō hen* (History of the Coal Policies: References Section), Tōkyō, Sekitan enerugī sentā, 2002.
[12] Suzanne CULTER, *Managing Decline…*, cit.
[13] Tai Wei LIM, Naoko SHIMAZAKI, Yoshihisa GODO, Yiru LIM, *Coal Mining Communities and Gentrification in Japan*, Singapore, Palgrave Macmillan, 2019.

Akabira shi tōkeisho, the experience of the city is reconstructed to the desired level of detail. However, it must here be noted that Hokkaidō Prefectural Library does not hold a copy of the *shisei yōran* and *chōsei yōran* booklets for each yearly release. Therefore, the information presented in the second part of this work is partially incomplete. I have tried my best to compile data points coming from these different sources into an individual, comprehensive chronology. Unfortunately, it was still occasionally impossible to build a narration encompassing every single year. Whenever necessary, the missing data has thus been interpolated based on the available numerical information so as to reconstruct a more complete history of coal mining in Akabira.

The third part of this work then focuses on analyzing what can be learned from the experience of Akabira based on the information provided in the second chapter. The remarks presented here highlight the significance of the history of Akabira and its coal mining industry within its local context. Additionally, this section also describes what the apparently regional experience of Akabira can teach about social and economic change at the global level. A comparison of the circumstances of Akabira and Yūbari within the same timeframe is then made possible by intertwining the findings of this work with those of Suzanne Culter's research. Looking at the similarities and differences between these two communities ultimately makes it possible to form a basis for the reconstruction of the broader experience of the Ishikari coal basin and the Sorachi region.

COAL IN JAPAN AFTER 1945

THE EARLY POSTWAR PERIOD: RESTARTING THE ECONOMY, 1945–1949

REBUILDING PRODUCTION AND JOINING THE WORLD ECONOMY

After the end of the Second World War, the economic outlook of Japan was grim. Having moved to a military economy throughout the previous years to support the war efforts, shifting to a framework meant for peaceful life now proved difficult. Because of its dire circumstances, national production at the time proved mostly unable to supply foodstuffs and general goods to the population. The output of food, in particular, had suffered significantly during the war years. To make matters worse, after the return to Japan of a massive number of settlers from the former colonies, as well as soldiers, the sufficiency of basic resources proved even more precarious.[1] The Higashikuni Cabinet (August 17–October 9, 1945) and the Shidehara Cabinet (October 9, 1945–May 22, 1946), which rose to power in the early postwar period, proved unable to solve this economic and social crisis. During their tenure, the problem of insufficient production was largely sidelined, as the former rather focused on political matters, and the latter tried to control the relentless rise of inflation.[2] As William R. Garside notes, “by the autumn of 1946 the Japanese economy was on the verge of collapse”.[3]

At this time, one of the key elements to economic and industrial recovery was the availability of coal. After all, in the early postwar years coal still played a fundamental role as a most significant energy source for the Japanese state. However, after a production peak between 1940 and 1943 in the broader context of the war economy, starting in 1945 coal supply proved increasingly scarce.[4] In November 1945, the production level thus sat at a meager 10% of what it amounted to in 1941. There were multiple reasons behind this

[1] Laura E. HEIN, *Fueling Growth*..., cit., pp. 53-54.
[2] Laura E. HEIN, *Fueling Growth*..., cit., pp. 109-110.
[3] William R. GARSIDE, "A Very British Phenomenon? Industrial Politics and the Decline of the Japanese Coal Mining Industry since the 1950s", *Australian Economic History Review*, 45, 2, 2005, p. 187.
[4] Laura E. HEIN, *Fueling Growth*..., cit., pp. 65-67.

drop in production, starting with the material destruction that the mines had been subjected to during the war. While surface facilities were hit particularly hard, the war years had also brought significant deterioration and wear of the underground equipment. Consequently, the ruinous state of the coal business at the time hindered production recovery significantly.[5] The loss of miners hailing from the Japanese colonies, as well as the Japanese workers employed under the conscription system, similarly proved particularly impactful.[6] The Occupation's November 1945 decision that the Japanese state should stop paying private companies' claims relating to the contracts it had signed during the war years was also damaging to production. The reliance of coal operators on these obligations was substantial, and it resulted in a notable lack of financial resources.[7]

On top of a significant dearth of tools, the coal sector was at this time also plagued by a worsening problem of resource depletion resulting from the business practices of the war years. Production had long been sustained mostly through an increase in the number of miners and their significant exploitation in poor working conditions. As a result, it had been possible to postpone efforts in searching for new coal seams or introducing new mining technology. However, these same exploitative employment strategies were abolished with the labor reforms initiated by the Occupation. Consequently, the mining industry lost one of the key components that had made it sustainable throughout the war, while at the same time not having modernized properly. Overall, because of the prominence of coal as a fundamental energy source and the dire conditions of its supply, economic recovery appeared extremely limited across all the national production sectors.[8]

Coal proved particularly relevant as an energy source in the postwar context also due to the extremely marginal role of the petroleum sector. So far, oil had never risen to a position of significant relevance in the Japanese economy. Oil fields in Japan were limited to a small group in the Niigata area, the development of which never showed significant progress. Nonetheless, the Occupation's stance towards this energy source proved

[5] SUGIYAMA Shin'ya *hen*, USHIJIMA Toshiaki *hen*, *Nihon sekitan sangyō no suitai*..., cit., p. 10.
[6] YADA Toshifumi, *Yada Toshifumi*..., cit., p. 70.
[7] Chalmers JOHNSON, *MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925-1975*, Stanford, Stanford University Press, 1982, pp. 178-180.
[8] Laura E. HEIN, *Fueling Growth*..., cit., pp. 64-67.

particularly harsh, as the American forces believed the availability of advanced petroleum products to be a key element of military power. The major Japanese refineries were thus ordered closed, and the import of crude oil was banned altogether. Petroleum refining was consequently limited to the modest amount of domestic crude available. While the Occupation did allow Japan to search for new local oil fields along the Sea of Japan, results proved poor.[9] Conversely, the same industry had seen steady growth in the rest of the world. In the following decades, its relentless international rise would evolve to mean a much greater relevance of petroleum in the Japanese context as well. Nonetheless, between 1945 and 1947 its position in the country's energy policy could be described as extremely limited.

After Higashikuni and Shidehara, the worrying Japanese economic position was first challenged by the following Yoshida administration (May 22, 1946–May 24, 1947). Its macroeconomic policy was to be influenced by an internal report drafted in March of the same year by a group of bureaucrats, academics, and businessmen who had been meeting at the Ministry of Foreign Affairs (MOFA). Similarly to what the Occupation had envisioned for Japan, the overarching goal of their recommended approach was the democratization of the country's economy. They first argued for an expansion of the Japanese domestic market, the weakness of which had previously meant the development of militarism in other regions. At the same time, the group also recognized that the country could never achieve a position of internal self-sufficiency. It consequently argued that Japan needed to develop its exports to pay for the necessary imports. As a solution, the group suggested that Japan should position itself in an intermediate economic position. The country should maintain its use of technology, as well as its wage levels, between the standards set by the two economic poles of North America and Europe on the one hand and the rest of Asia on the other. They argued that this halfway level would have made it possible for Japan to effectively join the world economy by supplying more sophisticated goods. Consequently, the recommended course was to increase national production with a strong focus on heavy industry to strengthen national exports. According to the group's approach, this goal should mainly be pursued with a greater involvement of the Japanese government in the national

[9] Laura E. HEIN, *Fueling Growth*..., cit., pp. 74-78.

economy compared to the American model. Their view pointed towards significant economic planning, recognizing the experience it had acquired in this field as one of the positive legacies of the war.[10] Once again, because of its position as a major energy source, this call for greater production implicitly required the massive use of coal to fuel the economy.

Still, despite sharing a democratic goal, the plans for the future of Japan stemming from the Ministry of Foreign Affairs and the Occupation appeared to differ significantly. After all, in the early postwar period the United States was mostly concerned with democratizing and demilitarizing the country. This was to be achieved through the dissolution of Japan's heavy industry and excessive economic concentration, which they believed key in the rise of militarism. Contrary to what the MOFA report argued in favor of, the Occupation thought that postwar Japan should become a country with limited exports. Additionally, the exported products should mostly be the same light-industry goods that characterized its economy in the preceding years.[11]

At the same time, the United States believed the free market to be the best possible option for Japan. Consequently, the Americans rejected the MOFA report's provision towards strengthening the economic position of the Japanese state, which clearly moved in the opposite direction. Feeble support for this approach was only granted in the early days of the Occupation, as the United States considered allowing the temporary nationalization of key industries. Still, this exception was only meant as a coordinating effort aimed at tackling the significant deterioration of the national Japanese economy. Nonetheless, over the course of the Occupation years, the Ministry of Foreign Affairs' vision in favor of a stronger role in the economy of a reformed national administration never truly realized due to the lack of support from the United States.[12] On the other hand, American support for a greater Japanese focus on heavy industry and exports would only later emerge as the Occupation shifted its priority from democratization to effectively rehabilitating the Japanese economy.

[10] Laura E. HEIN, *Fueling Growth*..., cit., pp. 110-116.
[11] Laura E. HEIN, *Fueling Growth*..., cit., pp. 56-59.
[12] Laura E. HEIN, *Fueling Growth*..., cit., pp. 115-116.

Ishibashi Tanzan, the Minister of Finance of the Yoshida Cabinet, implemented his first policy by adhering to the fundamental guidelines of the Minister of Foreign Affairs' group while also juggling the Occupation's expectations. His work mainly focused on raising national production, which he also believed fundamental for a healthy national economy. In an attempt to stimulate investment and business recovery, the tools employed by Ishibashi were mostly represented by financial devices, such as loans and cuts on tax levels. However, contrary to his goals, this strategy ultimately proved ineffective due to its inability to stimulate the availability of key basic production materials, including coal. By the autumn of 1946, the government believed that Japan would exhaust all reserves of its primary resources by March 1947. This would subsequently lead to a production halt and a complete failure of the reconstruction efforts in all areas, effectively rendering industrial rehabilitation attempts null.[13] A new approach consequently proved most necessary.

THE PRIORITY PRODUCTION POLICY AND COAL

In December 1946, the Yoshida Cabinet adopted a new plan to support production at the national level. Known as the Priority Production Policy, its key goal was to redirect all available resources to the basic industries of steel and coal. Due to their position as key assets for the industrial world as a whole, it was hypothesized that their resulting greater availability could act as a catalyst to rehabilitate other areas of the economy as well.[14] At its core, this new course thus clearly appeared as intended to address the issues concerning basic resources that the previous Ishibashi plan had failed to tackle. Compared to this former program, the new approach aimed at integrating financial tools with an additional policy regarding the use of materials. This was also to be joined by deeper organizational efforts to form a single, coherent plan. Overall, these arrangements thus once again aligned with the economic planning ideas of the Ministry of Foreign Affairs' group. Despite Yoshida's dislike for overarching government economic

[13] Laura E. HEIN, *Fueling Growth*..., cit., pp. 116-118.
[14] YADA Toshifumi, *Yada Toshifumi*..., cit., p. 70.

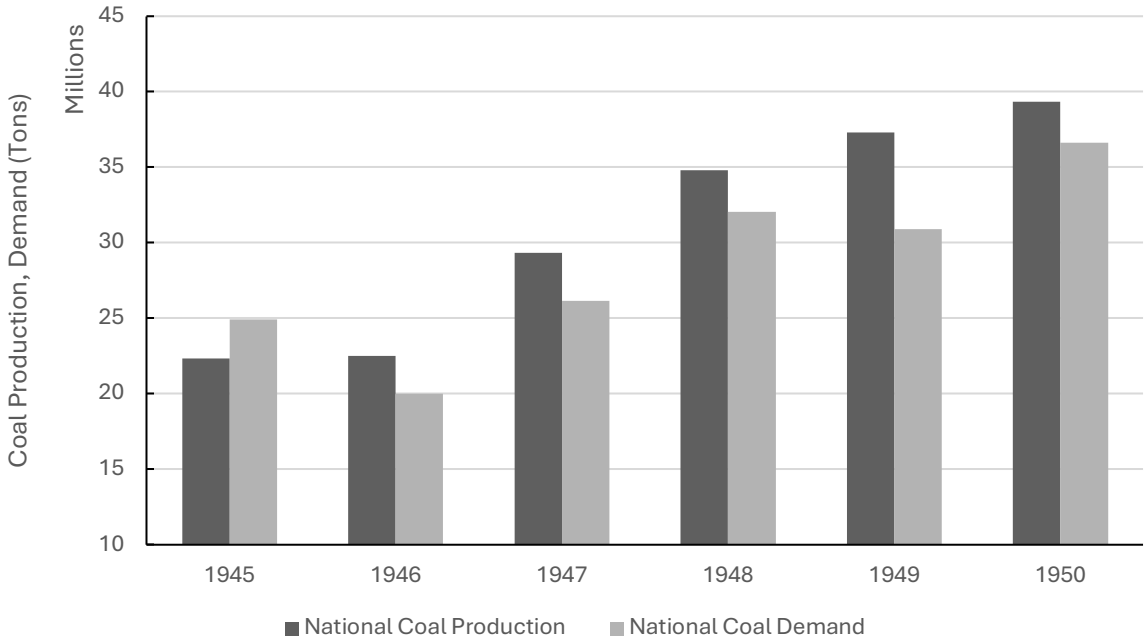
planning, this course of action was ultimately pushed forward by his cabinet and later strongly supported by the following administrations of Katayama (May 24, 1947–March 10, 1948) and Ashida (March 10, 1948–October 15, 1948). While steel and coal were later joined in their priority position by other sectors of heavy industry, coal undoubtedly enjoyed the most favorable treatment of all.[15]

The main elements making up the Priority Production Policy as it concerned coal were the use of a price-based subsidy system and preferential allocations of material assets to the industry.[16] The Reconstruction Finance Bank (RFB), established in January 1947, also assumed a most prominent position in the policy by providing significant financing in the form of loans.[17] Additionally, a significant reorganization of the coal labor force between November 1945 and March 1946 aided the policy efforts by funneling a massive number of workers to the coal mines. These were mostly individuals whose position had been jeopardized by the defeat in the war, namely demobilized soldiers, repatriates from the colonies, and those who formerly worked in ammunition factories. They were provided with a preferential treatment in the allocation of everyday goods, relatively higher wages, and housing aid. These measures were all maintained in the new policy course.[18] Similarly, priority allocations to the coal industry as a whole mostly comprised the redirecting of goods such as steel, cement, electric power, and timber at significantly higher rates than other sectors of the economy.[19]

The new subsidy system stemmed from a similar arrangement that had been in use during the war. It involved paying coal producers directly to guarantee the profitability of their business and consequently secure production. After a short break mandated by the Occupation, the use of subsidies was reinstated in 1946 by Ishibashi. Starting in November of the same year, their arrangement also underwent a significant transformation with the introduction of a stratified selling price system.[20] A stricter market-control role meant to enforce the new prices was later taken up by the *Haitan Kōdan* ("Public Corporation for Coal Distribution") after its creation in June 1947. Through

[15] Laura E. HEIN, *Fueling Growth*..., cit., pp. 118-119.
[16] YADA Toshifumi, *Yada Toshifumi*..., cit., p. 70.
[17] Laura E. HEIN, *Fueling Growth*..., cit., p. 123.
[18] YADA Toshifumi, *Yada Toshifumi*..., cit., p. 70.
[19] Laura E. HEIN, *Fueling Growth*..., cit., p. 120.
[20] Laura E. HEIN, *Fueling Growth*..., cit., p. 121.

Figure 1: National coal production and demand, 1945–1950.



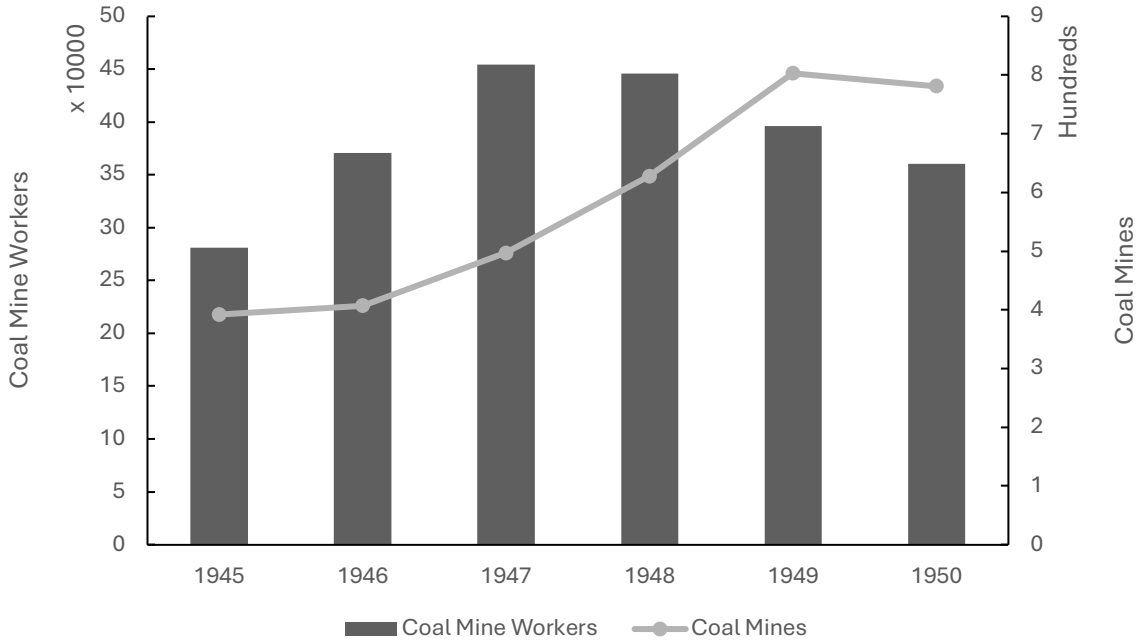
Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002*.

its establishment, the distribution process now required this new agency to first purchase coal directly from producers at a strictly controlled buying price. The procurement figure mandated to producers would be determined on a group level by dividing mines into geographical districts. Additionally, this price would be further broken down on the basis of coal quality and grade. The acquired coal would then be sold to consumers at different, agency-determined cost levels adjusted based on the kind of buyer. While general consumers received a higher rate, key industries benefitted from lower prices. By controlling the acquisition and sale costs of coal, this system could ultimately guarantee that priority sectors could acquire this basic resource at a price lower than the original procurement amount paid to the producers by the agency. The resulting difference was then compensated by the government in the form of subsidies.[21]

In terms of production size and overall rehabilitation of the coal sector, the impact of the Priority Production Policy was certainly significant. As seen in Figure 1 and Figure 2, its major results are most apparent, as the different measures resulted in an expanded workforce and a significant rise in coal yield compared to the lowest point of 1945. In 1948, coal supply had reached 60% of its 1941 peak production. At the same time, this

[21] YADA Toshifumi, *Yada Toshifumi*..., cit., p. 71.

Figure 2: Number of coal mines and coal mine workers, 1945–1950.



Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002.*

new approach did not prove without flaws. Rather than stemming from greater efficiency, this production increase was mostly achieved through an expansion in the number of small mines and thanks to the significant influx of new workers. The financial tools that were made available also proved significantly more beneficial for sustaining bigger companies than they did for the smaller ones. Nonetheless, a substantial portion of the overall increased production quota could now be traced back to smaller collieries, with their relative relevance surpassing that of the war years. Yield efficiency consequently lagged behind the recovery of production significantly, only reaching about 50% of its former 1941 value.[22]

The massive subsidy system itself also restrained efficiency improvements by indirectly causing a significant lack of rationalization or cost reduction in the sector. After all, its arrangements had been meant to increase production, not productivity. Mine operators consequently found themselves without reason to invest in more efficient mining, as they could keep enjoying the benefits of the subsidies even without significant improvements in their operations. Sustaining the policy also proved incredibly expensive, with the overall size of the financial aid gradually growing significantly. Ultimately, the sole

[22] YADA Toshifumi, *Yada Toshifumi…*, cit., pp. 71-73.

coal industry received a staggering 32% of all industrial subsidies between 1946 and 1949, amounting to a massive 55 billion yen.[23] The failure on the part of coal to tackle some of these problems would prove critical in the struggles of the industry in later years. High costs in particular were destined to represent a significant hurdle.[24]

THE END OF THE PRIORITY PRODUCTION POLICY, AUSTERITY, AND COAL RATIONALIZATION

The results of the different arrangements of the Priority Production Policy can be assessed from two different standpoints. On the one hand, its primary goal of making critical goods more readily available in the domestic Japanese market at a time of great scarcity was certainly achieved. In the process, the policy also certainly strengthened the tendency towards long-term economic planning that the MOFA group had envisioned for Japan. Finally, its introduction meant consolidating a tendency towards the prioritization of specific industries, a trait that Japanese economic policy would later maintain.[25] On the other hand, the Priority Production Policy proved unable to effectively restart the national economy as a whole. Mainly, it did not manage to give Japan products it could easily export. Despite the renewed significance of international trade in the new, postwar Japanese context, the production increase resulting from the Priority Production Policy proved insufficient to advance Japan's position in the global market. Simultaneously, the greater domestic availability of different goods was ineffective in controlling inflation, which kept rising.[26]

At the same time that the Priority Production Policy was in full effect, the American attitude towards Japan began to change. Growing tensions between the United States and the Soviet Union in 1946 and 1947 were joined by the rise of the political left in both China and Japan.[27] Expanding concerns within the American administration over global

[23] Laura E. HEIN, *Fueling Growth…*, cit., pp. 122-123.
[24] SUGIYAMA Shin'ya *hen*, USHIJIMA Toshiaki *hen*, *Nihon sekitan sangyō no suitai…*, cit., p. 11.
[25] Laura E. HEIN, *Fueling Growth…*, cit., pp. 124-126.
[26] Laura E. HEIN, *Fueling Growth…*, cit., p. 150.
[27] Andrew GORDON, *A Modern History of Japan: From Tokugawa Times to the Present*, New York, Oxford University Press, 2020, pp. 245-246.

security and international trade consequently brought about a policy shift in the Occupation between 1948 and 1949. It was the beginning of the Reverse Course. Having moved past its original efforts towards creating a democratic and harmless Japan, the Occupation now granted priority to rehabilitating the Japanese national economy. In pursuing this goal, the United States now saw the future of Japan in the same way as its nationals did. Namely, they envisioned a country focused on heavy industry and exports, capable of purchasing basic goods from abroad. However, judging by the lackluster results of the Priority Production Policy, it was clear that its arrangements had so far failed in realizing this ambition. In early 1948, American policymakers had thus intended to provide Japan with monetary resources to advance its push towards foreign trade. Nevertheless, this original plan was ultimately scrapped, as the introduction of financial aid was deemed too expensive and conclusively insufficient to achieve this goal. Instead, it was now believed that controlling inflation and redirecting all production efforts in favor of exports could move Japan towards a stronger international position. It was under these premises that a new course of austerity was consequently introduced to the country.[28]

The turning point for the national economy came in December 1948, when the American forces instructed the second Yoshida administration (October 15, 1948–December 10, 1954) to pursue economic stabilization according to detailed, strict guidelines. Most significantly, this change of course meant the sunsetting of the Priority Production Policy. It required the slashing of major loans and subsidies, instead promoting greater economic discipline. Shortly thereafter, the depth of these interventions was further expanded by the decisions of American banker Joseph Dodge, who was sent to Japan specifically to stabilize the economy. Focusing on inflation control, Dodge aimed at improving Japan's competitiveness in the export market so that the country could finally earn enough to import the goods it needed. According to his vision, the aid that the United States and the Japanese government had long provided to the national industries was the reason behind the complete estrangement of the country's economy from that of the rest of the world. Most importantly, by offering enough money to always guarantee their survival, these tools were to blame for protecting industries refusing to cut costs and improve their competitiveness. Dodge was notably extremely

[28] Laura E. HEIN, *Fueling Growth*..., cit., pp. 145-147.

critical of the RFB, which he consequently shut down in 1949. He argued that harsher economic circumstances would result in lower domestic consumption and finally force the different industries to rationalize. In turn, this would ultimately improve their productivity, effectively reversing the tendency towards a lack of modernization that had so clearly appeared during the previous years. Finally, these dynamics would also result in lower prices of Japanese products in the international market, making them more appealing. Naturally, this extremely harsh approach resulted in a significant worsening of the living conditions of the people. Most notably, the lack of financial aid brought about massive layoffs – a price that the Dodge Line was willing to pay.[29]

Unsurprisingly, coal was not spared from the consequences of this new economic course. Effectively, the new austerity program meant a first, forced rationalization of the coal sector. As seen in the latter part of Figure 1, the Dodge policies resulted in a significant unbalancing of the coal supply-and-demand equilibrium. As coal demand fell, available coal now proved significantly greater than what the market could absorb. Additionally, the complex price-control system that had been enforced by the Public Corporation for Coal Distribution came to an end with the dissolution of the agency in 1949. Consequently, the trading of coal was effectively returned to the free market.[30]

Within this context, the loss of key loans and subsidies proved catastrophic for small and medium-sized mines. As seen in the latter part of Figure 2, their response was to either shut down completely or try to control costs through massive layoffs. Indeed, throughout the years of the Priority Production Policy the price of labor in the mines had significantly expanded due to the larger labor force, as well as changes in labor legislation brought about by the Occupation.[31] To make matters worse, smaller mines also suffered significantly after the Public Corporation for Coal Distribution released its coal reserves into the market after its closure. This influx of coal suddenly made their production superfluous.[32] Especially striking for lesser collieries was also the loss of the private distribution relationships they entertained before the birth of the Public Corporation for Coal Distribution, which were lost under the strict market-control system. The

[29] Laura E. HEIN, *Fueling Growth*..., cit., pp. 153-155.
[30] YADA Toshifumi, *Yada Toshifumi*..., cit., pp. 72.
[31] Laura E. HEIN, *Fueling Growth*..., cit., pp. 178-180.
[32] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., p. 89.

distribution mechanism that emerged in this new context proved significantly different compared to that which had existed before the Priority Production Policy years. As a result, the major coal corporations, too, found themselves in a significantly weaker position.[33] The industry's response to this new context free of national provisions was the adoption of a cartel policy for price definition, which proved especially beneficial for bigger operators.[34]

While the coal industry was experiencing these major hardships, the Japanese petroleum sector instead found itself in a completely opposite, and new, position. After becoming one of the primary subjects of the Occupation's demilitarization policies in the first years after the war, its position began to be reconsidered starting in 1948. During the previous year, the international oil companies had recognized the potential benefits of building refineries within or near their expanding consumer areas. Consequently, Japan appeared as a significant stage for exploring both the domestic and the broader Asian market. Lobbying activity intended to restore Japan's role in the international oil market thus led the Occupation to revise its petroleum industry policy in July 1949, when it was decided that the Japanese oil industry should rebuild and modernize.[35] Contrary to most of the other sectors, Japanese oil firms also proved particularly able to gather foreign capital to restart their activities despite the limitations imposed by the Dodge Line. Cooperation with international partners additionally brought significant technological advancements to the industry, quickly turning it into one of the most advanced sectors in all of Japan.[36] Nonetheless, the destruction brought by the war and the subsequent suspension of most refining activities did require for the refineries to be rebuilt almost from scratch. However, the aid provided by foreign actors meant that work could proceed rather quickly.[37] This meteoric rise of the oil industry consequently set the stage for petroleum to become one of the cornerstones of Japanese energy policy in the following years. Most significantly, its increasing proportions in the national energy mix would ultimately become one of the key causes of the downfall of coal at the national level.

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[33] YADA Toshifumi, *Yada Toshifumi*..., cit., pp. 72-73.
[34] Laura E. HEIN, *Fueling Growth*..., cit., p. 180.
[35] Laura E. HEIN, *Fueling Growth*..., cit., pp. 202-203.
[36] Laura E. HEIN, *Fueling Growth*..., cit., pp. 176-177.
[37] Laura E. HEIN, *Fueling Growth*..., cit., p. 205.

THE COAL CRISIS LOOMING, 1949–1959

THE JAPANESE APPROACH TO INDUSTRIAL RATIONALIZATION

The forced rationalization of the Japanese economy as a result of austerity was one of the goals that Dodge had envisioned for the new Japanese economic course brought by the Americans. However, notwithstanding their effectiveness in transforming the national circumstances, these arrangements did not prove successful in guaranteeing greater exports for the country. After all, while the price of Japanese products did drop, this never translated to a greater international demand for them. In their own assessment of these poor results, Japanese policymakers at the Economic Stabilization Board (ESB) and at the Ministry of International Trade and Industry (MITI) also stressed some additional negative consequences of the American austerity course. According to their vision, an excessive economic contraction was not desirable. After all, solely attempting to chase lower costs also meant significantly limiting the infrastructural development and the overall rehabilitation of the energy industries. This lack of progress, they argued, would later prove critical and curb the extent of Japan's potential economic growth. Executives also raised concerns over the results of the forceful worsening of living standards among the population. As this was to mostly happen in the form of layoffs, the subsequent lower national consumption level appeared as potentially critical.[38]

All in all, while the ESB and MITI agreed with Dodge that a certain level of reduced expenditure could prove beneficial, they also deemed the actual provisions excessive. After all, the benefits resulting from greater savings, which both parties imagined could be diverted towards industry, would not compensate the lack of capital stemming from lower industrial profits. Ultimately, these circumstances would thus limit production and the growth of exports. Poor living standards were also seen as a potential source of social and political disarray. Additional concerns also stemmed from the anticipated shallower motivation and education level of the people resulting from the dire contingency of their daily lives. It was hypothesized that these factors would ultimately prove detrimental to industry itself and consequently further jeopardize exports. Ultimately, Japanese

[38] Laura E. HEIN, *Fueling Growth*..., cit., pp. 155-160.

policymakers agreed that the American plan could result in long-lasting damages to the economy and worried about the potential negative impact it could have on its future development. It thus appeared abundantly clear that Japan required a different vision.[39]

The response of the ESB and MITI was their own flavor of rationalization. It differed significantly from the Dodge approach, as it intended to both improve national living standards and export levels. The ESB, in particular, was very vocal in its opposition to the enduring American economic stabilization program and its implications. Conversely, the new Japanese plan rested on the idea that rationalization in the sole form of austerity-led cost-cutting could not guarantee significant economic growth. Once again, the ideas of the 1946 Ministry of Foreign Affairs' report proved key to the development of this new plan. Higher technological levels, a healthy internal economy, and a strong push for exports were here stressed once more. Japan, the policymakers argued, should first aim to maintain its employment and wage level high as to encourage greater internal consumption and prevent social tensions. The expanded domestic demand would then result in a lowering of production costs, as well as provide the necessary prerequisites to allow technological improvements in the industry. After all, a motivated and educated labor force enjoying better living standards would certainly aid this process. The effective implementation of these measures would also later lead to even cheaper production of higher-quality goods and ever-increasing efficiency. This would finally provide exports with commodities it could realistically sell outside of the country. In doing so, these provisions would ultimately guarantee better internal conditions as well as a stronger Japanese position in the international market. This would mean achieving both of the original goals of this new Japanese approach to rationalization. Greater exports would also work towards further improving national circumstances by finally allowing the country to pay for its imports. Still, this approach was meant to be adopted while stressing the use of national resources, like coal, to minimize expensive imports to the bare minimum.[40]

The September 1949 Cabinet order on rationalization set the stage for the introduction of this revised approach at the national level. It clearly underlined the

[39] *Ibid*.
[40] Laura E. HEIN, *Fueling Growth*..., cit., pp. 159-163.

government's commitment to fostering an economic environment where effective rationalization could take place. This was to be achieved through efforts across multiple areas, such as the easing of restrictions on technology imports, the definition of overarching goals, and the improvement of transportation and communication networks. Technology, in particular, appeared as the most promising component of rationalization, and its use was strongly encouraged. On top of its industrial significance, its introduction was seen as naturally carrying elements of positive social change. Another key area of government commitment was also the problem of firms' restricted access to capital, which obviously plagued the whole rationalization process. The government also argued for this new course as a tool towards greater industrial integration and the development of new, modern sectors. As such, the order encouraged firms to rationalize with an eye on the future of the Japanese economy in the global market. Once again, this meant adhering to the vision presented in 1946 by the MOFA group while also creating a broader national industrial structure. Finally, as suggested by the ESB and MITI, the push for greater exports was to be achieved by lowering the cost of national products and increasing their quality. Significantly, at the request of the industrial world, the government committed to avoiding direct control of the rationalization process at the firm level. Instead, private companies were to be free to decide on their own path.[41]

This Japanese approach to rationalization would remain a significant component of the national industrial policy in the following decades. However, between 1949 and 1950 rationalization was still mostly being carried out the same way that Dodge had suggested. Among a multitude of causes, the lack of capital under the persisting American stabilization plan, as well as the scarcity of overseas markets, meant that the new Japanese approach could hardly become a reality. As industries kept pursuing the goal of cutting costs, wage cuts and layoffs still represented the main course for rationalization.[42] This was certainly true within the coal industry. Still, the overall position of coal in 1949 was also worsening regardless of austerity and rationalization. Particularly striking were the enormous debts carried by the mining companies, which meant coal operators could get loans at increasingly worse rates. The physical conditions of existing

[41] Laura E. HEIN, *Fueling Growth*..., cit., pp. 163-167.
[42] Laura E. HEIN, *Fueling Growth*..., cit., pp. 169-170.

coal sources were similarly degrading and leaning towards significant depletion. Truthfully, some level of simple mechanization of the mines did nonetheless happen.[43] However, this was joined by longer working hours, an increase in the percentage of total workers operating underground, and an overall expanded workload for miners. While these measures resulted in a slight productivity increase in 1950, the level attained still failed to reach the peak of 1941.[44]

Despite these glaring issues, at this time Japan still believed that coal would be key to the national economy both in the present and in the future. The new Japanese rationalization course consequently once again prioritized coal and steel just like the Priority Production Policy had done a few years prior. In the same way, the rationale behind this decision was the idea that lower prices in these two basic industries would result in improved production in other areas as well. After all, the new policy called for improving production quality while also keeping wages high and overall production costs low. As this could only be achieved by cutting expenditure in other fields, the use of cheap domestic coal instead of expensive imported energy appeared as the natural choice. The government consequently supported coal by establishing new ways through which it could acquire both capital and technology.[45] The business world similarly backed the coal industry, with a most obvious rationale. Following the end of the subsidies and the sunset of the Public Corporation for Coal Distribution in 1949, companies in different sectors worried that a general collapse of national coal would prove fatal to the economy.[46]

THE KOREAN WAR AND THE FAILURE OF COAL RATIONALIZATION

A significant exception to the overall supportive view on coal of the business world was the position of the steel industry. Starting at the end of 1949 and through 1950, steel

[43] Laura E. HEIN, *Fueling Growth*..., cit., pp. 177-180.
[44] YADA Toshifumi, *Yada Toshifumi*..., cit., p. 73.
[45] Laura E. HEIN, *Fueling Growth*..., cit., pp. 173-176.
[46] Laura E. HEIN, *Fueling Growth*..., cit., pp. 182-183.

sharply criticized the coal industry due to its prices, which it deemed excessive. Truthfully, steel had been significantly challenged by the disappearance of the subsidies and the other financial support it had previously received to guarantee its imports. Consequently, it soon found itself facing rising production costs.[47] The government responded to these concerns by issuing its first detailed rationalization plan, which was presented by MITI on June 24, 1950, and was later approved by the cabinet in August of the same year. Here, the goal of lowering coal prices was presented as being within reach by means of mechanization and the use of technology. The plan also appeared as an attempt to encourage the coal industry to adopt the new rationalization approach. Key in this new arrangement were a 40-billion-yen loan to the coal sector, tax and tariff exemptions, lower fares for coal transportation, a reduction in the price paid by the industry for the use of electricity, and further support for the import of technology and machinery. In addition to this new support package, significant efforts were also spent by the government in an attempt to redirect private loans towards the coal industry. After all, access to capital had been a key problem for the coal mines since the dissolution of the RFB, as this funding stream had not been replaced by the role of private investors. At the time, lenders still appeared more likely to loan their money to lighter industries, which could guarantee faster returns on investment. The striking debt on the part of coal mines certainly made their choice even easier. The Occupation, too, approved of this new form of credit, as it fit within the economic structure that the United States wished to foster in Japan. These Japanese efforts to rationalize the coal mines were additionally joined by the Americans as well. Their contribution mostly took the form of aid in the import of advanced technology. American experts in the field also traveled to Japan so that they could provide the knowledge necessary to move in this direction. This overall encouraging scenario was however suddenly disrupted with the beginning of the Korean War on June 25, 1950. The Korean War was to prove key to Japan's economic rehabilitation. Nonetheless, its outbreak meant that this first, proper attempt at a new form of coal rationalization was neglected, as the national and international circumstances suddenly transformed significantly.[48]

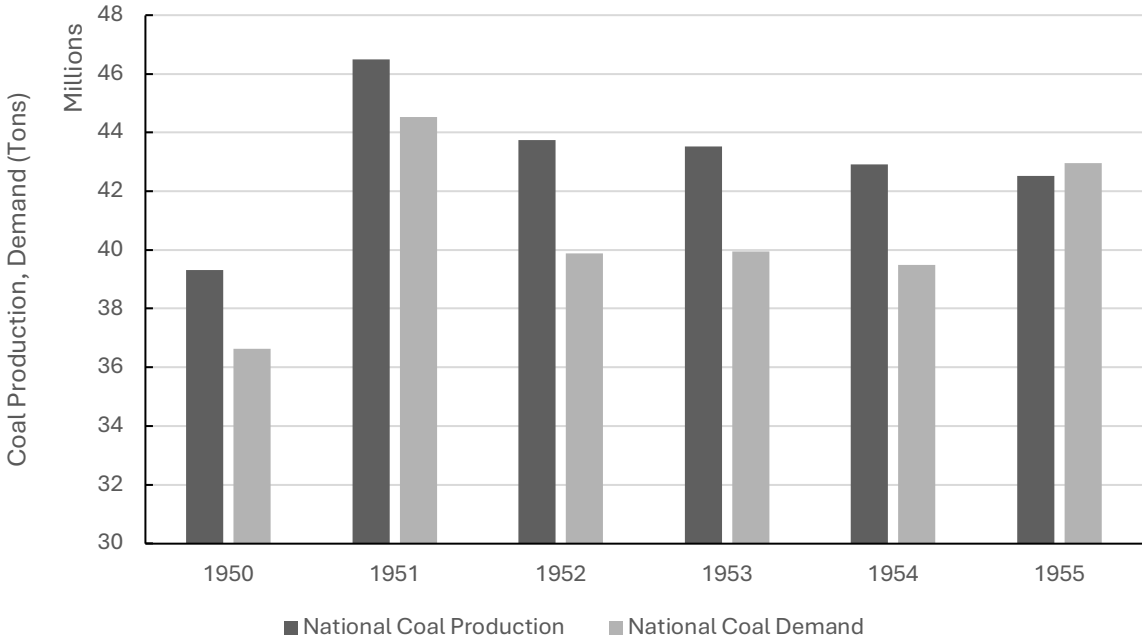
[47] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., p. 89.
[48] Laura E. HEIN, *Fueling Growth*..., cit., pp. 185-188.

The Korean War was a most significant turning point for the Japanese economy. The massive military procurements that the United States needed to aid their war efforts offered Japan a significant international market it could finally thrive in. These new circumstances also proved most favorable to further push for Japanese rationalization in other areas of industry other than coal. After all, the massively greater availability of foreign exchange in the form of dollars meant the end of the austerity course that Japan had been enduring since 1948. Overall industrial productivity also improved together with wages and employment levels, effectively realizing the vision that the Japanese government had previously argued in favor of. As had been hypothesized, this naturally resulted in better living standards, which brought a boom in the national market. Finally, the subsequent development of economies of scale further allowed to pay for imports.[49]

Despite this newfound prosperity, the Japanese were nonetheless well aware that the boost provided by the Korean War could only be temporary. Once again, rationalization was seen as the key to guaranteeing that the country could keep enjoying its newfound standards long after the return of peace. The push towards even greater adoption of this approach was thus strengthened. Still, the international business relationships that developed during the war were set to maintain an important position within the Japanese economy of the future. Moreover, the conflict significantly strengthened the link between the American military priorities in Asia and Japan. After all, since 1950 the United States had already been debating how to further contain communism in the region after the birth of the People's Republic of China. The chosen approach was to once again focus on economy, aiming to better integrate Japan with the rest of the non-communist countries of East Asia. With the beginning of 1951, this course was further emphasized with the drafting of a proper economic cooperation plan. Designed to bring Japan and the United States even closer, this arrangement saw industrial development as a tool in guaranteeing the prosperity of democratic Asia. This would later form the basis for the 1954 Mutual Security Agreement. While these processes began before the outbreak of the war, its course certainly acted as a catalyst to speed them up.[50]

[49] Laura E. HEIN, *Fueling Growth*..., cit., pp. 213-217.
[50] Laura E. HEIN, *Fueling Growth*..., cit., pp. 214-220.

Figure 3: National coal production and demand, 1950–1955.



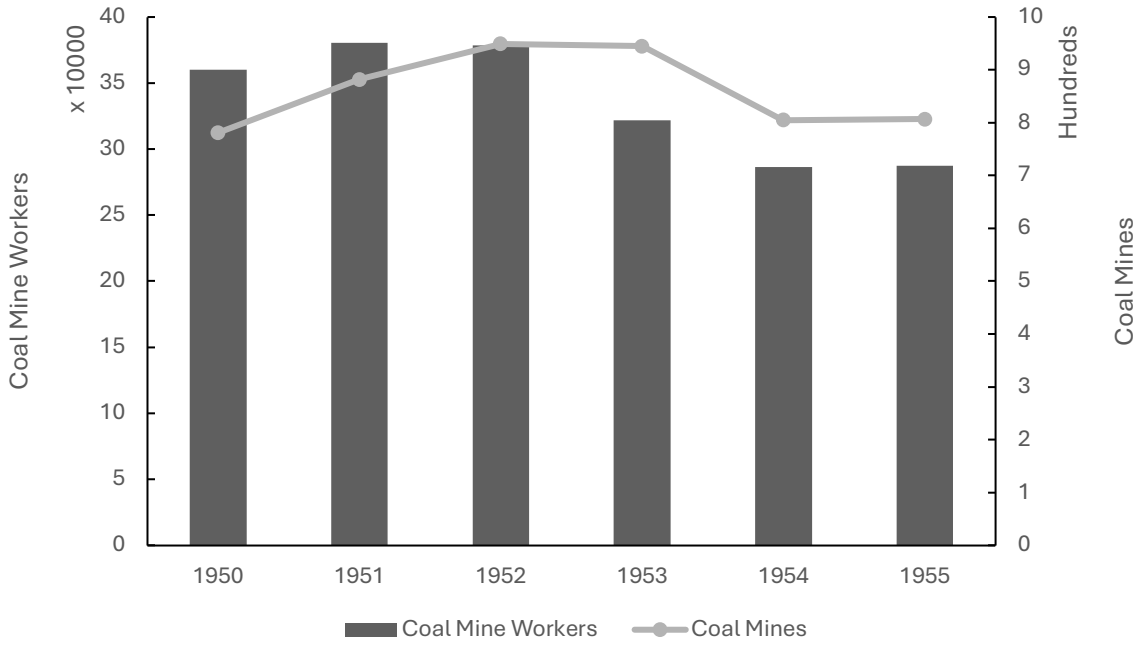
Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002.*

The coal industry enjoyed the benefits of the Korean War, too. Most significantly, as the country focused on production to aid the American efforts, lowering the price of coal temporarily left the list of national priorities. Additionally, military procurements significantly boosted the demand for coal. In 1950, this increased interest could only be met through the use of coal reserves, as production could not rise quickly enough to effectively respond to the new boom. As seen in Figure 3 and Figure 4, an increase in yield would only be registered in 1951, when bigger mines expanded their output. At the same time, the favorable market conditions saw a great number of smaller mines restart their operations. Naturally, this also resulted in the number of workers experiencing a boost as well. At the outbreak of war, increased demand was mostly originating from the steel, chemical, and manufacturing sectors. Greater use of coal for electricity generation would also later follow suit starting in 1951. This rise in the need of coal also resulted in a greater commitment to imported coal, which mostly originated from the United States.[51]

Still, despite the expanding market, rationalization in the coal sector at this time ultimately failed. The limited improvements in the living standard of the Japanese

[51] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 90-92.

Figure 4: Number of coal mines and coal mine workers, 1950–1955.



Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002.*

coalfields were a most obvious proof of the divide between these areas and the rest of the country. Furthermore, the depletion of coal seams in the mines kept worsening—a problem that the government could obviously not tackle through policy alone. Most importantly, the response on part of the coal industry to the national rationalization call was notably lackluster. Both the opposition of mine operators and that of labor unions were key in halting this process of change. The latter were rightfully wary of the rationalization promise, as its introduction still carried the risk of ignoring the workers' voices in addressing the national economic course.[52] On the other hand, the mine operators' rationale was different. As the Korean War increased coal demand, the industry found itself in a position where it could respond by expanding production alone. Just like during the Priority Production Policy years, mines thus had no reason to improve their technology, invest or cut costs. In the absence of nationwide control, coal prices also kept rising in an inflationary spiral.[53]

As the increase in coal production had lagged behind the booming need for coal, significant tightness in the supply-and-demand relationship developed in the coal

[52] Laura E. HEIN, *Fueling Growth*..., cit., pp. 215-216.
[53] William R. GARSIDE, *A Very British Phenomenon*..., cit., p. 188.

market. In 1951, this dynamic resulted in a further increase in coal prices. As a way to ease these market circumstances, in the same year the ESB suggested that some industries should move towards the use of petroleum. It was a first, significant push for energy conversion. However, with the slowing down of the Korean War in the middle of 1951, the tendency towards coal scarcity suddenly reversed. The now reduced demand resulting from a slower war economy brought about a significant excess in coal production (Figure 3), but prices remained high. To make matters worse, between October and December 1952 the major coal producers saw their output drop significantly as a result of prolonged labor strikes, which further encouraged greater activity from smaller mines. The combined effect of high prices and market instability did much to foster a further, autonomous industry push towards oil. As coal demand shrank, the recovery of production after the end of the strikes went in large part to national coal reserves. Meanwhile, the call for petroleum had instead rapidly grown. This change had also been aided by the fact that, at the beginning of 1953, in certain areas of Japan imported oil already proved slightly cheaper than coal. Unbeknownst to the coal sector, these multiple circumstances were the beginning of Japan's energy revolution, which would have contributed greatly to Japanese economic growth. Nonetheless, at this time the coal industry largely underestimated the impact that this first shift towards oil would later have on its sector. Without proper assistance, it argued, the nationwide adoption of petroleum was not a feasible prospect.[54]

In hindsight, the coal industry certainly appears to have ignored the tendencies in energy policy that developed in this new context. On top of skewed coal market dynamics, the Korean War had also already forced some industries to commit to oil. The perduring lack of rationalization in the coal sector was also set to become another incentive to look at the future of Japanese energy with a different basic resource in mind.[55]

[54] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 92-96.
[55] Laura E. HEIN, *Fueling Growth*..., cit., p. 217.

From the end of the Second World War up until this point, the Japanese coal industry had enjoyed a relatively privileged position. Despite the difficulties relating to rebuilding production and recovering lost productivity, its spot as the cornerstone of energy production in the country had not been challenged. First and foremost, the Priority Production Policy and the RFB had favored coal greatly. As Japan still lacked the ability to import foreign energy, coal had not seen its preferential position being questioned even during Dodge's later deflationary course. Finally, the Korean War had once again placed coal in a position where it could act according to its contingent needs instead of thinking about the future. All in all, these circumstances had meant that coal operators could postpone rationalization again and again. Smaller companies could certainly argue that the poor conditions of their mines meant that rationalization was not going to aid their production either way. In contrast, bigger operators often refused to chase rationalization because they thought they would not need it. They hoped that the existing dynamics, which favored their position, would remain the same in the foreseeable future. After all, notwithstanding the growing depletion of the resource base, these companies still held control over the best mines and believed they would be able to keep profiting from their exploitation. Paradoxically, it was also Japanese rationalization theory itself that, despite being rejected by the coal operators, offered them some peace of mind. The innate stress it placed on national resources meant that coal could feel safe it was always going to keep its priority position. It was only around 1953 that coal first found itself in a position to respond to growing criticism.[56] After all, in the same year MITI had officially recognized that national coal was starting to be more expensive than alternative energy sources.[57]

Still, the government insisted on promoting rationalization in the coal mines. In March 1952 it revised its former June 1950 program into a three-year plan intended to promote mine rationalization. The mine operators were here nudged to invest heavily in machinery through 1954 to further improve productivity and lower the price of coal. Government support for this move was to be achieved through a mix of postponement of

[56] Laura E. HEIN, *Fueling Growth*..., cit., pp. 232-235.
[57] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., p. 97.

existing debts and further fiscal incentives. However, companies once again showed no interest in expanding their already significant debt record. Another attempt later took shape in October of the same year, when the existing support to the coal operators was joined by the possibility of receiving loans from the newly formed Japan Development Bank (JDB). These funds were meant to be used so that companies could develop new shafts and improve safety and machinery in the mines. However, this attempt, too, proved unsuccessful, as companies were not willing to directly contribute to the expenses necessary to follow the government's suggestions.[58]

Nevertheless, the coal industry once again managed to maintain a relatively steady position. As seen in the latter part of Figure 3, after the contraction resulting from the skewed market dynamics of 1951 and 1952, through 1954 the national demand for coal remained stable. Significant changes nonetheless occurred in the individual share of coal usage among major consumers, which saw a further increase in the relevance of the electricity sector as well as the steel sector. However, despite a lesser cut in production, available coal remained greater than what Japan could effectively absorb. Additionally, the first phase of the unfolding energy revolution finally meant a drop in the price of coal in 1953. The downside of these two processes of change was a significant loss of both mines and workers, which appears in the latter part of Figure 4. Between 1952 and 1954, the numbers of collieries dropped by 140, whereas approximately 90,000 miners were laid off. As had already been the case in the past, major operators were mostly spared from these dynamics, while the biggest losses happened among smaller mines and their workers.[59]

Despite its relentless attempts at guaranteeing coal's favorable position in the national energy mix, the government concurrently made sure that the petroleum industry could prosper. After the petroleum policy shift of 1949, beginning in the following decade new refineries had started operating in Japan. The government saw this expansion as a way to provide cheap energy to national industries. In its plans, petroleum was however not meant to become a business of its own. Rather, it intended on framing it as a support sector only, the position of which should remain accessory to that of coal as the primary

[58] Laura E. HEIN, *Fueling Growth…*, cit., pp. 245-248.
[59] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 98-101.

Japanese energy source. To keep internal oil prices down, between 1952 and 1954 MITI consequently allowed a further expansion of the number of refineries. Starting in late 1952, the government also increased the amount of foreign exchange allocated to the petroleum sector so that it could import more crude. In the face of the ongoing strikes within the major coal companies, this move was also meant as a way to strongly encourage a hastier solution. Its consequences were however going to be far-reaching, providing a significant push for the national use of oil. Significantly, some companies who moved to petroleum at the time never went back to coal. Furthermore, these dynamics meant that national rationalization discourse first started moving away from the key assumption that internal resources should be granted a favorable position. While the use of coal had so far been prioritized to minimize expensive imports, opposing arguments came to the fore. According to this alternative view, notwithstanding its import price, if petroleum could guarantee lower production costs and better exports, it would ultimately benefit the national economy rather than starve it.[60] The energy revolution was now silently but steadily advancing.

The context of foreign exchange allocation proved particularly effective in fostering the growth of the petroleum sector. Because foreign exchange was awarded to companies on the basis of their commercial performance, fierce competition ensued between operators seeking to maximize their market results while keeping overall prices low. Additionally, because the available currency reserves were limited, oil companies were strongly encouraged to improve their technology to make the best possible use of the resources they could purchase from abroad. Notably, the Japanese government limited the overall cost of petroleum purchases, but not their actual volume. This encouraged oil operators to search for cheap crude in different parts of the world, as well as manage their own tankers to cut transportation costs. Further exchange-maximizing strategies took shape in the form of the acquisition of new technologies that allowed for the refining of lesser-quality, inexpensive crude, and the autonomous manufacturing of high-quality advanced products. This made it possible to cut the amount of expensive goods that needed to be imported. As coal still formally held the position of primary Japanese energy source, this newfound openness towards oil can appear paradoxical.

[60] Laura E. HEIN, *Fueling Growth*..., cit., pp. 288-290.

However, this approach became possible precisely due to the Japanese policymakers' overall vision. They argued that the significant fragmentation of the petroleum sector was going to work to both keep oil products prices low as well as protect the coal sector from the birth of a strong petroleum cartel. In turn, this would ultimately guarantee coal's position as the cornerstone of Japanese energy. Simultaneously, the increased competition was to spur a reduction of coal prices as well. Still, development in the oil business quickly meant that oil prices kept dropping. Industries in different sectors were consequently buying more and more petroleum-based equipment, while coal started to struggle and face even more criticism.[61]

Nevertheless, coal got another chance. After recognizing that coal price was excessive, in 1953 MITI once again presented a set of measures intended to tackle this key issue as well as help the industry remain competitive. In its recommendations, MITI focused greatly on the overall structure of coal production, once again arguing in favor of the use of technology as well as offering further fiscal aid. Furthermore, 1954 saw companies partially moving back to the use of coal as a result of the introduction of national deflationary measures that also meant limiting the amount of petroleum imported.[62] This was mostly the result of a curtailment of foreign exchange allocations to the oil industry, which Japan decided in favor of to respond to tightness in the overall availability of foreign currency.[63] Still, the consequences of the increasingly unstable position of the coal industry were becoming more apparent. The massive layoffs and the disappearance of a great number of mines between 1952 and 1954 resulted in significant disarray in coal-mining areas. After all, the government had so far focused greatly on the production side of the coal problem whilst largely underestimating the relevance of the labor component in the overall industrial structure. The response to this unrest was yet another coal rationalization plan in October 1954. On top of additional fiscal and investment aid, this plan now finally included provisions for displaced workers. Further measures to support the unemployed were later introduced with the goal of moving laid-off miners to different short-term positions in other industries.[64] Through it all, coal was

[61] Laura E. HEIN, *Fueling Growth*..., cit., pp. 289-293.
[62] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 97-100.
[63] Laura E. HEIN, *Fueling Growth*..., cit., p. 289.
[64] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 100-101.

still hanging on to its former position. However, the future now looked more uncertain than ever before.

SCRAP AND BUILD, AMBIVALENCE, AND MARKET RESPONSE

As 1955 began, the overall national and international circumstances placed Japanese coal in a difficult position. Throughout the decade, prices of crude oil around the world had already been dropping significantly. At the same time, no improvements were seen in the key problems of the coal industry. As seams kept thinning, the industrial world was increasingly switching over to petroleum with ever-growing confidence. Consequently, coal rationalization projects were looking more and more akin to plans meant to effectively manage an ailing industry to guarantee its survival rather than attempts at fully revitalizing it. [65] In 1955, the drafting and subsequent promulgation of the Act on Temporary Measures concerning Rationalization of Coal Mining (simply known as the Coal Rationalization Law) made it abundantly clear that coal was facing a crisis. The main goal of this new plan was trimming national coal production to just shy of 50 million tons per year before 1959. Additionally, the industry was once again encouraged to cut production costs, and a system of standard coal prices was to be developed. Lastly, coal operators were nudged to cut the number of workers by some 50,000 units.[66]

Most significantly, the downsizing of production was to be achieved mainly by shutting down ("scrapping") smaller mines which could not reasonably be expected to rationalize and hold a competitive edge. The government thus pledged to contribute the funds necessary to effectively buy out inefficient mines and close them, providing severance pay to workers and settling the remaining company debt in the process. Consequently, the desired level of coal yield was now to be achieved by supporting ("building") production in the bigger mines, which were once again expected to be able to rationalize. It was the beginning of the Scrap and Build policy, the rationale of which

[65] Laura E. HEIN, *Fueling Growth*..., cit., p. 248.
[66] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., p. 101.

would also define the further coal plans of later years. For the first time, this policy recognized that, given the circumstances of the Japanese energy market, the demand for coal was destined to dwindle in the foreseeable future.[67]

Despite finally recognizing that the industry needed to downsize, the government concurrently took steps to also protect coal in its new layout. As a result, 1955 saw the promulgation of two additional measures intended to aid the coal industry. These provisions respectively limited the use of oil as boiler fuel and imposed new tariffs on petroleum imports. While the former was introduced as a way to guarantee coal a stable market, the latter mainly intended to raise the necessary capital to fund the acquisition of the lesser mines that the government intended to scrap. This first avenue for funds collection was to be joined by additional money provided by the JDB as well as the Small and Medium Enterprises Bank. The government also suggested to coal mining companies to work together to form a recession cartel. This was possible thanks to a 1953 exception to the national law against monopolies, originally meant to aid the ailing textile sector. However, notwithstanding the tariff hike, in an apparently paradoxical move the government also simultaneously allowed for greater petroleum imports alongside its attempts at protecting coal. This was mostly meant as a way to avoid providing the coal industry with an excessively favorable treatment. At the same time, it was also expected that the oil industry would keep growing regardless of the help coal would receive. After all, the relevance of petroleum had become abundantly clear when the new petrochemical sector was recognized as a key industry in July 1955. Its development was seen as a way to combat the growing costs of petroleum imports, mainly by replacing imported goods with advanced petrochemical products developed internally. The prospect of developing their export towards the rest of Asia further encouraged this vision.[68]

When looking at the course of events, it is possible to argue that this certainly created a form of ambivalence in Japan's approach to its energy policy. It can however be argued that, based on its understanding of reality at the time, the government's arrangements were merely the result of the desire to act according to its worldview.

[67] Laura E. HEIN, *Fueling Growth*..., cit., pp. 294-295.
[68] Laura E. HEIN, *Fueling Growth*..., cit., pp. 295-297.

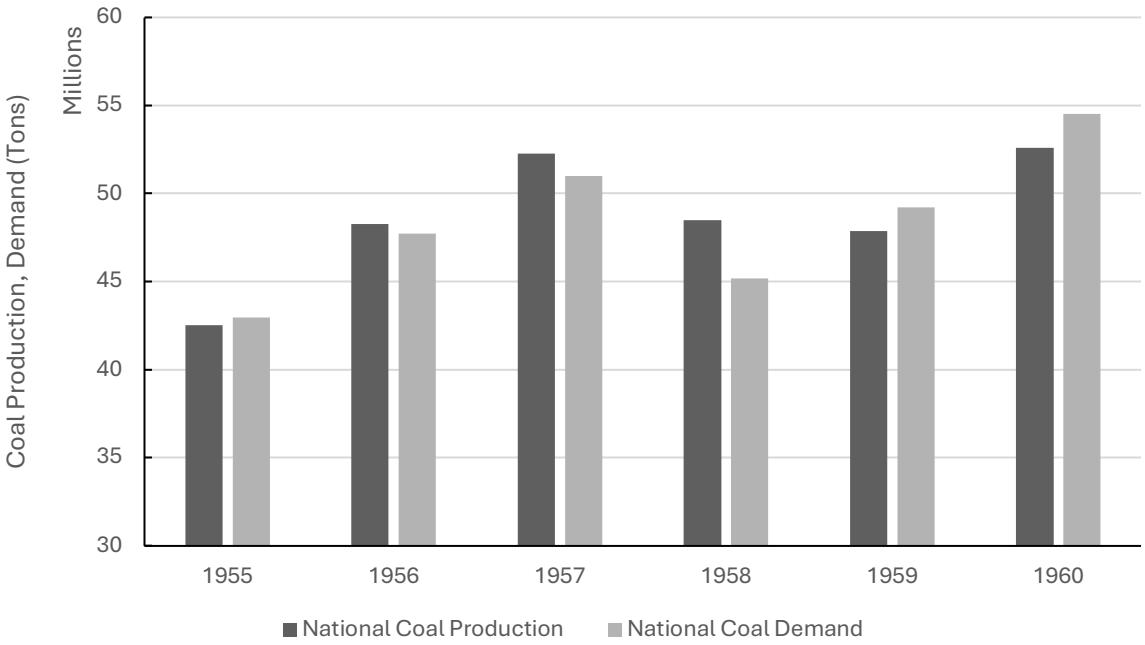
Notwithstanding the coal crisis, at this time Japan still considered coal its fundamental energy source. While it was recognized that changes to the industry were certainly most necessary, its position was to be protected due to the fear that international petroleum resources would quickly disappear. Ultimately, Japan did also not see petroleum as the energy source for its future, as this role was to be taken up by nuclear energy. Supporting coal and allowing petroleum to expand within limits was to be the plan that would allow the country to effectively sustain itself until the switch to nuclear would become a necessity.[69] The booming economy of the late fifties also called for a great deal of energy, and expanding petroleum imports appeared as an effective way to keep up with growing demand. To sustain national growth solely through the use of coal would certainly have resulted in its price remaining high. A modest use of petroleum was thus key to control this dynamic.[70]

Still, this ambivalent compromise between coal and petroleum ultimately failed. Once again, the coal operators showed great confidence in believing that their sector could survive without rationalizing. Instead, bigger operators soon started buying up smaller collieries to later collect the scrapping money the government was paying to close them. Then, as soon as the demand for coal recovered even slightly, they promptly reopened them.[71] The joint establishment of the coal cartel and the system of standard coal prices set by MITI also effectively created two channels for coal price definition. In times of crisis, coal companies had so far historically avoided reducing production costs and, instead, proceeded to cut yield to protect their profits. Consequently, MITI hoped that controlling the price of coal would finally bring mines to rationalize. However, this did not work, as coal mining companies simply ignored the prices set by MITI.[72]

As had been the case in the past, the buying and selling of coal mostly kept occurring on the basis of direct negotiations between coal producers and consumers. Starting in 1955, these dynamics appeared abundantly clear as coal demand rose once again. Particularly striking was the surge relating to the production of electricity. To quickly respond to the national craving for electric power, the industry opted for a further

[69] Laura E. HEIN, *Fueling Growth*..., cit., p. 298.
[70] SUGIYAMA Shin'ya *hen*, USHIJIMA Toshiaki *hen*, *Nihon sekitan sangyō no suitai*..., cit., p. 12.
[71] Laura E. HEIN, *Fueling Growth*..., cit., p. 298.
[72] Laura E. HEIN, *Fueling Growth*..., cit., p. 295.

Figure 5: National coal production and demand, 1955–1960.



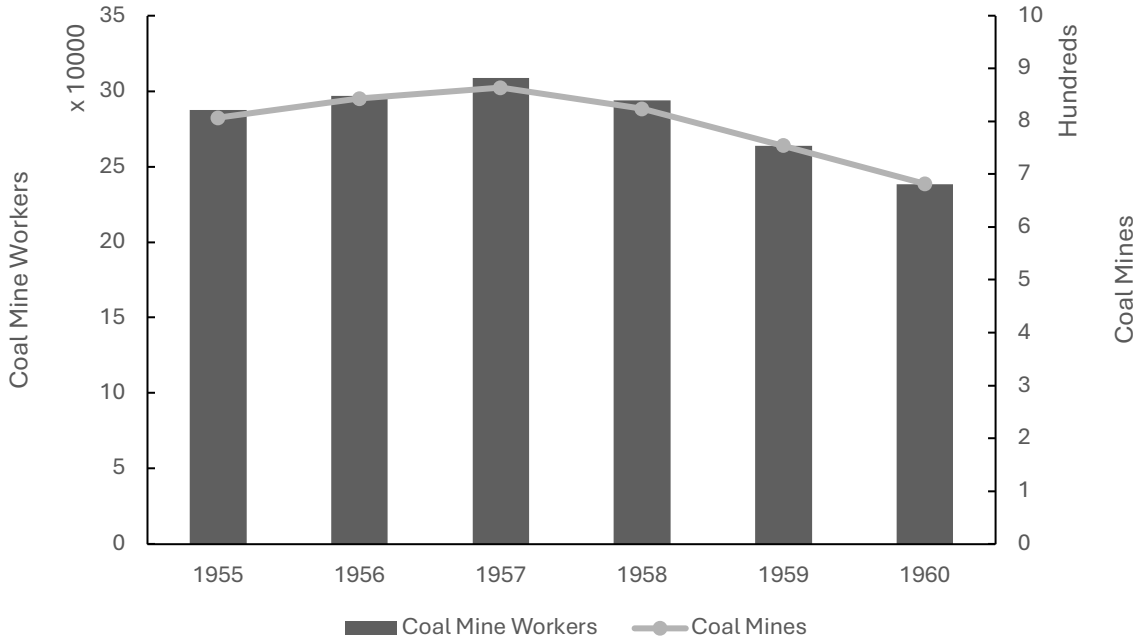
Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002.*

development of thermoelectric generators, which could promptly turn operational. Coal price negotiations consequently moved towards renewed hikes, fueled by the development of another period of market tightness that would continue until 1957 as a result of the Jinmu boom (1954–1957). Additionally, the Suez Crisis of 1956 brought about a rise in the price of foreign petroleum, which resulted in coal once again gaining an advantage by appearing relatively cheaper. Furthermore, the need to effectively respond to this increase in the national need for coal resulted in the reopening of mines and a boost in the number of workers. These trends, which appear in Figure 5 and Figure 6, directly contradicted the framework of the 1955 Coal Rationalization Law, which appeared ineffective in achieving its primary goals. Only in 1957 did the major coal mines agree to a small reduction in coal prices, which nonetheless proved minimal.[73]

The provisions intended to limit the use of petroleum as boiler fuel so as to protect coal similarly proved flawed. Most significantly, the adoption of major boilers combining the use of oil and coal, commonly employed by the electricity sector, was permitted. In addition, as a response to the tightness that had developed in the coal market, between

[73] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 117-119.

Figure 6: Number of coal mines and coal mine workers, 1955–1960.



Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002.*

1955 and 1957 multiple industries kept switching over to petroleum.[74] Consequently, despite the coal industry experiencing yet another respite stemming from the takeoff of the Japanese economic miracle, the energy revolution did not slow down. After all, the results of the different processes of change that had been brewing had become too big to ignore. The gradual introduction of new technology in different industries encouraged by rationalization theory had so far meant the steady adoption of more and more petroleum-based machinery. This significant conversion rate had already brought about an interest in oil even when its cost still surpassed that of coal. When the Japanese state committed to petrochemicals in 1955, it became obvious that the future of manufacture was overwhelmingly going to depend on petroleum rather than coal. As this technological revolution was joined by massive drops in oil prices, making them increasingly competitive, the position of coal clearly appeared compromised. Even the major coal operators, who had so far enjoyed easier circumstances, could no longer ignore reality. As more and more sectors had adopted petroleum, the electric power and steel industries remained its biggest sources of demand. However, as electricity generation mainly utilized cheap, low-quality coal, the monopoly that the bigger coal operator

[74] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., p. 120.

enjoyed on high-grade coal coming from the best mines no longer proved profitable. In what could be described as a sudden panic, starting in 1957 the coal industry thus finally attempted to commit to rationalization with massive investments. The sun was starting to set for Japanese coal.[75]

POLICY SHIFTS AND COAL IN THE LATE FIFTIES: THE CRISIS RECOGNIZED

Because of the changing circumstances, by the end of 1957 MITI found itself under growing pressure to review its existing coal policy. The Coal Rationalization Law thus received a first, significant update in April 1958, when MITI suggested a production quota of 69 million tons as the ideal level for 1967. At the same time, it called for greater productivity and the scrapping of inefficient mines one more time. However, with the end of the Jinmu boom, a surplus in coal production once again developed in the industry. The amount of coal stored in reserves started climbing, and with that came a general easing of the overall market conditions. As seen in the latter part of Figure 5, a reduction in coal demand starting in 1958 resulted in yet another industry recession. Following recommendations on the part of MITI, the coal sector thus agreed to limit its production to around 48 million tons while also conceding a general slashing of coal prices. Negotiations for a discount on coal purchased by the electricity sector, which leveraged the growing coal reserves in its favor, later influenced the cost presented to other industries as well. Both the production limit and an additional price reduction were later renewed for 1959, too. Meanwhile, as seen in the latter part of Figure 6, the harsh reality of the recession soon presented its usual consequences in the form of a loss a great number of mines and some 45,000 workers between 1957 and 1959. Yet, starting in late 1959, as a result of the Iwato boom (1958–1961) coal demand grew anew, reversing the short-term economic trend of the industry once more. At the same time, contrary to this ebb and flow, petroleum adoption showed a much more regular trend upwards. In 1959, the cumulative amount of coal demand that had so far been lost to new oil technology

[75] Laura E. HEIN, *Fueling Growth*..., cit., pp. 298-301.

amounted to the significant figure of approximately 30 million tons. In the same year, petroleum covered 32% of the national energy supply, thus replacing coal as the primary energy source of Japan.[76]

With 1959 also came a further push for lower coal costs. Major coal consumers rightfully pointed out that the goal of a significant reduction in coal price introduced by rationalization law had so far not been achieved. As negotiations moved towards the discussion of longer-term contracts, coal consumers harshly criticized mine operators for their so far lackluster interest in rationalization and cost-cutting. Despite producers bringing up limited profits and the different costs associated with scrapping as the rationale behind their uncompetitive prices, major industries insisted on a significant discount as a prerequisite for the signing of long-term deals. Ultimately, both parties thus agreed that coal prices should receive a hefty reduction of 1,000 yen per ton by 1963. Meanwhile, MITI, too, once again took to formulating new ways through which it could aid the coal sector. Further internal discussions first agreed to push for an increase in both mine scrapping and building and greater use of mining technology. Ultimately, the goal was to achieve stability in coal supply and demand. This was to be accomplished mostly through the signing of longer deals and the development of additional power generation capacity. MITI hoped that this expansion could be fueled by lower-quality coal, so that it could guarantee a greater number of buyers. Finally, additional measures for displaced workers were similarly considered key to correctly handle the contingency of coal mining and its redundant workforce. Still, these additional measures notably failed to tackle the issue of the excessive coal price. As the previous attempt at controlling market pricing through the standardized price system had proven unsuccessful, MITI had so far steered clear of once again attempting to deal with this issue directly. However, as market activity alone had so far proven unable to tackle pricing issues, this decision was set to be revised in order to finally achieve a more significant drop in coal prices.[77]

In December 1959, key to this shift was the drafting of an internal MITI document, known as the Arisawa Report, discussing the issues of the coal industry and presenting a new solution. This paper first moved by recognizing the problems plaguing coal at the

[76] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 120-123.
[77] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 123-124.

time, pointing out both internal and external circumstances. It recognized that the hardships of coal were certainly linked to a broader global shift away from solid energy sources and towards fluids, such as petroleum. However, the report also pointed out that Japanese coal was actively contributing to its demise because of its worsening conditions. Specifically, the report referenced lackluster working standards, resource base depletion and poor distribution. Within this context, lowering the price of coal by 1,200 yen per ton through different rationalization measures was presented as the solution to guaranteeing some competitiveness to the coal industry. The report argued that this could be achieved through autonomous rationalization on the part of mines as well as government aid, tax relief, and savings from expenses relating to distribution. Clearly, this new approach consequently implied that MITI should take on a more proactive role in offering support to the industry. This naturally required the definition of a new and different strategy which would take market conditions and dynamics into account. Finally, this new plan revised the national target for coal yield to an amount between 50 and 55 million tons by 1963. The validity of the law limiting the use of petroleum boilers was similarly extended through the same year. Most significantly, this shift in approach meant that, just a decade after the Public Corporation for Coal Distribution had ceased its operations, the national coal industry was once again going to become subject to greater public control.[78]

The Arisawa Report unambiguously identified the crisis of the coal sector. It clearly pointed out the international shift towards fluid energy, which Japan could not hope to reverse and should consequently embrace. As petroleum technology gradually saw its significance increase, it argued that the country should fully adopt its use until the shift to nuclear energy would become feasible. Within this context, coal could consequently only hope to hold on to an auxiliary position as long as possible. Arisawa easily dismissed worries concerning social welfare and employment in the coalfields, instead arguing in favor of a purely market approach to the matter of energy consumption. That is, price should become the only variable in determining whether to use petroleum or coal – a competition that oil was clearly going to win. This was also thought as a way to finally enforce rationalization in the coal sector, which would be aided by more aggressive

[78] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 124-125.

scrapping and building of target mines. However, implicit in this new approach was also the recognition of some key limits of rationalization theory. As the experience of the coal sector clearly showed, rationalization could not happen to the same extent and with the same results within every industry. Additionally, it was not possible to sever the tangled relationship between international trends and rationalization at the national level. To make matters worse, Arisawa's hypothesis that Japanese coal could still survive in a complementary position to petroleum would later prove far too optimistic. Starting in the new decade, the entire sector soon found itself on the brink of total collapse.[79]

[79] Laura E. HEIN, *Fueling Growth*..., cit., pp. 317-320.

SHAYŌ: THE LONG SUNSET OF COAL, FROM 1959 ONWARDS

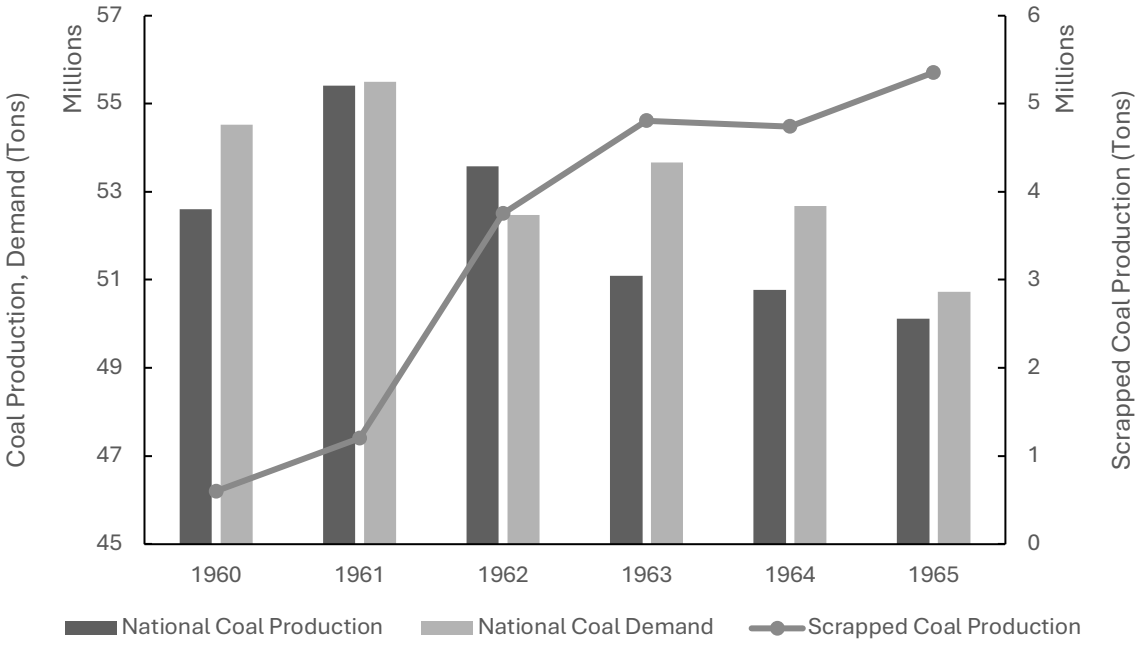
COAL PRICE CONTROL AND MARKET DYNAMICS IN THE EARLY SIXTIES

In order to carry out the recommendations of the Arisawa Report, in September 1960 MITI presented its new course of action intended to address the hardships of the coal industry. Based on the cost of oil, as well as the overall level of prices and salaries of 1959, MITI recommended to slash the price of coal by 1,200 yen per ton like the Arisawa Report had suggested. The ministry also called for a further reduction in transportation and production costs, other than an additional yearly reduction in coal prices amounting to 250 yen per ton. Furthermore, in recognizing significant issues in the production structure, MITI encouraged a reduction in mines and workers amounting to more than 170 collieries and 90,000 employees. At the same time, it called for a significant improvement in the overall productivity of this leaner industry so as to guarantee a yearly coal output of 55 million tons by 1963. These goals were to be achieved through aggressive scrapping of inefficient mines up to a total of 8 million tons in production and an additional call for the use of technology. Access to funding was to be made easier, just like support for the displaced was to be strengthened. These measures painted an overall different approach compared to what had been pursued so far. Whereas previous forms of rationalization called for lower coal prices by supporting greater production, MITI now clearly intended to push down prices by aggressively carrying out the scrapping and building of target mines. However, it soon became clear that, in the face of massive scrapping, the desired level of coal yield could only be achieved through an increase in production in the surviving mines. Thus, major mines effectively found themselves in a position to tackle coal prices by expanding production once again.[80]

As had been the case in the past, the government offered financial and legislative support to the industry according to its new policy. To begin with, mines were provided with the chance to acquire additional loans so that they could use the money to improve technology and transportation. Additionally, the validity of the Heavy Oil Boiler Restriction Law of 1955 was also extended through 1963, while simultaneously keeping

[80] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 187-188.

Figure 7: National coal production, demand, and scrapped production, 1960–1965.



Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002.*

oil imports under control through the allocation of foreign exchange and a further tariff hike. In terms of price control, this new plan ultimately proved effective, as the different measures managed to push the cost of coal down. As price negotiations between 1960 and 1962 regularly ensued, the discounts being agreed upon generally complied with the vision of the Arisawa Report.[81]

Still, this new approach proved flawed in addressing other market dynamics. As seen in Figure 7, between 1960 and 1961 the national coal demand defied expectations and grew quickly, reaching the 1963 target amount of 55 million tons two years in advance. As a result, coal production promptly rose, reaching the 55-million-ton figure in the same year. Once again, this meant that the 1963 goal had been reached too soon. In the meantime, the scrapping of inefficient mines had been stagnating significantly (Figure 7). Its cumulative figure for 1960 and 1961 amounted to less than 2 million tons, despite projections hoping that the same volume would be achieved in a single year. As seen in Figure 8, the number of mines, too, only dropped slightly. Additionally, as the import of oil was set to be fully liberalized in 1962, starting in the previous year the petroleum industry had challenged the energy market for a more prominent position. In the process, this had

[81] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 188-190.

Figure 8: Number of coal mines and coal mine workers, 1960–1965.



Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002.*

naturally resulted in a further drop in its rates. Moreover, as national salaries and prices started rising and left the 1959 level, the production cost of coal, too, began climbing once again. These circumstances soon meant that coal could no longer compete with petroleum despite the significant price slash it had undergone as a result of the Arisawa report. As the position of the industry consequently worsened, the finances of the mines kept deteriorating at a worrying rate.[82]

By the end of 1961, yearly coal output had risen worryingly close to 60 million tons, thus overshooting the target introduced by the Arisawa Report. MITI consequently pushed even harder for further scrapping, which was going to be aided by the introduction of a new system starting in 1962. Rather than receiving a complete governmental buyout, under these new rules mines could apply to obtain subsidies subject to the cessation of all mining activities. Additionally, mine operators would also receive further aid in the form of the money necessary to cover the costs associated with shutting down, like severance pay. Originally, MITI had hoped that the new system could lead to the scrapping of inefficient mines up to a cumulative amount close to 6 million tons between 1962 and 1963. However, in yet another turn of events, the number of mines that

[82] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 190-194.

immediately filed for closure proved greater than what had been anticipated. Between June and August 1962, applications quickly piled up and their production amount reached more than 5 million tons. Instead of easing the existing market circumstances, this would rather have resulted in the jeopardizing of the 55-million-ton target. MITI consequently had no choice but to postpone some of the closures to the following year.[83]

This newfound sudden interest in scrapping on the part of mines contrasts strongly with the limited enthusiasm of the previous years. Its rationale can mostly be found in a 1962 drop in coal demand resulting from an economic downturn (Figure 7). Furthermore, in the face of this slowdown, mine operators were now starting to consider the long-term consequences of the implementation of the Arisawa plan. It was now unrealistic to imagine that a future economic upturn could see coal prices rising once again, as they had been pushed down according to MITI. Consequently, mines found it more convenient to exit the industry altogether while collecting the subsidies granted by the new scrapping system. All in all, there was no certainty that what Arisawa had envisioned would ultimately lead to a stable relationship between coal supply and demand. At the same time, its provisions worked as a strong incentive for mine operators to leave the market once and for all.[84]

THE FIRST COAL POLICY OF 1962

As MITI and the political world struggled to find a solution to the coal problem, labor unions organized to push against the existing governmental approach. As a result, between September 1961 and April 1962 a massive mobilization effort of more than 110,000 workers swept the country. Their endeavor was most significant, as it directly influenced a move towards a revision of the way the plight of the coal industry was to be challenged at the national level. At the same time, even labor unions could no longer refuse rationalization as a whole. Their position thus did not reject the transformations

[83] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 194-195.
[84] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 195-196.

that the industry clearly needed. Still, workers called for greater efforts in helping displaced miners and coal-mining areas as a whole to proceed on par with rationalization. The political world certainly seemed to show sympathy for their requests when Parliament spearheaded a discussion concerning a more general approach to energy policy. It called for the use of national resources as a stable form of supply, while at the same time approaching imported sources, such as oil, within a long-term perspective. Parliament thus encouraged the government to further promote rationalization and modernization of the coal industry while protecting workers, their employment, and coal-mining areas as a whole. Additionally, it called for support in guaranteeing a steady demand for coal as well as aid to local finances disrupted by the crisis of the coal sector. Further plans by labor unions to mobilize massive numbers of their members aided in pushing the government to settle on a new course. In April 1962, the executive consequently announced the creation of an inquiry commission meant to evaluate the actual circumstances of rationalization and work in the coal industry. Its results were to become the basis on which the government committed to promote a new approach to coal policy.[85]

The commission presented its final report in October 1962. Notably, it clearly stated that coal could no longer compete with petroleum on equal terms. Similarly obvious was the fact that the industry was plagued by massive losses, and protecting and relocating workers had become extremely difficult. After all, in the four-year span between 1957 and 1961, coal had seen its workforce go from approximately 300,000 people to roughly 200,000 miners. The commission argued that without aid, the reality of the energy market would see coal demand drop to 30 million tons by 1967. Based on these points, it proposed to support an expansion in coal demand up to 55 million tons by relying on the electricity and steel industries. Notably, the role of these two sectors as the main customers of the coal industry had already been strengthening in the previous decade. According to the members of the commission, a new system should be introduced so that electricity and steel companies would receive monetary compensation when they increased the amount of coal they purchased. The plan hoped that these two industries could combine their need for coal to account for over 44 million

[85] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 196-198.

tons, or more than 80%, of its total demand. In the meantime, a further scrapping of inefficient mines up to 12 million tons between 1962 and 1967 was to be encouraged. Within the same timeframe, it also argued in favor of a further drop in workforce as to reach a total of approximately 120,000 miners. The report also called for displaced workers to receive further support, for greater aid to mining regions, for mining safety to be strengthened, and for the definition of a more precise production plan encompassing modernization goals and standardized workloads. Finally, the commission suggested to once again focus on guaranteeing the funds necessary to finance modernization efforts and promoted a further extension of the boiler fuel law until 1967. The same year was also chosen as the target until when coal price should remain stable at the 1959 Arisawa Report level.[86]

The First Coal Policy of 1962 was thus born based on these premises. Its introduction marked a significant first step in a different direction compared to the approach that the government had so far adopted with regard to coal. By accepting the impossibility of ever seeing coal able to compete with petroleum again, the focus shifted to using rationalization as a way to prevent the massive social damage that a failure of coal would bring. This also meant that coal lost its position as a cornerstone of Japanese industry that had so far justified the massive amount of public aid it had received. Instead, it was now to be fully recognized as a failing sector.[87]

Unfortunately, a review of the measures of the First Coal Policy clearly highlights some glaring issues intrinsic in its approach. First and foremost, the government failed to suggest a way through which the 12 million tons of scrapped production would be compensated. Similarly, provisions concerning the aid to be presented to workers were clearly vague. Lackluster was also the discussion relating to how the industry should effectively face the increased labor costs that had so far always resulted from modernization in the major mining companies. Worryingly, this policy also signified that the vast majority of coal demand was now to depend on the extent to which governmental support could influence the electricity and steel sectors to keep purchasing coal. Additionally, the First Coal Policy had also established a compensation system intended

[86] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 198-201.
[87] SUGIYAMA Shin'ya *hen*, USHIJIMA Toshiaki *hen*, *Nihon sekitan sangyō no suitai…*, cit., pp. 13-14.

to channel part of the petroleum tariff money towards the electricity and steel industries as a result of their increased coal business. Its effects are however ambiguous, as a reduction in petroleum demand on the part of these operators in favor of coal would have paradoxically resulted in a reduction in the money that was handed back to them. Overall, the 55-million-ton production target also appeared unrealistic, especially as scrapping applications kept pouring in after the introduction of the most recent system. Despite the desire on the part of MITI to use this production level as a way to stabilize the industry, its calculations were clearly not grounded in reality.[88]

The skewed nature of the First Coal Policy thus became readily apparent when looking at the resulting market dynamics. As seen in Figure 7, between 1963 and 1964 national coal demand remained stable around 53 million tons, in large part thanks to the electricity and steel industries. Meanwhile, in the span of the same two years, scrapping progressed extremely rapidly and reached a cumulative amount of more than 9 million tons. This meant that almost 80% of the 1967 goal had been reached far sooner than anticipated. As mine closures advanced significantly faster than building efforts, production quickly contracted, reaching 51 million tons in 1963 and further dropping to 50 million tons in 1964. This also meant that the number of mines halved and that total workers reached the figure of close to 110,000 people (Figure 8). To make matters worse, the resulting market tightness did much to push small consumers out of the coal market. As they were ignored by the First Coal Policy, which clearly favored major users, their commitment to coal wavered in favor of oil.[89]

Still, just like the First Coal Policy had suggested, starting in fiscal 1963 a new system for coal price definition was introduced. This new framework once again aimed at reaching and maintaining the price that the Arisawa Report of 1959 had recommended. However, on top of additional refinements, the new system introduced a further price discount for the electricity industry compared to that being offered to the other industrial sectors. Overall, this system proved effective in controlling price dynamics. The contract negotiations that ensued followed its instructions, and even the steel industry, which had previously seen discounts greater than what Arisawa had envisioned, fell back in line with

[88] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 200-204.
[89] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 202-203.

the government's suggested figure. Significantly, this prevented a total collapse of the price of coal. In line with the stated goal of maintaining the same price level until 1967, coal cost for 1964 remained steady. However, what the First Coal Policy could not control was how competing energy sources concurrently saw their price plummeting. As a result of the 1962 liberalization, the petroleum market had become increasingly crowded and able to wage even fiercer competition with coal. Attempts to control petroleum price by MITI between 1962 and 1963 proved unsuccessful, and in 1964 national coal appeared to be more expensive than oil despite the effective implementation of price control measures. These dynamics combined to further jeopardize the finances of coal mines, which saw their revenue remain limited and their debts pile up quickly. In a vicious cycle, this subsequently meant a further push back of rationalization. All in all, it soon appeared abundantly clear that the First Coal Policy had not managed to reach its goal. The government had argued that, by adhering to its provisions, 1967 would become the year when the coal industry could once again be stable and independent. By 1964, the soundness of this statement could already be put into question.[90]

Together with guidelines concerning the coal market, the government also introduced tools to aid the distressed workforce. Original efforts towards this matter were noted in 1959, when support measures intended to guarantee job stability were announced. The law was further revised in 1963, when the government introduced the Black Notebook system for displaced miners. Under this new arrangement, workers who could no longer receive regular unemployment benefits were provided with an additional subsidy, which was meant to promote further employment and mandatory recruitment guidance. Additionally, government expenditure towards promoting relocation among the displaced was particularly significant until 1964, when its pivotal position was replaced by efforts towards reemployment and direct funding to companies to promote hirings. While useful, these measures ultimately mostly focused on monetary matters and were lackluster when it came to developing new skills among workers. Moreover, between 1960 and 1964 these provisions further incentivized miners to leave the mining sector of their own accord, as they made relocations possible and less expensive.[91]

[90] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 204-208.
[91] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 241-242.

Still, the introduction of these tools was warmly welcomed by mining companies, who were themselves promoting voluntary resignation as a way to reduce their excessive workforce. In many cases, miners who spontaneously decided to leave their job were presented with an additional sum of money on top of their regular severance pay. However, according to labor unions, the rationale behind this bleeding of the workforce was to be found in the increasing anxiety among miners themselves. The deteriorating finances of the mines had meant that providing regular payment to workers had become increasingly difficult. Naturally, many workers thus decided to leave before the situation made it impossible for them to receive the money that they were owed.[92]

THE SECOND COAL POLICY OF 1964

Parliament recognized the failure of the First Coal Policy in June 1964. As it had done two years prior, it consequently asked the executive to intervene to tackle the issues of coal mining. The government responded in August by establishing a new inquiry commission, which soon presented its findings. Most significantly, this new report recognized how the dire circumstances of the mines' finances were contributing to the slow collapse of the industry as a whole. The significant coal-price drop that the Arisawa Report had introduced, and that the First Coal Policy had maintained, was ultimately deemed damaging to the financial health of mine operators as a whole. Furthermore, the rising prices of basic resources, as well as the ever-greater costs associated with scrapping, were contributing to this dire scenario. On the other hand, the building of efficient mines was lagging behind and, as a result, coal yield was stagnating. Finally, the commission also noted that faith in the industry's future was deteriorating, and more and more people were consequently leaving the mines, creating an unexpected lack of workforce. The report consequently suggested that the government should focus on rehabilitating the financial health of the coal industry as well as taking the new matters concerning the labor force into account. Contrary to what the First Coal Policy had introduced, the

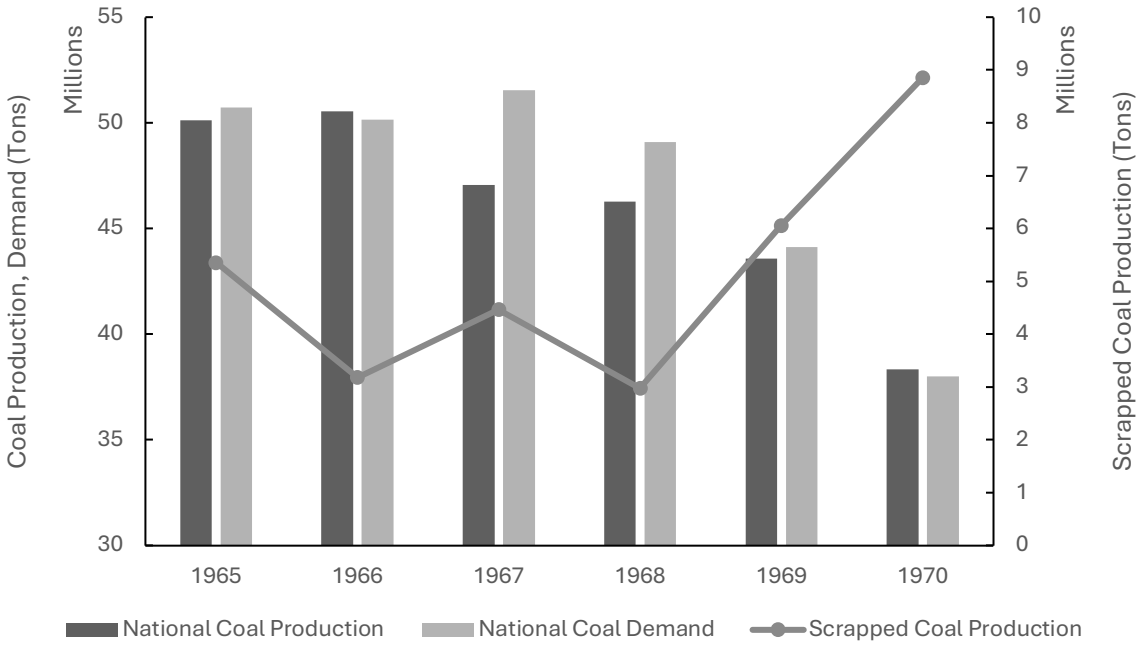
[92] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 245-249.

commission thus argued in favor of a slight increase in coal price, which would be joined by a new buyers' compensation system intended to ease their resulting expanding burden. It also suggested that the government should introduce an interest subsidy system to aid mines in facing their outstanding debt as well as take on more loans to remain afloat. Yet again, the report also called for increased efforts in aiding mechanization, mine safety, and relocation of displaced workers. Labor-wise, it was finally suggested to focus on guaranteeing miners the living conditions necessary to keep the number of workers up to the necessary amount. These were the premises on the basis of which the Second Coal Policy was born.[93]

However, the new policy did not revise the previous 55-million-ton target for coal supply and demand. Still, the market dynamics of the First Coal Policy years had already made it abundantly clear that reaching this goal had become unfeasible. The definition of this target for market activity thus appeared to be nothing more than a discourse concerning a hypothetical scenario clearly not grounded in reality. This imaginative approach, coupled with the increasingly contingent nature of the provisions of the Second Coal Policy, distinctly highlighted the new course of the approach to coal. The Second Coal Policy clearly appeared as a plan intended to rescue the industry from impending doom rather than to support it to maintain autonomy. Nonetheless, the Second Coal Policy did not receive positive feedback from mine operators, who argued that the coal-price increase would push users towards petroleum even more. Negotiations on the part of MITI to implement coal-price hikes among consumers also required the introduction of further support. These measures effectively slashed the impact of the coal-price hikes for coal buyers and were coupled with various exceptions to the increase itself, thus overall weakening the approach of the Second Coal Policy. The price that was ultimately set for 1965 was also later maintained for 1966. Still, petroleum continued to be extremely competitive. After a slight increase in oil prices, starting in February 1966 their figure dropped again to a level akin to the lowest ever recorded in 1964. Despite the various measures that had been introduced, the price difference between coal and petroleum ultimately remained almost the same.[94]

[93] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 208-210.
[94] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 211-215.

Figure 9: National coal production, demand, and scrapped production, 1965–1970.



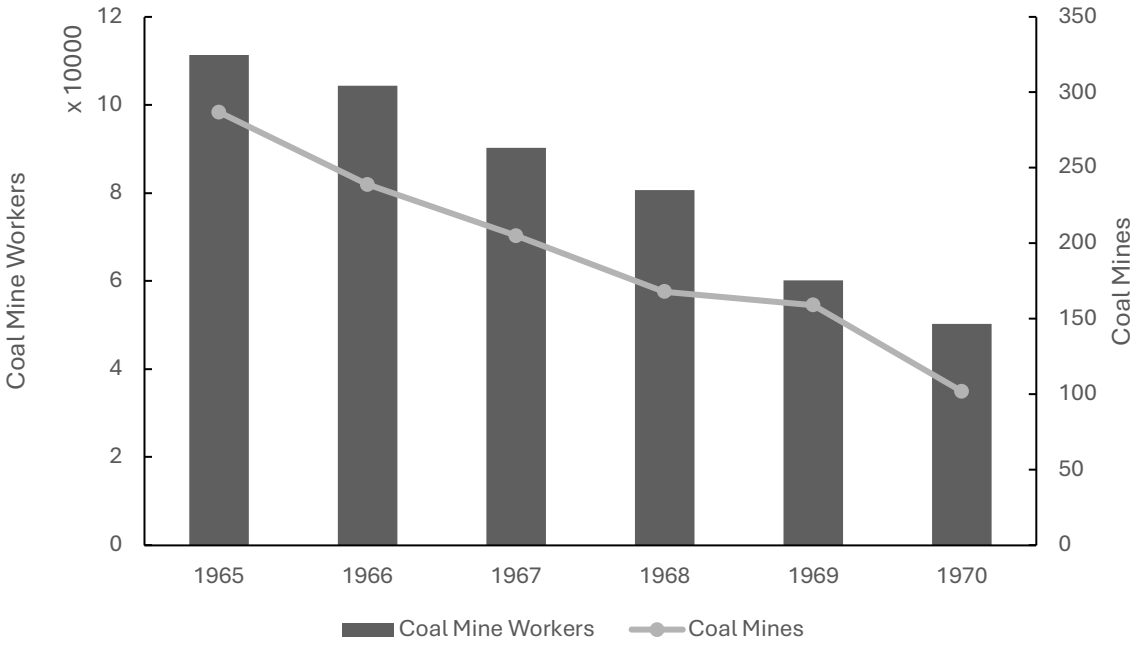
Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002.*

Notwithstanding its difficulties, significant building in efficient mines continued as had been done starting with the policy shift of 1959. Between 1960 and 1966, the combined effect of mine scrapping and building consequently brought about an overall productivity increase in the industry, which more than doubled. Numerous were the financial instruments that MITI, as well as other institutions such as the JDB, had introduced to aid major mines in continuing to operate. Capital investment had consequently grown significantly, relying more and more on debt rather than on the internal monetary resources that the mining companies possessed. As a result, a wide array of new technologies both in mining and transportation had been introduced.[95]

Still, these overall dynamics did not result in an increased likelihood of the success of the Second Coal Policy. As seen in Figure 9, between 1965 and 1966 the stated goal of market equilibrium around 55 million tons was not reached. On the production side, its figure remained stable at around 50 million tons. Policymakers could still find some solace in realizing that, contrary to the trend observed during the year of the First Coal Policy, mine closures and workforce loss had slowed down, bringing the total numbers to approximately 240 collieries and 100,000 miners (Figure 10). The amount of

[95] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 249-262.

Figure 10: Number of coal mines and coal mine workers, 1965–1970.



Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002.*

production scrapped in the span of two years reached more than 8 million tons. Nonetheless, a production increase in the remaining mines was able to make up for the lost yield. Naturally, these changes resulted in an overall increase in the production quota in each of the remaining mines. Coal demand, too, floated around 50 million tons. However, this mostly resulted from an increase in business coming from the electricity and steel sectors, while other industries slowly cut their dependency on coal. Particularly striking was the demand loss originating from the gas industry, where even the petroleum compensation system was unable to sustain a healthy reliance on coal. Overall, although the relevance of coal in the Japanese energy mix remained significant, it was now abundantly clear that its role had been relegated to that of a source of fuel for two specific industries rather than for the industrial world at large.[96]

As apparent from the significant outflow of miners, the growing difficulties of the coal industry had a most relevant impact on the workforce as well. Younger miners were leaving the industry at an increasing rate, causing the average age of workers to rise. As operating mines attempted to secure the necessary personnel, their efforts mostly concerned retaining existing miners rather than recruiting among the younger generation.

[96] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 215-217.

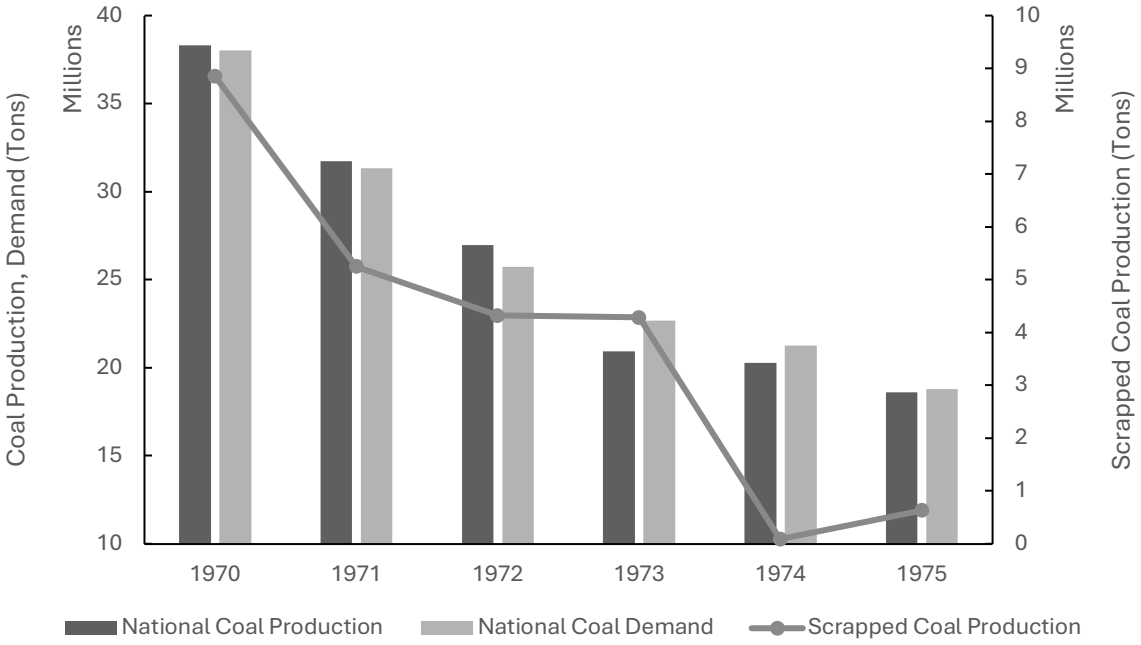
Their efforts were only partially successful, also due in part to the lackluster interest in mining safety on the part of mine operators. In the years between the First Coal Policy and the Second Coal Policy the relevance and power of labor unions, too, had consequently taken a massive hit. As workers fled the mines or were forced out by the scrapping of inefficient collieries, the number of members affiliated with such groups could naturally only decrease. In 1966, their figure had thus plummeted to a level lower than what had been registered fourteen years prior. These circumstances made it increasingly harder for labor unions to have a role in negotiations concerning mine closures and pay raises. Their efforts consequently moved towards obtaining greater guarantees for job stability and aid to the distressed coal-mining areas. In doing so, their claims started moving away from the industrial world and were instead redirected more and more towards the policies of the national government. One area of success that resulted from this shift was the introduction of a new nationwide minimum wage system starting in December 1962. While originally intended for major companies only, with pay levels in smaller collieries to be determined starting in 1965, this achievement was possible specifically because labor had moved to discussing its concerns with the government directly. Conversely, these few years saw the relationship between workers and mine operators become less tense and head towards greater mutual discussion and compromise.[97]

THE COLLAPSE OF THE JAPANESE COAL INDUSTRY

Notwithstanding the government's attempted rescue of the coal industry by means of the first two coal policies, a series of concurrent dynamics beginning in 1966 ultimately meant that the Japanese coal sector could no longer hope to survive. First, at the end of fiscal 1966, the boiler fuel law that had long survived was finally abolished. As a result, even more industries making use of coal technology started shifting towards oil-fueled boilers. Additionally, between 1967 and 1969 the government enacted a series of directives aiming to tackle the aggravating problems of pollution and environmental

[97] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 262-274.

Figure 11: National coal production, demand, and scrapped production, 1970–1975.



Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002.*

damage resulting from industrial activity. Due to this decision, companies found themselves with even more reasons to move away from the use of coal, which notoriously carries significant environmental considerations. Coal demand was hit particularly hard by these changes and subsequently dropped below the 50-million-ton target in 1968 (Figure 9). Significantly, this first contraction was followed by a further, ever-increasing reduction in the demand figure, which started amounting to a loss of multiple million tons every year. As seen in Figure 11, by 1973 the demand for Japanese coal had thus dropped to 22 million tons. The electricity sector in particular slashed its coal consumption significantly, opting instead for the use of petroleum. After all, the technology in use at the time already made it possible to guarantee a reduction in harmful emissions by generating electricity with oil instead of coal. Demand in the electricity sector consequently peaked at around 25 million tons in 1968, only to drop as low as 7 million tons by 1973. Instead of coal, electricity generation made greater use of Southeast Asian petroleum as well as liquefied natural gas (LNG), both of which offered significant environmental advantages. To make matters worse, starting in 1965 the cost of steam coal, the specific kind used in the electricity sector, started rising once again. As fuel expenses represented one of the most significant costs of business operations, the use

Figure 12: Number of coal mines and coal mine workers, 1970–1975.



Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002.*

of coal in the business of electricity generation consequently became even harder to justify.[98]

The only exception to this generalized collapse of coal demand was the steel sector. Between 1967 and 1970, demand for coking coal, in use by the industry, had remained somewhat stable around 7.5 million tons. A subsequent expansion in production capacity in the industry later meant that demand for national coal could rise to 8 million tons starting in 1971. Despite a concurrent increase in the amount of foreign coal imported to satisfy the needs of steel, Japanese coking coal remained favored for its intrinsic features. After all, coal quality represented an important element guiding the purchases of the steel sector. Starting in the latter half of the sixties, a shift in the origin of imported coal also resulted in steel demanding even greater coal quality from Japanese producers. Imports from the United States were replaced by Canadian and Australian coal, which needed to be mixed with Japanese coal to reach the necessary quality standards. Starting in 1968, growing interest in national coking coal thus naturally resulted in a first price increase amounting to approximately 200 yen, which was subsequently followed by two 500-yen hikes in 1969 and 1973. Overall, these different

[98] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 280-289.

dynamics offered coal producers the chance to increase their production. Additional aid was also to be offered by the introduction of the Third Coal Policy of 1967, which revised the flaws of the petroleum tariff compensation system that were intrinsic in the first version that had been introduced in 1962.[99]

Changes in coal demand naturally had a significant impact on the production side as well. The increased interest in coking coal by the steel sector, along with the concurrent drop in demand for steam coal in the electricity sector, resulted in a complete reversal of their respective market positions. Between 1967 and 1968, the production of steam coal had remained stable around 32 million tons, only to later start dropping quickly and stabilize at just shy of 10 million tons in 1973. At the same time, the production of coking coal increased to 13 million tons between 1971 and 1972 and later stabilized at 11 million tons in 1973. In the early seventies, the priority position of steam coal, which amounted to more than 50% of the overall national coal supply in the mid-sixties, was thus lost to coking coal. This devastating loss in the production of steam coal resulted in the closure of a great number of small- and medium-sized mines, the production of which overwhelmingly focused on this specific kind of coal. Nonetheless, the number of mines focusing on coking coal that closed was similarly significant. The total number of mines thus dropped below 100 in 1970 and reached just 57 in 1973 (Figure 12). Notwithstanding a significant number of scrapping applications among major mines, too, these dynamics still meant that coal supply was concentrating in bigger collieries more than ever.[100]

Despite the interest on the part of the steel industry in absorbing a potential increase in coking coal supply, the remaining mines found it difficult to respond effectively due to their reduced number as well as because of technical hardships. Significantly, the introduction of new mining technology was influenced by the physical features of the mines themselves. The use of advanced mining techniques was limited to collieries with gently inclined coal seams, as implementation proved significantly harder in the case of steeper mining faces. In the latter case, production consequently still relied heavily on manpower. The introduction of further technological advancements was

[99] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 280-284.
[100] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi*..., cit., pp. 289-290.

similarly constrained by a wide array of causes, such as their experimental nature or accidents in their use. Notwithstanding their limits, the successful introduction of new technology did nonetheless manage to guarantee some degree of productivity increase. However, certain tasks in the mines could not be mechanized and thus kept requiring the necessary personnel.[101]

Still, what ultimately inhibited an increase in the production of coking coal were the increasingly strict quality requirements of the steel and electricity industries. Up to this point, coking coal mines had often operated by servicing both industries at the same time. The waste materials naturally resulting from the purifying process necessary to produce coking coal had so far been sold to the electricity industry as fuel. However, the growing concerns over environmental damage, combined with the stricter requirements for the coal used in steel production, made pursuing this strategy impossible. Similarly, these circumstances meant that supplying greater coking coal while also guaranteeing its quality was an unachievable task. On the one hand, as raw mine production stagnated, providing a greater amount of coking coal to the steel sector required weakening the purifying process as to reduce waste. However, the steel industry would now refuse such low-grade coal. On the other hand, supplying higher-quality coking coal would have required purifying raw coal to a greater extent, resulting in more waste. However, because of the new climate regulations, this resulting greater amount of lower-quality waste could no longer be sold to the electricity sector. All in all, coking coal producers thus reached an impasse. Even those mines that had managed to successfully mechanize could not find a solution to this dilemma.[102]

Meanwhile, internal mine circumstances were not improving either. The total number of miners kept dropping, amounting to less than 100,000 people in 1966 (Figure 10) and later reaching 25,000 workers in 1973 (Figure 12). At the same time, the average age of workers kept rising, reaching 40 years in 1968 and almost 43 in 1973. As a result, the ratio of workers over 45 years old to the total workforce reached 35% in 1970. To make matters worse, the introduction of a new special pension system for miners in October 1967 ultimately functioned as an incentive for middle-aged employees to retain their

[101] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 292-295.
[102] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 291-292, 295-299.

positions rather than to encourage the influx of a younger workforce. Similarly unsuccessful was an attempt at revising pay conditions, whose ultimate goal of improving productivity appeared unachievable. Conversely, the new terms meant that the ratio of labor cost over the total mining production expenditure reached a new peak amount of over 61% in 1971. Naturally, these circumstances proved particularly damaging to the already shaky finances of the mining companies.[103]

All in all, the combined effect of the stagnating production, the increased coal quality requirements, the older workforce, and the growing wage bill put mining in an extremely difficult situation. As only a very limited set of major mines could manage a production increase, the overall financial health of the mining industry appeared extremely poor. Between 1967 and 1973, losses increased from amounting to a little more than 650 yen per produced ton of coal to a staggering 2,300 yen. As debt kept piling up, the situation once again called for public intervention to keep damages under control.[104]

GOVERNMENTAL POLICIES IN THE FACE OF SUNSET

Starting with the Third Coal Policy of 1967, the government once again revised its approach to the coal problem and started treading an even more generous path to help the industry. Beginning in the same year, this was made possible by the allocation of significant funds to a new, special national budget entirely dedicated to coal. Its original provision of roughly 60 billion yen for both 1967 and 1968 subsequently grew to surpass 100 billion yen starting in 1971. As had been the case with other financial instruments of the past, funds mostly originated from the petroleum tariff. Paradoxically, this meant that, as companies kept replacing coal with petroleum, the amount of money that the government could spend on rescuing the coal sector increased. This massive amount of money was used to keep pursuing the different building strategies that had already been

[103] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 299-313.
[104] *Ibid*.

employed in the past. Target mines thus received significant economic contribution to further modernize, as well as provide workers with improved welfare and housing.[105]

However, the most significant use of this special account came with the decision of the government to start shouldering the massive debt that the coal mines carried. The first public assumption of debt came with the Third Coal Policy, when the Japanese state agreed to take on 60% of the outstanding debt that the mines owed to financial institutions which had originated before March 1966. Over the course of multiple years, mines would consequently receive subsidies amounting to the agreed sum so that they could repay their creditors. The same approach was later renewed with the Fourth Coal Policy of 1969 and the Fifth Coal Policy of 1973. In both cases, the government broadened the scope of its support by aiding mines in paying additional kinds of debt, such as the money that they owed to workers. The somewhat strict requirements that the government had originally requested for individual mines to benefit from this subsidy were also gradually loosened, making this new form of contribution widely accessible. Finally, multiple additional public financing tools were concurrently made available so that mines could continue receiving the money they needed to survive. Overall, this massive shift towards the reliance on the part of mines on the direct injection of public money clearly indicated how deep the issues of the industry were. As it became increasingly harder to believe that these companies could reasonably pay back their debt, mines needed to rely more and more on the generosity of the Japanese state rather than the market for the money they needed.[106]

Despite its stated objective, the government's *katagawari* of mines' debt was criticized for aiding financial institutions more than it did mines themselves. Notably, the mines' debt nominally remained with them until the borrowed sum, as well as its interest, were completely paid off. As the government's subsidies were provided over the course of multiple years, this process required significant time. As a result, lenders refused to immediately release the collateral that the mines had offered for their existing debt. This meant that coal companies could not use the same security to gain access to more money, which they still desperately needed to keep operating. Starting with the Fourth

[105] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 313-314.
[106] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 313-320.

Coal Policy, the government thus attempted to convince lenders to release more credit to the mines by introducing additional guarantees. Were the financial institutions to release the old collateral, then approve a new loan based on the same exact security, the government would insure its former value. However, this, too, proved ineffective, as the new debt would not be covered by the government's protection. Additionally, over time, the collateralized goods had lost a significant portion of their value. When the Fifth Coal Policy was discussed in 1973, the issue of insufficient market credit to the mines was consequently brought up once again. It was thus abundantly clear that the *katagawari* had only partially been effective in helping mines, while mainly functioning as a rescue tool for lenders. To make matters worse, these additional measures of public support had encouraged mines to adopt a lax approach to their management in order to qualify for aid. All in all, the efforts on the part of government to shoulder the mines' debt thus ultimately did not result in an improvement of the finances of the mining companies.[107]

With the Fourth Coal Policy of 1969, the government recognized that the only remaining path for the national coal industry was that of sunset. By 1970, 92% of the overall figure of national mines had already closed. At this point in time, the remaining collieries were thus represented only by major and relatively efficient businesses.[108] Between 1969 and 1970, mine closures were thus aided by the introduction of a further special system intended to ease the market exit of the failing companies. In functioning as a decisive tool for sunsetting the industry, it also intended to prevent a completely unruly collapse. By once again making use of a significant amount of national funds, the government pledged to cover a major part of the outstanding debt of the mines as long as they agreed to cease operations completely. This included provision for unpaid wages, environmental damage, as well as other different forms of generic debt. Ultimately, fifteen mines applied for closure through this system, ten of which were major companies and the remaining five were smaller collieries. Approximately 70% of the money that the government paid back to creditors went directly to workers whose pay was long overdue. Nonetheless, the amount of money that the government allocated to aid these mine closures was not nearly enough to cover the entirety of the expenses associated with

[107] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 317-322.
[108] SUGIYAMA Shin'ya *hen*, USHIJIMA Toshiaki *hen*, *Nihon sekitan sangyō no suitai…*, cit., p. 16.

activity termination. Still, leaving the industry appeared as the most natural choice. Reality itself would soon show that a negative outlook on the future of coal mining was more than justified. After all, by the time that the Fifth Coal Policy was being discussed a mere three years later, coal supply and demand had fallen close to 20 million tons. The dire circumstance of the market had already resulted in mines having long given up on any autonomous attempt at restructuring. The tools that the Japanese government offered, too, ultimately meant that treading this path could be considered unreasonable.[109]

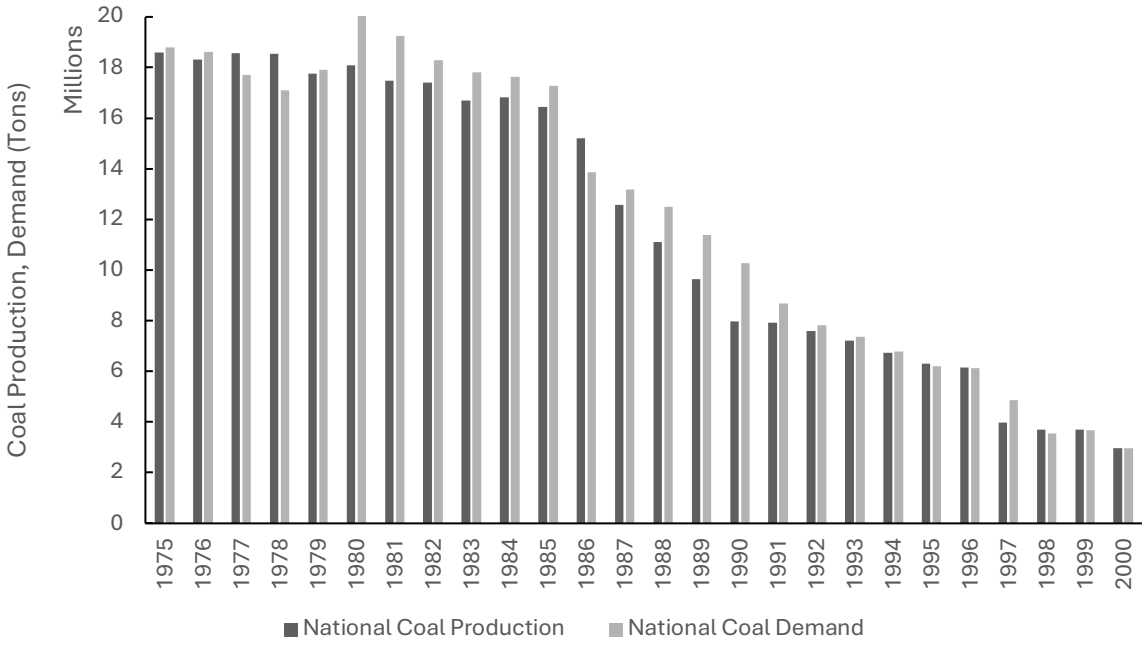
As their finances kept worsening, mines could no longer avoid facing the reality of the evolution of the energy market. The business structure that they had built in the sixties relied heavily on the electricity and steel industries. When the different circumstances resulted in coal no longer being able to compete in these areas, too, it appeared obvious that the story of Japanese coal was heading towards its definitive end.[110]

THE JAPANESE COAL INDUSTRY FROM THE SEVENTIES ONWARDS

The Fifth Coal Policy of 1973 took note of reality and revised the national coal production target as to amount to 20 million tons. This level was later confirmed both in the Sixth Coal Policy of 1976 and the Seventh Coal Policy of 1982.[111] As seen in Figure 13, between the seventies and the early eighties, a modest level of coal yield was maintained to respond to growing concerns over energy security. The 1971 Nixon Shock, just like the 1973 and 1979 Oil Shocks, had brought into question the safety of an energy policy strongly relying on foreign resources during times of great uncertainty. Nonetheless, the financial and operational circumstances of the surviving Japanese coal mines had not improved. Additionally, reopening those mines that had stopped operating in the previous decades proved unfeasible both from a practical and legal standpoint. Consequently, national coal production could do nothing other than keep dropping as years went by.

[109] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., pp. 322-324.
[110] SHIMANISHI Tomoki, *Nihon sekitan sangyō no sengoshi…*, cit., p. 331.
[111] NAKAZAWA Hideo *hen*, SHIMAZAKI Naoko *hen*, *Tankō to "Nihon no kiseki"…*, cit. p. 105.

Figure 13: National coal production and demand, 1975–2000.



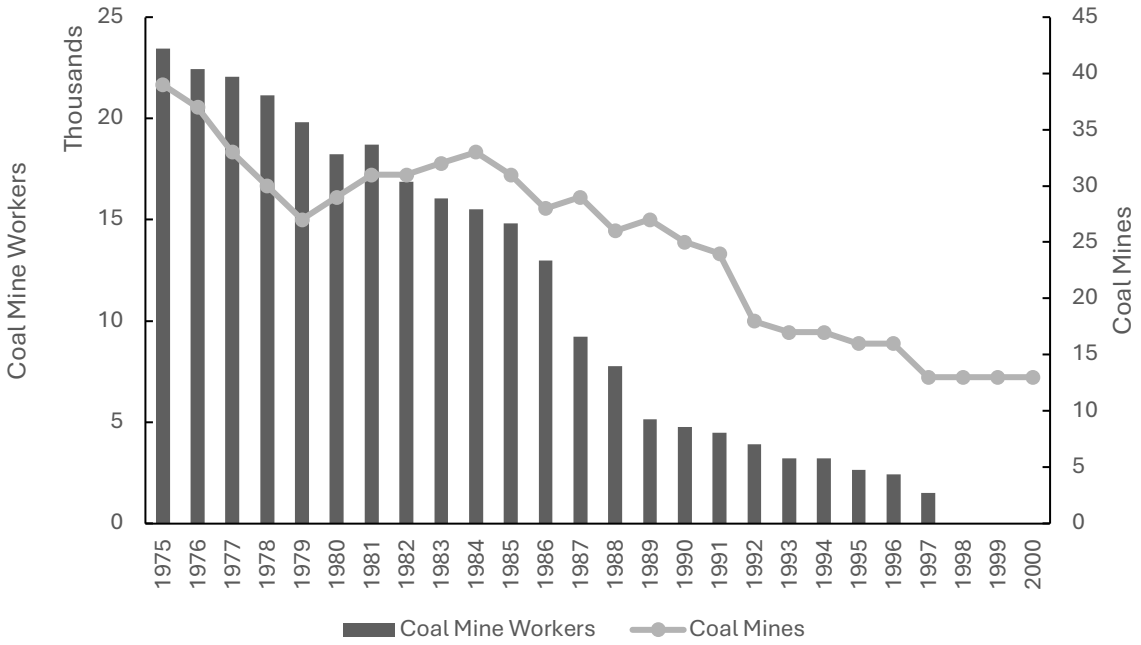
Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002.*

These calls for greater use of national coal were also short-lived, as the price of petroleum and foreign coal started dropping once again around 1982. The subsequent Plaza Accord of 1985 made it even more convenient to keep purchasing energy from outside of Japan, ultimately silencing the voices of those arguing in favor of a rebirth of the Japanese coal industry. In 1986, the Maegawa Report finally called for a further reduction in coal production and a greater reliance on foreign coal to respond to the remaining national demand.[112]

Still, not all mines closed down completely (Figure 14). Despite an overarching tendency for company exit, a few major collieries managed to survive on the basis of concerns over energy safety and, mostly, because of their position as cornerstones of the local economy of specific coal-mining areas. As had been the case in the past, shutting down their operations completely raised the risk of great social turmoil and distress.[113] In order to address these concerns, starting with the Fourth Coal Policy the government focused greatly on promoting measures intended to aid employment and regional development in the former coalfields. A certain level of rationalization and stabilization

[112] NAKAZAWA Hideo *hen*, SHIMAZAKI Naoko *hen*, *Tankō to "Nihon no kiseki"*..., cit. p. 64.
[113] NAKAZAWA Hideo *hen*, SHIMAZAKI Naoko *hen*, *Tankō to "Nihon no kiseki"*..., cit. p. 65.

Figure 14: Number of coal mines and coal mine workers, 1975–2000.



Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002.*

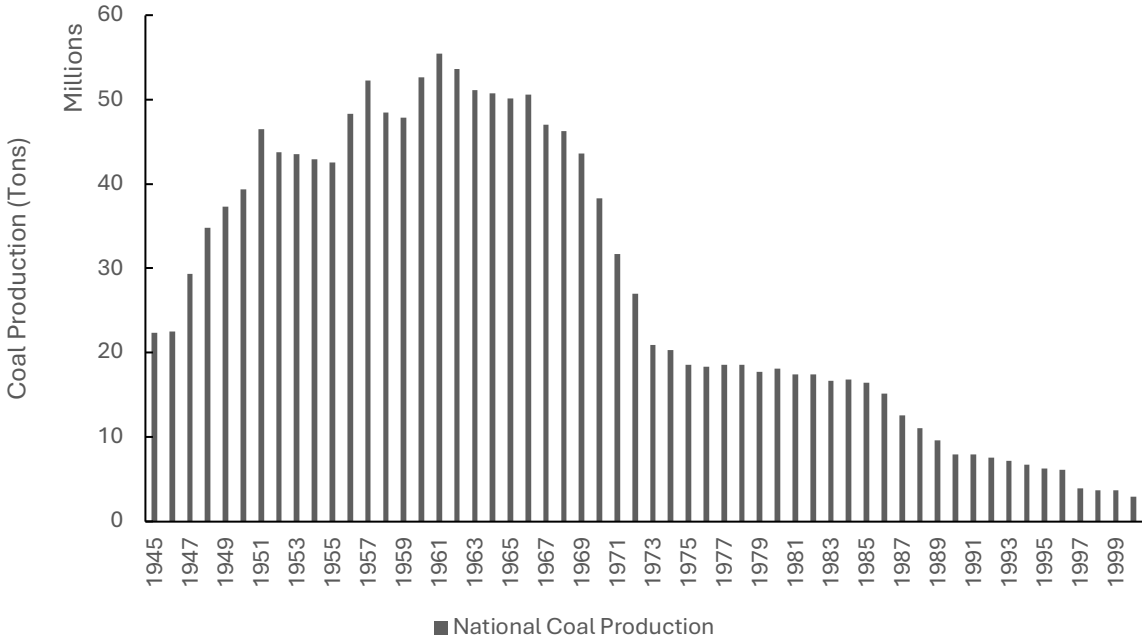
measures akin to those of the Scrap and Build era was similarly maintained to contribute to the safety of mines deemed critical in preventing a total collapse of key areas.[114]

Nonetheless, these measures and the survival of a small number of businesses did not somehow reverse the overall sunset of the industry. The Eighth Coal Policy of 1987 further downsized what had already become a small-scale sector by revising the national production target to amount to 10 million tons only. At the fundamental level, the overall approach to the coal issue remained the same. With no reasonable way back up in sight, there was nothing that the Japanese government could do other than maintain its support measures to allow companies to exit the industry. The plan thus suggested to effectively cut production of coal meant for any industry outside of the electricity sector. The subsequent, and last, Ninth Coal Policy of 1992, better known as the Post-Eighth Coal Policy, followed the same guidelines.[115]

The most significant transformation in the business of coal mining in this later stage of its course was its newfound interest in safety. Among the surviving mines, the lesser interest in prioritizing production meant that operations could finally focus on

[114] SUGIYAMA Shin'ya *hen*, USHIJIMA Toshiaki *hen*, *Nihon sekitan sangyō no suitai*..., cit., p. 16.
[115] NAKAZAWA Hideo *hen*, SHIMAZAKI Naoko *hen*, *Tankō to "Nihon no kiseki"*..., cit. pp. 105-106.

Figure 15: Overall national coal production in the postwar period, 1945–2000.



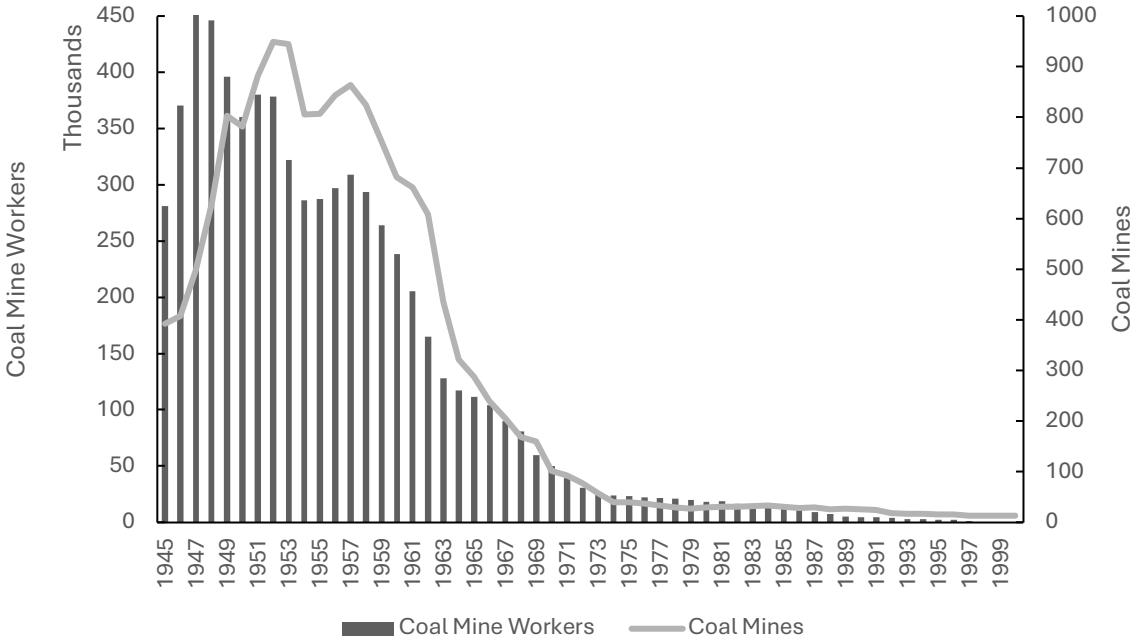
Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002.*

making mining more secure. Within this new reality, the number of mining accidents finally started dropping significantly, subsequently reaching record lows in the nineties. At the same time, the long history of Japanese coal and its deep intertwining with rationalization theory had something to offer to the rest of Asia. The twists and turns of the coal industry had meant that the Japanese mines now possessed the most advanced technology and management strategies in the region. Starting in the eighties, this accumulated knowledge in both areas became subject of great interest for the neighboring countries. The different players involved in coal mining within Japan took this as a chance to promote the survival of their industry through international cooperation. With the support of the government, this effectively resulted in the sector being able to move past its former role as coal supplier. Instead, the Japanese coal industry could now focus on exporting its deep knowledge to the rest of Asia.[116]

All in all, the crisis of the coal sector starting with the energy revolution of the fifties had seen a total of 915 mines close between 1956 and 2002. At the heart of this collapse were the sixties, as 60% of the overall closures concentrated during the decade.

[116] NAKAZAWA Hideo *hen*, SHIMAZAKI Naoko *hen*, *Tankō to "Nihon no kiseki"*..., cit. pp. 65-66.

Figure 16: Overall number of coal mines and coal mine workers in the postwar period, 1945–2000.



Source: Committee for the History of the Coal Policies, History of the Coal Policies: References Section*, Tōkyō, Japan Coal Energy Center, 2002*.

More than half of these exits happened among mines in Kyūshū, leaving Hokkaidō as the most significant coal-mining area of Japan. While Kyūshū was set to become key for further industrial development, the experience of Hokkaidō differed significantly. As the industry concentration of coal mining in the region was more prominent, a shift that would position Hokkaidō fully beyond its mining past proved more complex. Most significantly, this made Hokkaidō an exception within the already extraordinary circumstances of the crisis of coal mining. At the national level, the booming economy of the Japanese state in the latter part of the twentieth century also meant that a significant portion of the displaced mining workforce could be absorbed by other industrial sectors. Conversely, this was not possible in Hokkaidō. All its different circumstances ultimately contributed to a slower sunset of coal mining in the area. Throughout the multiple decades of national decline, it was also ultimately impossible to strike a true balance between the scrapping and building efforts. While building efficient mines proved difficult and expensive, the necessity of scrapping increased over time. Ultimately, it can be stated that scrapping thus always enjoyed the favorable position in the Scrap and Build policy. Nonetheless, both scrapping and building ultimately required a staggering amount of money. Between 1955 and 2000, the cumulative amount of financial aid that

the government offered to finance building efforts amounted to a stunning 3 trillion and 351 billion yen.[117]

Unofficially, the Japanese coal mining industry met its end in 2002, when the final Coal Policy lost its effects. The relevance of coal in Japan has however not disappeared completely, and some smaller mining operations still survive. On top of the greater interest in security and international cooperation, the approach of the former coal policies also somewhat lives on in the modern national energy plans. The Ministry of Economy, Trade and Industry (METI), as the contemporary successor of MITI, operates to find a spot for coal in the Japanese energy mix of today while juggling the concerns stemming from climate change.[118]

[117] SUGIYAMA Shin'ya *hen*, USHIJIMA Toshiaki *hen*, *Nihon sekitan sangyō no suitai*..., cit., pp. 14-19.
[118] NAKAZAWA Hideo *hen*, SHIMAZAKI Naoko *hen*, *Tankō to "Nihon no kiseki"*..., cit. p. 107.

AKABIRA AND COAL, 1945–2000

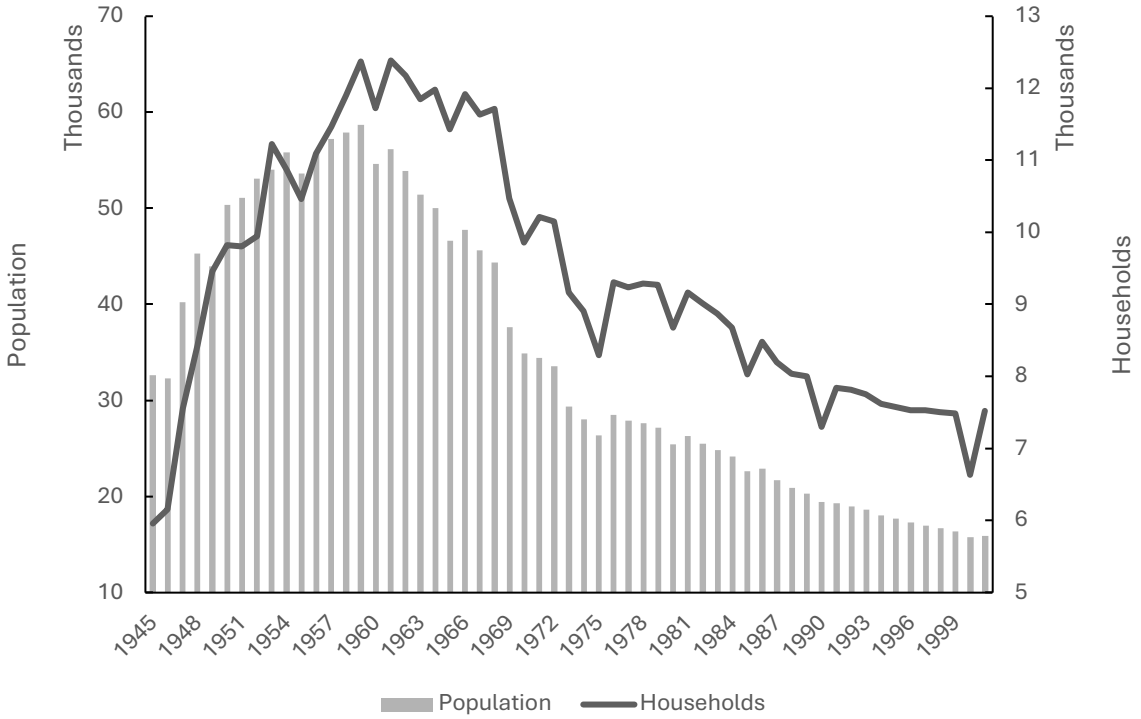
DEMOGRAPHY, COAL MINING, AND THE ECONOMY

A DEMOGRAPHIC COLLAPSE

When looking at the demography of Akabira from the end of the Second World War and beyond, some tendencies are readily apparent. Figure 1 shows the evolution of the population of Akabira, as well as the number of its households, between 1945 and 2001. Starting in 1945 and ending approximately around 1960, the population figure shows a steady growth. From a little over 32,000 people in 1945, the community of Akabira grows substantially until 1959, when it peaks at around 59,000 individuals. Overall, this growth can reasonably be linked to the Japanese baby boom of the postwar period. Naturally, its consequences similarly appear in the number of households as well. From a figure of a little less than 6,000 families in 1945, data shows a subsequent steady growth until the peak of a little over 12,000 households in 1961. The slight difference between the timing of these two spikes is likely the result of the concurrent occurrence of two patterns. Namely, those seem to be the slowing down of the baby boom at the same time that some individuals were leaving their original households to form their own, thus offsetting the two records.

However, in the same way that the population quickly expanded during this fifteen-year period, the beginning of the sixties sees the development of an even faster reversal of this tendency. Within the same time span, a strikingly apparent and only occasionally interrupted downward trend takes the population of Akabira back to a little over 26,000 people in 1975. This second fifteen-year period thus sees the number of inhabitants change to amount to less than the original 1945 figure. The number of households, too, logically follows the same tendency. Between 1960 and 1975, families decrease to reach a little over 8,000 units. This puts the household figure close to what it amounted to in 1948, when the growing population first brought its value close to 8,500 families.

Figure 1: Population and household growth in Akabira, 1945–2001.

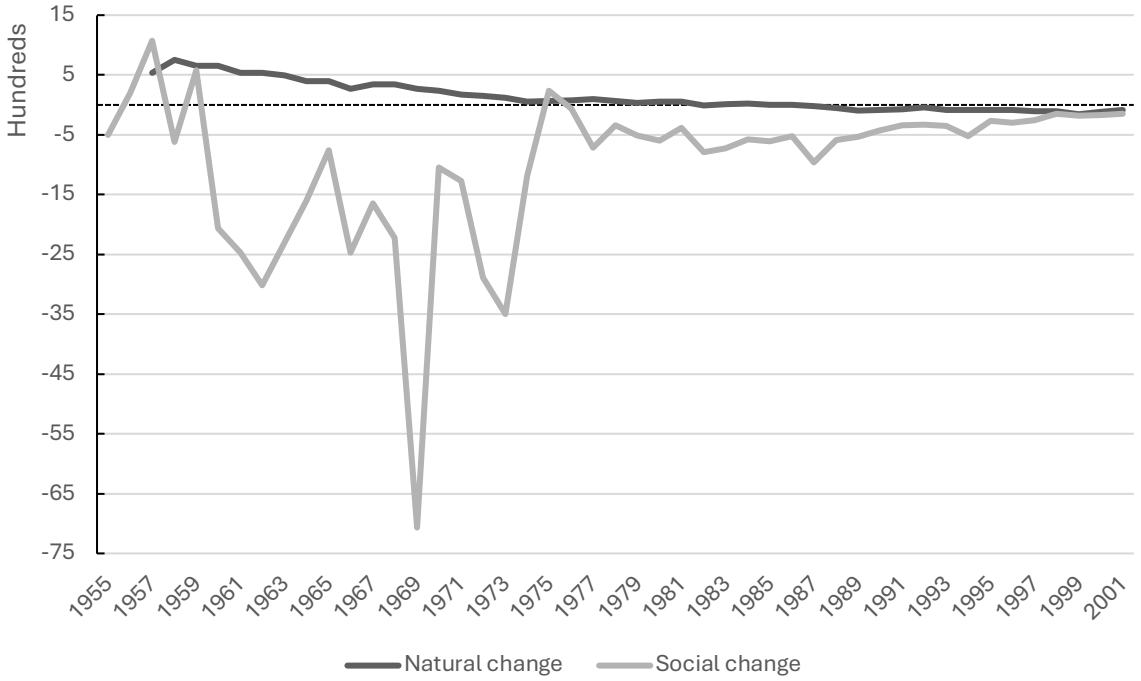


Source: Akabira chōsei yōran Shōwa 27, 29; Akabira shisei yōran 1975, 1979, 1999, 2002.

This process of growth and decline in the first thirty years after the end of the Second World War starkly contrasts with the uninterrupted growth of the Japanese population between 1945 and its 2008 peak.[1] Even after 1975, the demographic evolution of Akabira continues to diverge compared to the national pattern. The effects of the second Japanese baby boom of the mid-seventies, too, appear to be nonexistent in Akabira, which only experiences a slight rebound of the population figure between 1976 and 1980.[2] This five-year respite sees the number of people temporarily surpass that of the 1975 low point. Nonetheless, with the beginning of the new decade the downward trend quickly reemerges, as the population of Akabira starts dropping once again. Albeit with a gentler slope, this subsequent contraction continues without breaks until the end of the century, taking the population figure to just shy of 16,000 people in 2001. In a fifty-five-year span, Akabira thus first saw its inhabitants almost double, increasing its population by approximately 26,000 members. However, this expansion was later completely reversed and surpassed by a movement in the opposite direction, with a loss

[1] YAMASAKI Shirō, *Jinkō genshō to shakai hoshō: koritsu to shukushō wo norikoeru* (Depopulation and Social Security: Overcoming Isolation and Reduction), Tōkyō, Chūō kōron shinsha, 2017, pp. 49-53.
[2] This is consistent with the data relating to natural population change discussed later, which does not display an increase in the net balance between births and deaths during this period of time.

Figure 2: Yearly natural (1957–2001) and social (1955–2001) change in population.



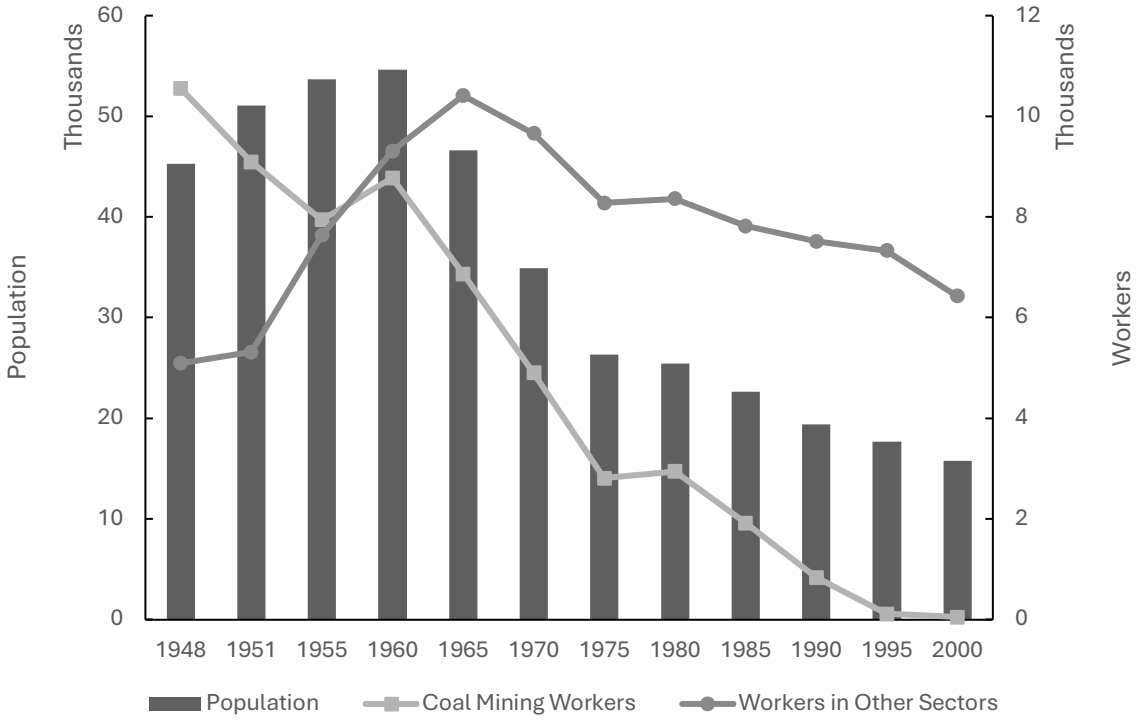
Source: Akabira shisei yōran 1964, 1967, 1971, 1975, 1981, 1992, 1998, 2002. Social change data for both 1955 and 1956 is approximated.

of around 42,000 people. Such fast-paced dynamics immediately suggest the existence of overarching tendencies unrelated to the natural course of demography in the city.

When looking at the yearly change in population numbers, it is immediately clear that the demographic decline of Akabira was overwhelmingly caused by a voluntary outflow of people from the city. The annual adjustments in the number of individuals residing in the community are displayed in Figure 2. Starting in 1960, the number of citizens voluntarily leaving Akabira significantly outweighs the natural change of its population resulting from births and deaths. Between 1960 and 1974, the number of departures moves in the negative thousands, while the positive rate of natural growth is stuck in the hundreds. Despite a cut in the outflow of people starting in 1975, its figure remains significantly greater than the increase brought by new people being born in Akabira. Starting in 1986, this net balance, too, moves in the negatives, further contributing to depopulation.

These tendencies highlight a key feature of the population of Akabira, namely its overwhelming reliance on people voluntarily joining and leaving the community in driving the number of its inhabitants. As the numbers relating to the natural change of the

Figure 3: Change in the number of coal mine workers and workers of other economic sectors against population growth, 1948–2000.



Source: Akabira chōsei yōran Shōwa 23, 27; Akabira shisei yōran 1970, 1976, 1983; Akabira shi tōkeisho Heisei 13. Population data source: see Figure 1.

population appear somewhat small, it can be argued that, without these additional and socially driven swings, the demographic course of the city would have been different. Until at least the late eighties, the adjustment trend in the population figure would likely appear significantly flatter or even trending slightly upwards. This suggests that the community of Akabira was not entirely autonomous in its demographic course. Rather than relying solely on the natural change of its population, the number of its citizens was instead mainly steered by social dynamics quickly pulling people in and pushing them out of its boundaries.[3] This tendency is consistent with the nature of Akabira as a coal-mining city during the years of boom and subsequent crisis of the Japanese coal sector. It can consequently be hypothesized that the massive downturn of the population of Akabira between 1960 and 1975 is to mainly be traced back to the grim changes in the circumstances of the Japanese coal market. More broadly, it can be argued that the national dynamics of coal mining had a most significant impact of the course of Akabira

[3] Unfortunately, no data is available for both natural and social change before the mid-fifties. Based on the population growth of these two decades, it can be argued that these numbers would show a significant increase both in the net balance of births and deaths as well as the number of individuals entering and leaving Akabira.

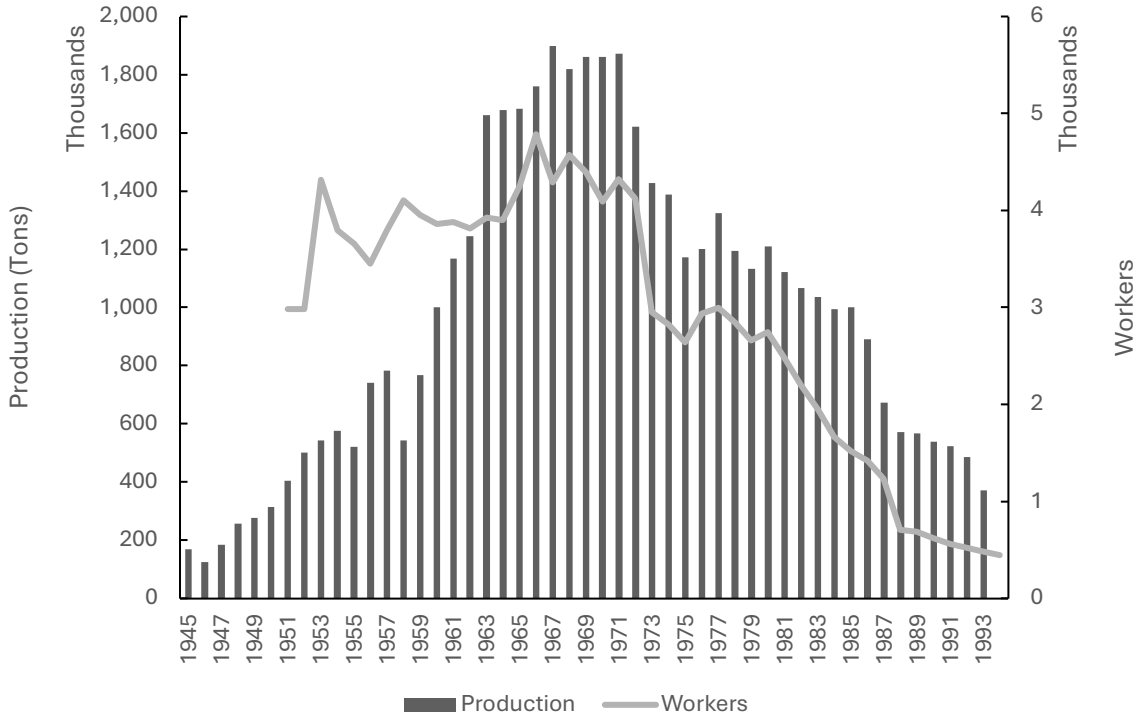
as a whole. Data relating to the work and economic dynamics of the city throughout the decades significantly substantiate this view.

Figure 3 displays the number of workers employed both in coal mining and the remaining sectors every five years. These figures are also presented together with the demographic evolution of Akabira in the same period of time. What is readily apparent is a first, significant increase in the number of people working outside of coal mining during the first fifteen-year population boom period, while miners remain somewhat stable after a first cut. However, even more striking is the subsequent drop in population that accompanies a collapse in the number of coal mine workers between 1960 and 1975. This trend later continues until the end of the century, while the number of employees in the remaining economic sectors follows suit and similarly starts dropping, albeit in a slower way. Looking at the circumstances of four major coal mines of Akabira proves useful in better understanding these trends. The yearly coal production figure of each mine until the termination of their activities, together with the number of their employees, are displayed in Figures 4, 5, 6 and 7.[4]

The biggest mine of Akabira, the massive Sumitomo Akabira coal mine (Figure 4), first sees its production value expand significantly between 1945 and its 1967 peak. Within this time frame, yield increases almost ten times from around 200,000 tons to a staggering figure of close to two million tons. The number of people working at the mine peaks one year earlier at a little less than 5,000 employees. This change comes after the number of workers had remained somewhat stable at around 4,000 people between the end of the fifties and the mid-sixties. However, between the end of the sixties and 1971, production growth stops. During these few years, yield stagnates somewhat close to the peak value, while employees drop slightly. Starting in 1972 and 1973 respectively, both

[4] It is important to note that the number of employees of coal mines displayed in these figures is not completely consistent with those provided elsewhere, such as Figure 3. This is most likely the result of different approaches to counting employed by different sources.

Figure 4: Yearly coal production and workers at the Sumitomo Akabira coal mine, 1945–1994.



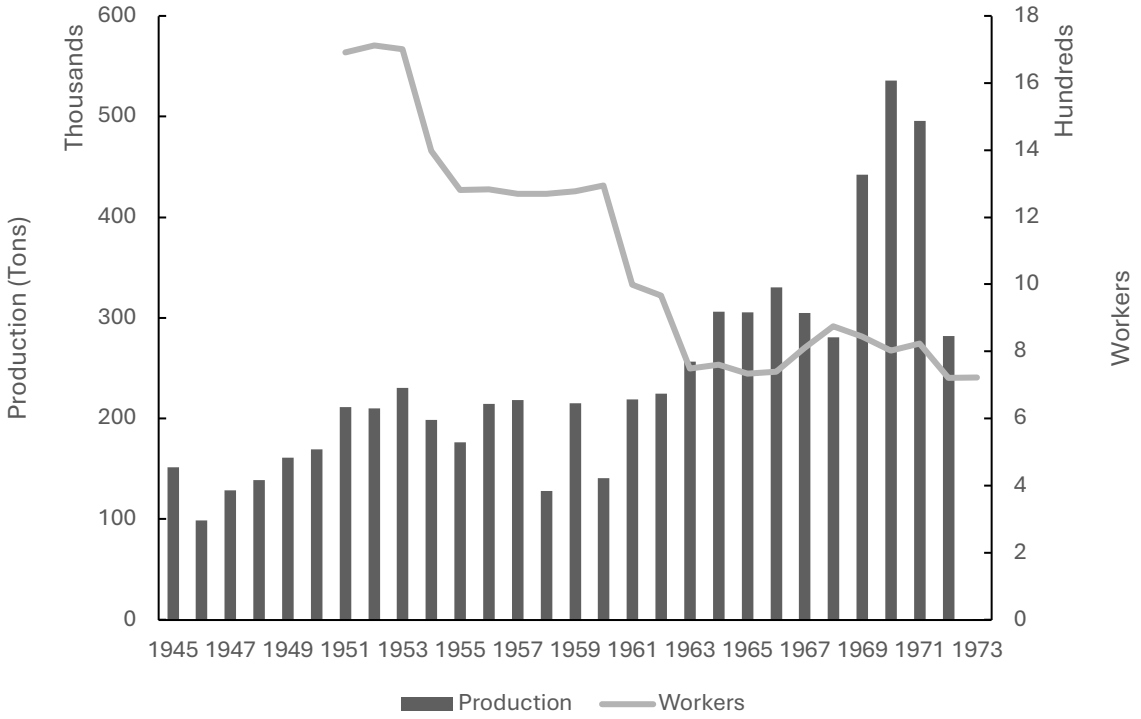
Source: Akabira shi shi.

figures then experience a first, significant reduction. In the subsequent years, production drops uninterruptedly until the closure of the mine in 1994, when its figure of approximately 400,000 tons matches that of the early fifties. The number of workers follows the same path, albeit not before experiencing a minor respite in the mid-seventies. Subsequently, the drop is particularly steep between the late seventies and the late eighties.

The Akama, Moshiri, and Toyosato mines display a similar trajectory, albeit with some notable differences. Approximately between 1945 and 1960, all three mines experience a production growth that is however joined by a much faster cut in the number of employees. Production later peaks during the sixties, before the mines close down in the latter part of the decade or in the first years of the seventies.

The Akama mine (Figure 5) presents the most readily apparent dynamic. While production steadily expands, the number of workers first peaks in 1952, immediately dropping some two years later and remaining stable until the end of the fifties. A subsequent massive drop starting in the following decade slashes the number of employees almost in half, creating a new level of employment that the mine holds on to

Figure 5: Yearly coal production and workers at the Akama (Hokkaidō tankō kisen, then Sorachi tankō) coal mine, 1945–1973.

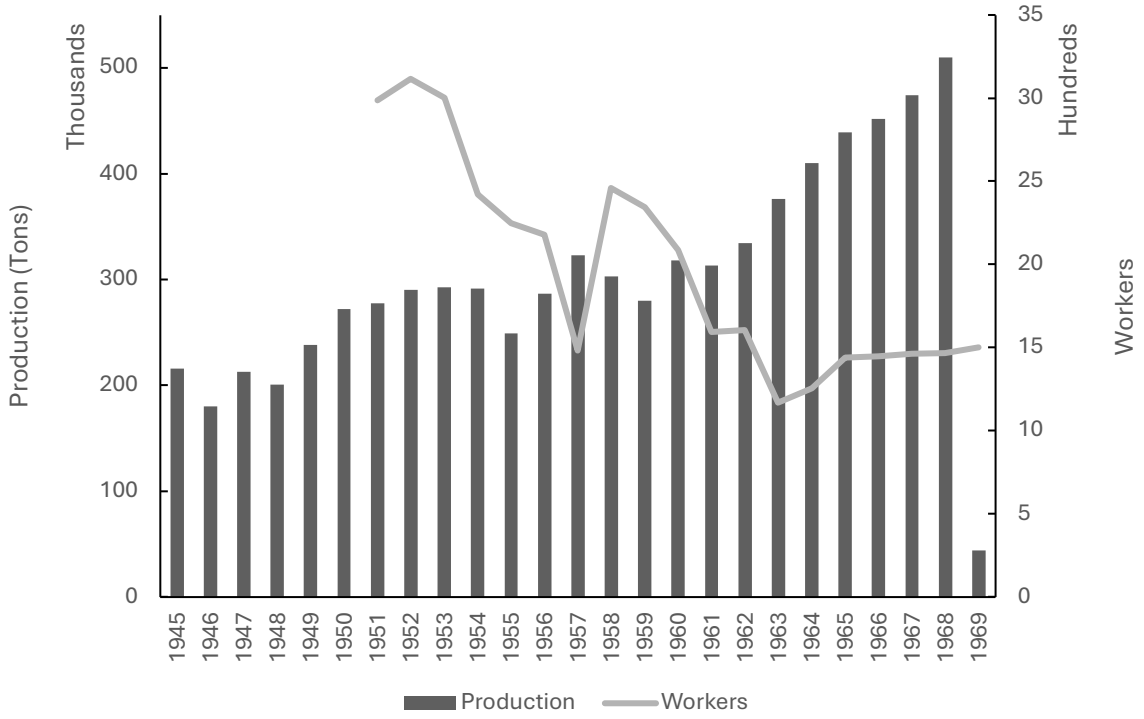


Source: Akabira shi shi.

until its closure in 1973. The Moshiri mine (Figure 6), too, follows a similar path. While production gradually expands, the number of workers is first cut during the fifties, only to later experience a slight recovery at the end of the decade. This level is only temporarily maintained, as the number of employees drops once again until it reaches its 1963 negative peak. The number of workers then remains somewhat stable until the mine closes in 1969. Finally, the Toyosato mine (Figure 7) shows a less striking production growth, which nonetheless reaches its peak during the sixties. The number of employees shows a first drop in the mid-fifties, later recovering slightly in the same decade. However, the last decade of the mine's operations sees the number of employees drop significantly. Notably, this reduction contrasts with the production increase significantly more than at the Akama and Moshiri mines. While this trend slows down starting in 1963, the loss of workers ultimately continues until the end of the activities of the mine in 1967.

These trends make it possible to describe the course of coal mining in Akabira as divided into three phases. The first phase, approximately between 1945 and 1960, displays a production growth that is however accompanied by a first, slower reduction in the number of the employees of the coal mines. The massive Sumitomo Akabira coal

Figure 6: Yearly coal production and workers at the Yūbetsu tankō Moshiri coal mine, 1945–1969.

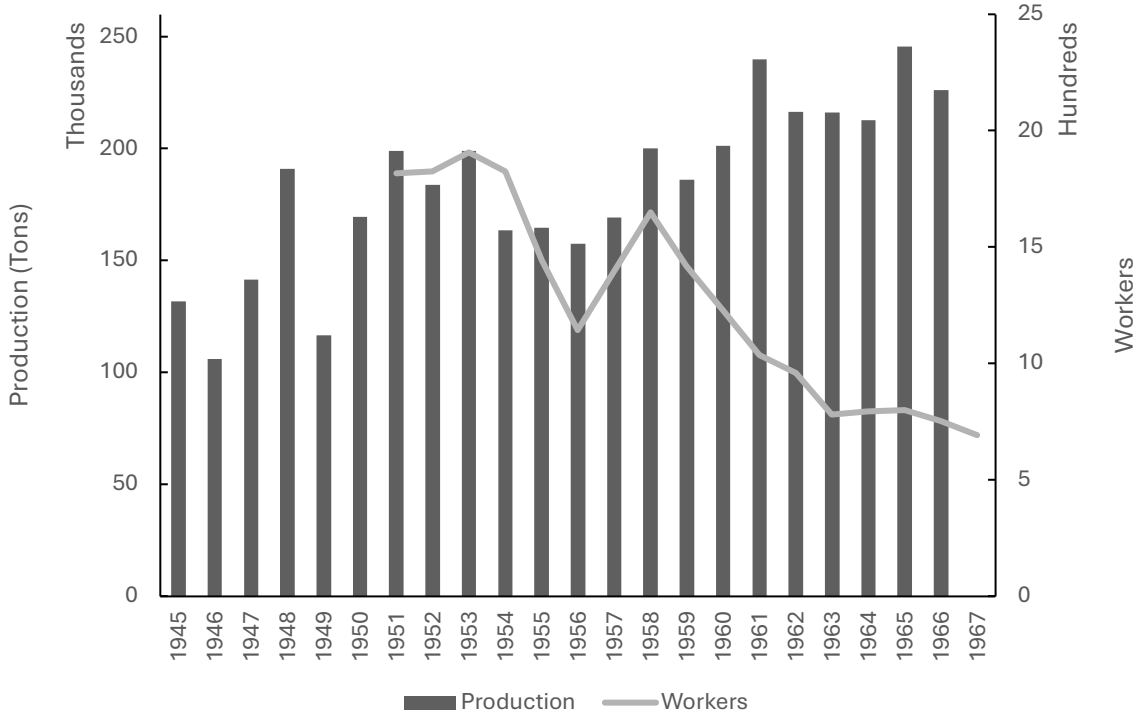


Source: Akabira shi shi.

mine is the sole exception, as the number of employees remains somewhat stable. The second phase, approximately between 1960 and 1970, sees the major mines reach their peak production figure while at the same time massively reducing the number of their workers and ultimately shutting down. Finally, after 1970 the production concentrates at the Sumitomo Akabira mine, where the lingering yield is gradually cut together with the remaining employees until the final closure of 1994.

Overall, this breakdown is consistent with the twists and turns of the coal mining industry at the national level. The expanding production of the first fifteen-year period between 1945 and 1960 is likely a result of the priority position that coal was granted among the different energy sources until the end of the fifties. After the boom resulting from the Priority Production Policy and, later, from the Korean War, the major mines of Akabira appear to also have benefited from the build component of the early Scrap and Build policy. Conversely, the first reduction in the overall number of miners between 1948 and 1951 can likely be attributed to the loss of smaller collieries due to the effects of the Dodge Line. The subsequent, later drop until 1955 can instead be linked to the contraction of the coal market resulting from the first phase of the energy revolution in

Figure 7: Yearly coal production and workers at the Toyosato (Tōkai kōgyō, then Toyosato kōgyō) coal mine, 1945–1967.



Source: Akabira shi shi.

the 1952–to–1954 period. Between 1954 and the early sixties, the Jinmu and Iwato booms later seem to have supported production together with the increasing productivity resulting from rationalization. At the same time, the slight increase in the number of mine workers recorded in the late fifties can reasonably be attributed to a greater concentration of work in the surviving Akabira mines resulting from the worsening national circumstances of coal in the 1957–to–1959 period.

After the Arisawa Report of 1959 and the recognition of the coal crisis, between 1960 and 1970 production could likely reach its peak thanks to the use of technology, while the position of the employees of the coal mines proved increasingly precarious. As the First and Second Coal Policy encouraged scrapping between 1960 and 1967, production further concentrated in the remaining mines, allowing the major Akabira collieries to record their peak production figures. However, the subsequent massive layoffs and the outright closures of the Akama, Moshiri, and Toyosato mines signal the growing industrial retreat of the late sixties. Evidently, this trend had now reached even those companies that had so far managed to survive. Finally, starting in 1970 the remaining Sumitomo Akabira mine was able to continue operating solely thanks to its

Figure 8: Relevance of the Mineral Production Tax in the overall Akabira municipal revenue, 1950–2000.



Source: Akabira chōsei yōran Shōwa 27, 28, 29; Akabira shisei yōran 1958, 1959, 1964, 1967, 1970, 1971, 1972, 1974, 1975, 1976, 1978, 1979, 1980, 1981; Akabira shi tōkeisho Shōwa 58, 62, 63, Heisei 3, 4, 6, 9, 12, 13.

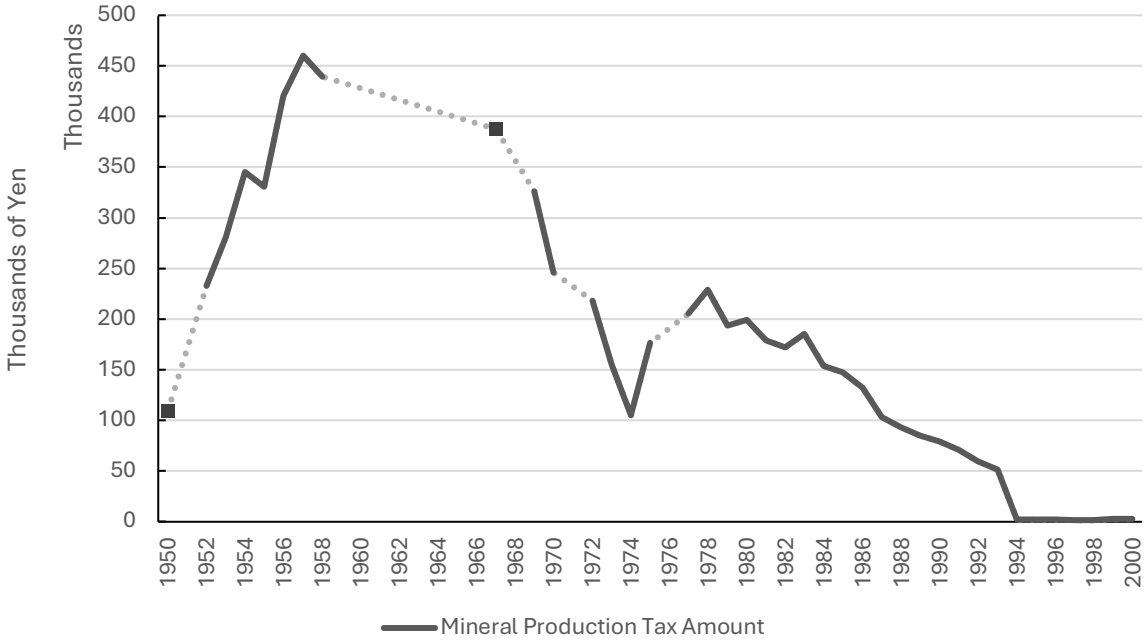
massive size. At the same time, it could not avoid a gradual curtailment of its operations as a result of the shrinking relevance of coal at the national level.

It can be stated with a high degree of certainty that these dynamics had a significant impact on the socio-economic circumstances of Akabira as a whole. This is most apparent when looking at the changing relevance of the *kōsanzei* ("Mineral Production Tax") in the overall revenue of the city, which is displayed in Figure 8.[5] The Mineral Production Tax was introduced in 1950 as a way to channel part of the revenue originating from mining activities operating within a Japanese community to the local administration of the city itself. The tax amount is calculated based on the market value of the mined product—in the case of Akabira, that being coal. The significant size of the major Akabira coal mines naturally suggests a significant impact of the tax collected by means of their activities on the municipal budget.

As the data relating to the finances of Akabira is unfortunately incomplete, with a significant gap between the late fifties and the mid-sixties, it is impossible to reconstruct

[5] This data, along with that of every other finance-related figure in this chapter, mostly references the *kessan* budget values. However, as the available *Akabira shisei yōran* and *Akabira shi tōkeisho* booklets do not always present such numbers, the series were occasionally rebuilt based on the *yosan* values as well.

Figure 9: Mineral Production Tax Revenue in Akabira, 1950–2000.

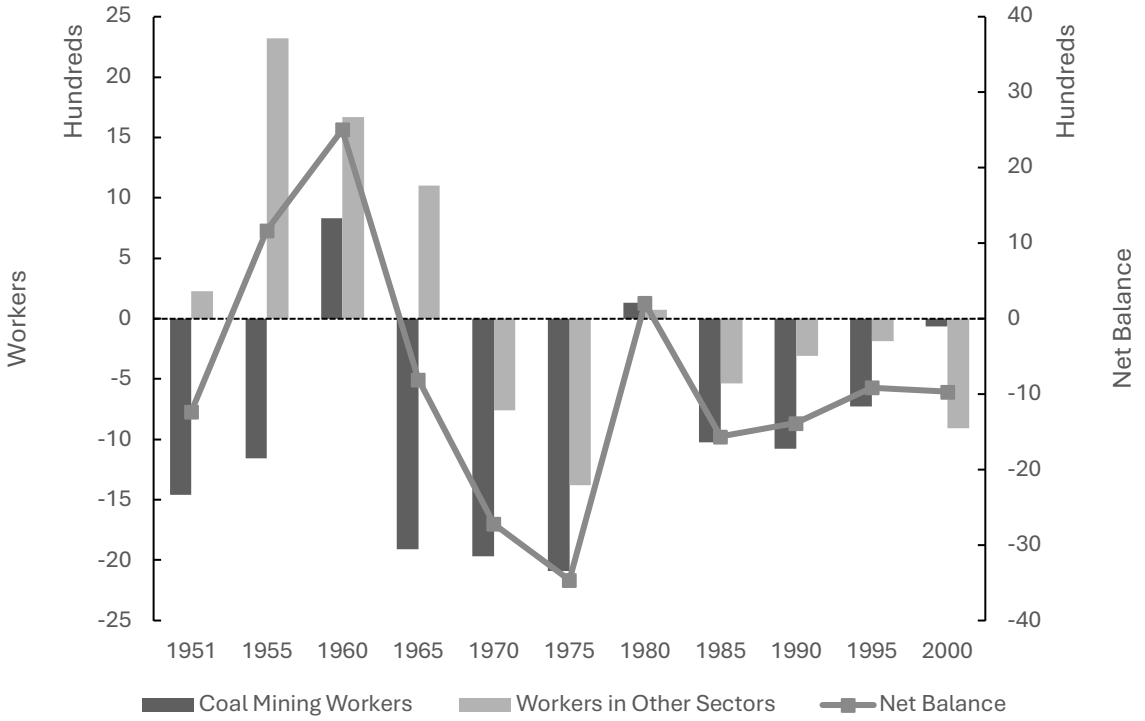


Source: Akabira chōsei yōran Shōwa 27, 28, 29; Akabira shisei yōran 1958, 1959, 1967, 1970, 1971, 1972, 1974, 1975, 1976, 1978, 1979, 1980; Akabira shi tōkeisho Shōwa 58, 62, 63, Heisei 3, 4, 6, 9, 12, 13. Prices: 2020 base.

the yearly change in the relevance of the *kōsanzei* precisely. Nonetheless, the dynamic that appears when estimating the missing data points to follow a linear trend between the existing information still presents an overall clear picture. Between its 1950 introduction and 1967, the ratio of tax income floats above 10% of the overall revenue of the city, with multiple peaks above 15% or even close to 20% in the 1952–to–1958 period. It is only with the late sixties and the beginning of the seventies that the relative size of this revenue stream originating from coal mining shrinks significantly, later amounting to less than 2% starting from the eighties. The actual amount of money collected through the tax is displayed in Figure 9. These numbers show a similar trend, with a peak revenue in the late fifties followed by a significant decline starting in the late sixties. A slight recovery in the collected tax amount in the mid-to-late-seventies can likely be explained with the price of coal increasing as a result of the 1973 and 1979 Oil Shocks. Nonetheless, its figure remains limited compared to the peak revenue of the fifties. Finally, starting in the mid-eighties the money originating from the Mineral Production Tax drops once again and ultimately collapses after the 1994 closure of the Sumitomo Akabira coal mine.

The significant size of the Mineral Production Tax between 1950 and the mid-sixties certainly aided the fiscal wealth and growth of Akabira significantly. A ratio of more

Figure 10: Change in the number of employees for both coal mining and other economic sectors through the decades, 1951–2000 (starting year: 1948).

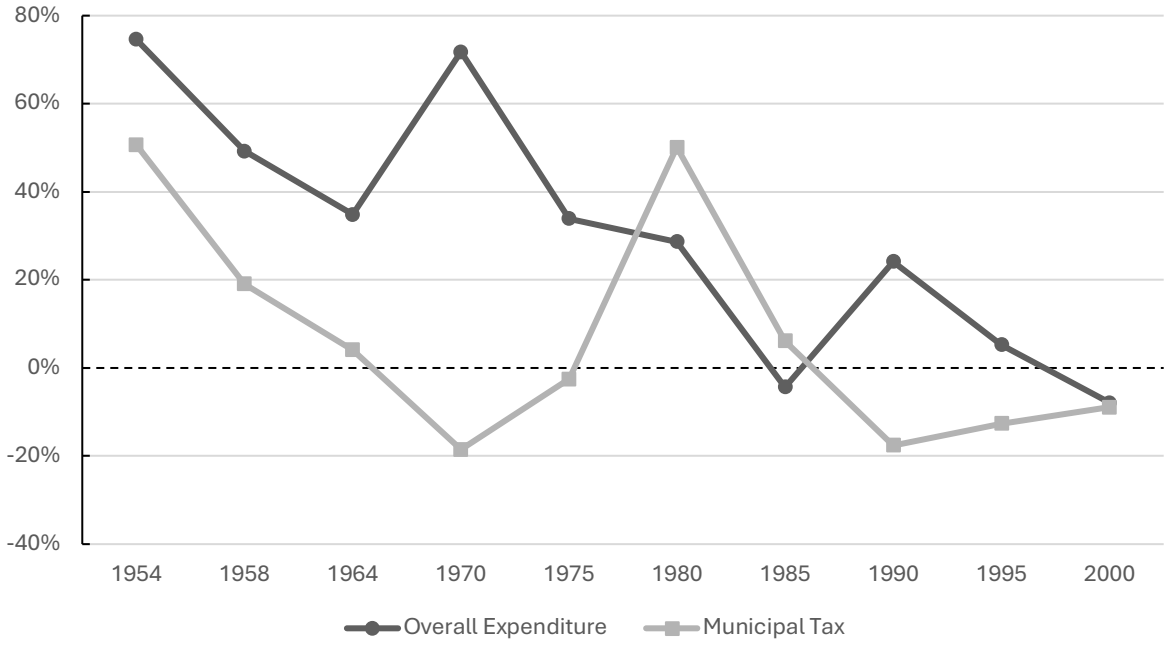


Source: Akabira chōsei yōran Shōwa 23, 27; Akabira shisei yōran 1970, 1976, 1983; Akabira shi tōkeisho Heisei 13.

than 10% of the overall municipal revenue originating from a single supplier represents a most significant source of income. Additionally, the generally high cost of coal at the national level until the promulgation of the 1959 Arisawa Report and the subsequent coal policies most likely meant that the revenue stemming from this tax could maintain an outstanding level. During this first fifteen-year period, the money pouring in from mining activity could thus be spent to further develop Akabira. It is then reasonable to assume that this expanding wealth called for a great influx of people hoping to benefit from this growth. The slight loss of miners between 1948 and 1955 resulting from the Dodge rationalization wave and the 1952–to–1954 period of early energy revolution was thus likely counterbalanced by the increase in the number of people working in other areas of economic life. Overall, coal mining thus appears as a significant driver of the economic tendencies of the city as a whole.

These dynamics effectively explain the demographic changes seen in the first part of Figure 3, as well as the adjustments in the number of employees in the different economic sectors, which are displayed in greater detail in Figure 10. Furthermore, the growth of mining activity certainly called for an expanding number of people operating in

Figure 11: Change in the size of the overall city expenditure and the municipal tax through the decades, 1954–2000 (starting year: 1950).



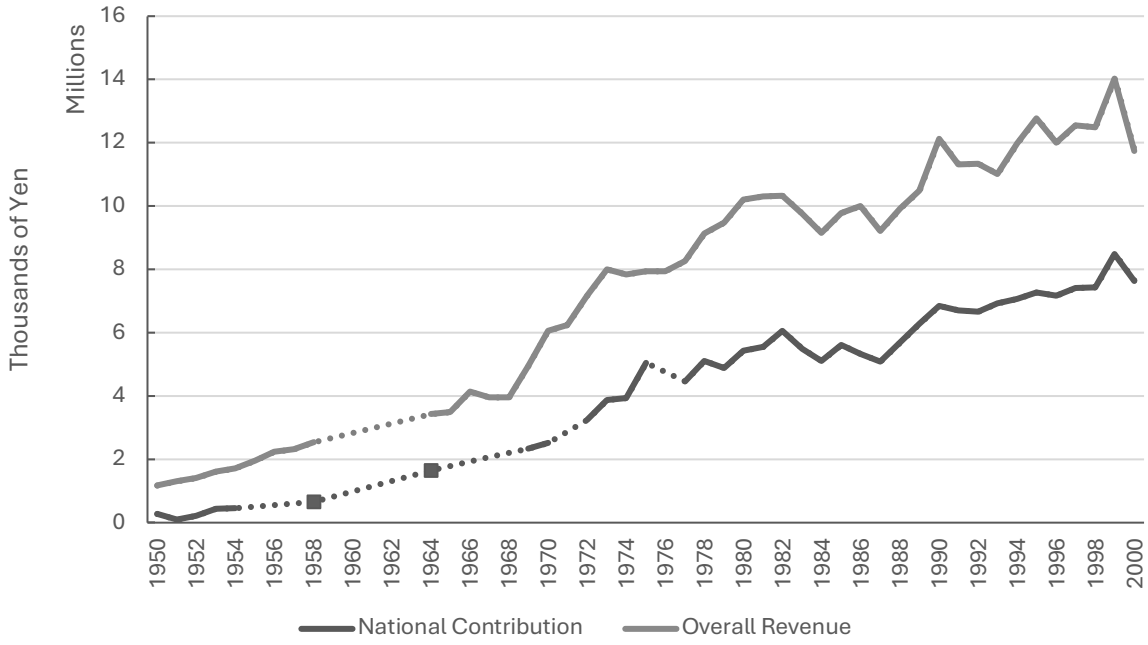
Source: Akabira chōsei yōran Shōwa 27, 28, 29; Akabira shisei yōran 1958, 1959, 1964, 1967, 1970, 1971, 1972, 1974, 1975, 1976, 1979, 1980, 1981; Akabira shi tōkeisho Shōwa 58, 62, 63, Heisei 3, 4, 6, 9, 12, 13.

businesses directly servicing the coal industry. The prosperity of coal mining during the Korean War, Jinmu Boom, and Iwato Boom consequently had a significant impact on the life of Akabira as a whole. Its nature as a mining city is here most apparent.

At the same time, the significant reliance of Akabira on coal mining is also reason for concern. This becomes apparent with the beginning of the sixties. The worsening of the coal crisis at the national level appears to have brought its effect on the city, too. As seen in the latter part of Figure 9, despite mines reaching their peak production figure, the amount of money collected by the municipality thanks to the Mineral Production Tax began to shrink due to the lesser market value of coal. With the Toyosato (1967), Moshiri (1969), and Akama (1973) mines closing, the city then found itself dealing with an additional hole in its budget. Consequently, the positive expectations regarding the increasing wealth of the city that drove people to Akabira in the first fifteen-year period between 1945 and 1960 likely completely reversed during the following decade, encouraging people to leave.

The resulting population loss was joined by an even greater reduction in the number of mine workers, the necessity of which had reached its negative peak thanks to the rationalization and mechanization efforts after the strengthening of the Scrap and

Figure 12: Growth of the overall revenue of Akabira and of its national and prefectural contribution component, 1950–2000.

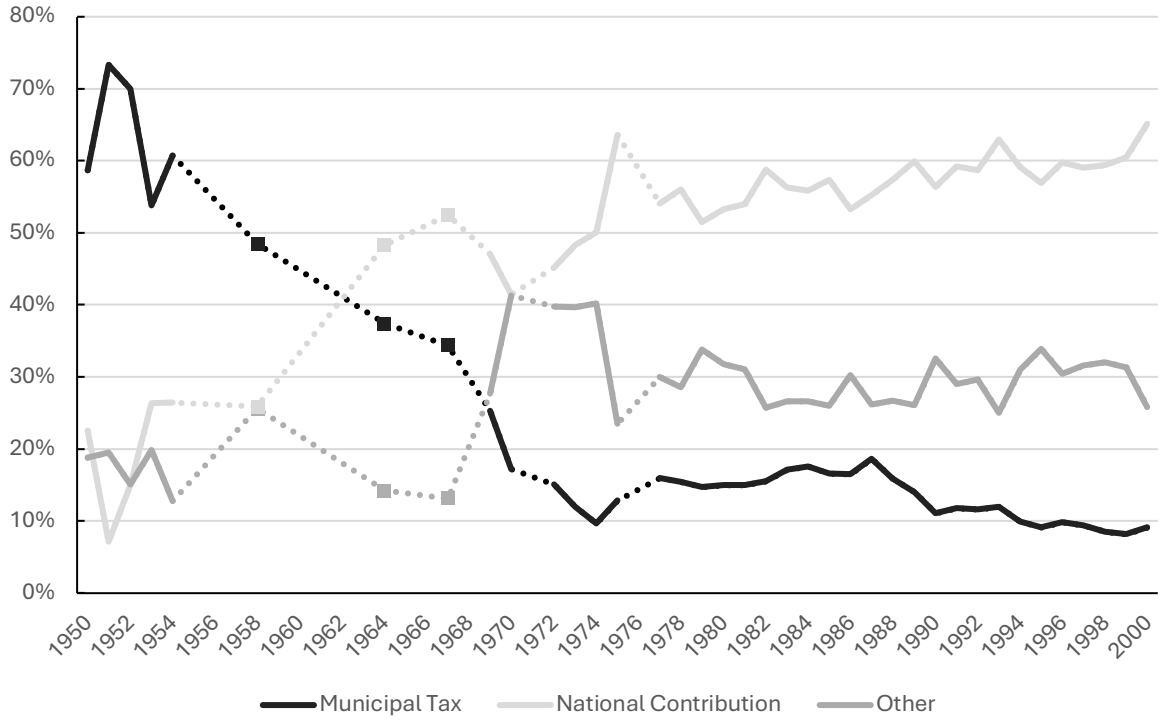


Source: Akabira chōsei yōran Shōwa 27, 28, 29; Akabira shisei yōran 1958, 1959, 1964, 1967, 1970, 1971, 1972, 1975, 1981; Akabira shi tōkeisho Shōwa 58, 62, 63, Heisei 3, 4, 6, 9, 12, 13. Data for 1955, 1956, 1957, 1965 and 1966 is approximated. Prices: 2020 base.

Build policy. As seen in Figure 10, it can be speculated that part of the miners lost in the 1960–to–1965 period moved to the other sectors, which saw an increase in their employees. However, starting with the 1970 change, both areas of work see a significant drop, marking the striking crisis of the city. With the sole exception of the 1975–to–1980 period, which registers almost no change, this negative tendency continues in the following decades, reaching the end of the century. The later years until 2000 are thus characterized by a slow erosion of the Akabira community, which matches the slow downfall of the remaining Sumitomo Akabira mine until its closure in 1994.

As seen in Figure 11, when looking at the percentage change of both the city's overall expenditure and the Municipal Tax (which also includes the Mineral Production Tax), it is readily apparent that the latter significantly lags behind the former. As the expenditure keeps expanding, the Municipal Tax shows lesser growth values and occasionally shrinks to reach negative figures. Even during the 1954–to–1964 period, during which the revenue of the Municipal Tax constantly grew, its expansion did not match that of the overall expenditure of Akabira. It can consequently be stated that the social and economic explosion of the city between 1945 and 1960 brought an increase in

Figure 13: Weight of individual components in the overall Akabira revenue, 1950–2000.



Source: Akabira chōsei yōran Shōwa 27, 28, 29; Akabira shisei yōran 1958, 1959, 1964, 1967, 1970, 1971, 1972, 1974, 1975, 1976, 1978, 1979, 1980, 1981; Akabira shi tōkeisho Shōwa 58, 62, 63, Heisei 3, 4, 6, 9, 12, 13.

the necessary monetary outflow greater than what the community could guarantee through its autonomous tax revenue. While the massive influence of coal mining on the finances of Akabira could originally offset this trend by boosting the income of the Municipal Tax, the subsequent crisis of the coal sector meant that this revenue stream mostly disappeared. In a way, the city had grown to a size bigger than what it could autonomously support. As a result, the only way for Akabira to survive was through an ever-increasing monetary contribution from the Japanese state. This is represented by the *chihō kōfuzei* ("Local Allocation Tax"), the *kokko shishutsukin* ("National Treasury Disbursements"), and the *dō shishutsukin* ("Prefectural Disbursements").

The Local Allocation Tax is effectively a local tax which is however originally collected by the national government. Its overall revenue is then distributed to local administrations as a way to guarantee an equal level of services throughout the country and rectify financial imbalances between different areas. As such, the amount received by each local government varies depending on its needs. Starting in the late sixties, the worsening circumstances of Akabira made this the most significant revenue stream in the overall income of the city. On the other hand, the National Treasury Disbursements

act as subsidies originating directly from the national Japanese revenue. Their goal is to function as an additional income source for local governments meant to aid specific projects. Finally, the Prefectural Disbursements act similarly to the National Treasury Disbursements, while instead originating from the prefectural government.

The massive growth of these combined forms of contribution alongside that of the overall revenue of the city is shown in Figure 12. With the gradual worsening of the circumstances of coal mining in Japan, the size of these forms of aid kept increasing, surpassing the staggering figure of five billion yen in the mid-seventies. Their increasing relevance in keeping Akabira afloat is apparent when looking at the changing weight of the different revenue streams in the overall income of Akabira, which is displayed in Figure 13. While the relevance of the national and prefectural contribution gradually increases throughout the years, the most important autonomous local component, the Municipal Tax, loses relevance over time. Starting in the mid-seventies, the cumulative number of external contributions constantly provides for more than 50% of the overall income of Akabira, indicating a worrying reliance on external funding.

This data paints a picture of Akabira as a city overly reliant on the fate of its coal mining industry. The growth of coal in the first decades after the Second World War appears to have created significant wealth for the community, which resulted in a great influx of people. At this time, the expansion of Akabira could be financed through the increasing revenue of its different coal mines. However, with the worsening of the national circumstances of coal beginning in the sixties, the circumstances of Akabira changed drastically. Lesser wealth originating from the mines meant a declining appeal of the community as a whole, which drove people to start leaving. Together with the outflow of the workers of the coal mines, this brought about a significant process of depopulation. Meanwhile, the expansion that the city had previously experienced called for a growing amount of money which the community could no longer secure on its own. The crisis of the coal sector and the shrinking of its related revenue suddenly meant that the local administration could not guarantee these funds, which resulted in an increasing need for external contribution originating within the Japanese state. The final decades until the turn of the century finally saw these dynamics of decline continue alongside the crisis of the remaining Sumitomo Akabira coal mine. All in all, the fate of Akabira in the

second part of the twentieth century can consequently be described as being strongly tied to the national and local history of coal.

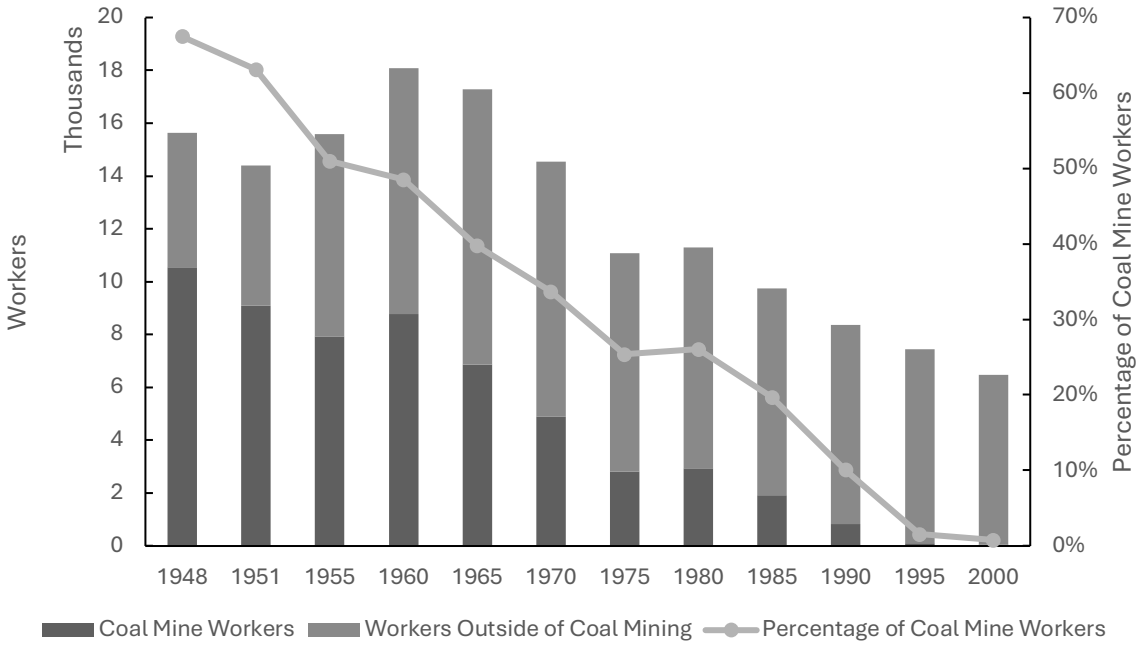
THE EFFECTS OF THE COAL CRISIS ON THE COMMUNITY

CHANGES IN THE LOCAL ECONOMY AND WORK

The effects of the coal crisis on the economic life of Akabira are readily apparent when looking at the overall number of workers operating within the city. The collapse of employment within the coal mines, together with the broader economic crisis resulting from the national retreat from coal, had a significant impact on work in Akabira. After all, as discussed above, the changing appeal of Akabira stemming from the course of the national coal industry resulted in significant changes in the number of people joining and leaving the city. Other than demography, these tendencies thus naturally manifest themselves when looking at the number of both the employees of the coal mines as well as that of those working in other areas of economic life. The composition of the workforce throughout the decades is displayed in Figure 14.

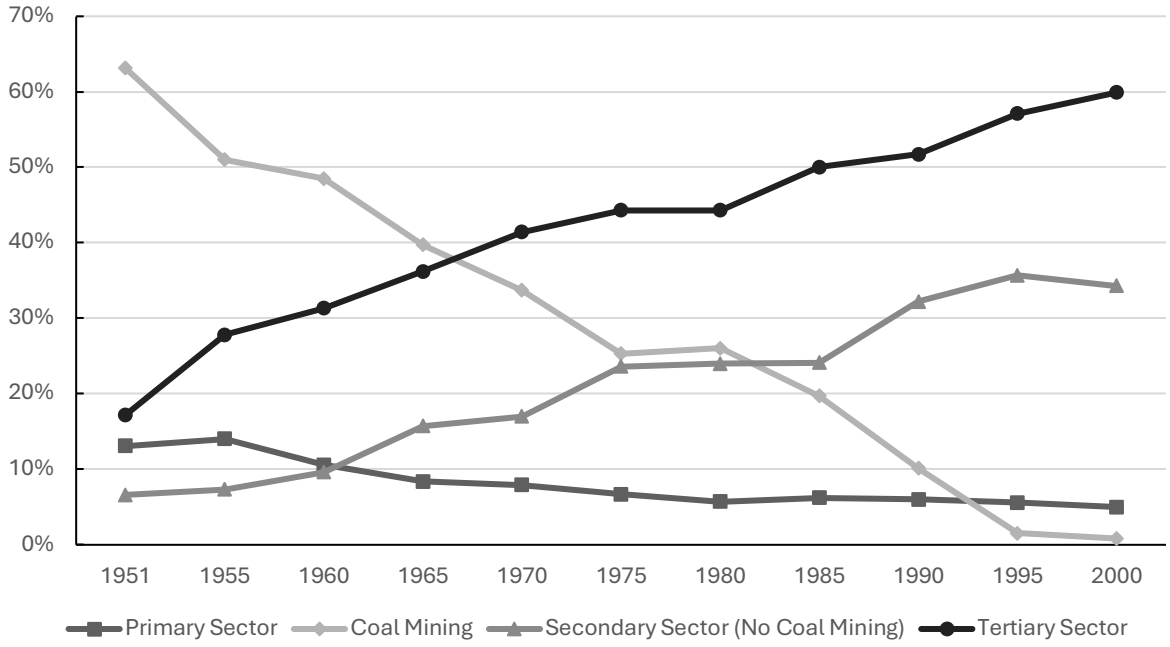
The overall number of workers first expands during the 1945–to–1960-boom period, which nonetheless sees a small cut in the figure of mine workers. Together with the growing local economy, this drop results in the number of employees in industries

Figure 14: Overall workforce composition and percentage of coal mine workers, 1948–2000.



Source: Akabira chōsei yōran shōwa 23, 27; Akabira shisei yōran 1970, 1976, 1983; Akabira shi tōkeisho heisei 13.

Figure 15: Relevance of each economic sector and coal mining in the overall workforce, 1951–2000.

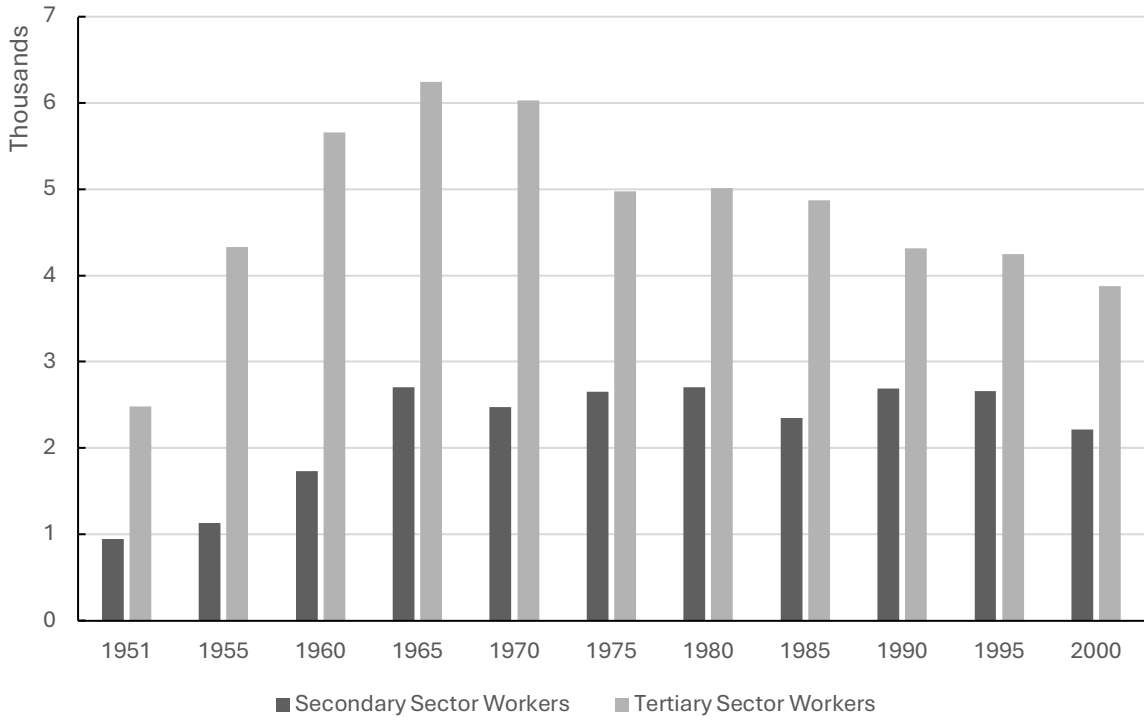


Source: Akabira chōsei yōran Shōwa 27; Akabira shisei yōran 1970, 1976; Akabira shi tōkeisho Shōwa 57, heisei 13.

outside of coal overtaking that of those working in the mines at the end of the fifties. The subsequent deepening of the coal crisis between the sixties and the late seventies, as well as the resulting process of depopulation disrupting Akabira, later see both areas of the local economy rapidly contract. Throughout these years, the number of employees of the coal mines drops much faster than that of people working in activities outside of coal, resulting in an even further concentration of workers in businesses unrelated to coal mining. Finally, the further contraction that follows the brief respite of the late seventies and the early eighties proceeds in a slower manner. The extremely limited number of people working in the coal mines ultimately reaches zero, while the remaining areas of work slowly shrink together with the city itself.

Additional insights can be gathered by looking at the tendencies displayed by the specific industries employing workers outside of coal mining. As seen in Figure 15, the collapse of the coal industry in Akabira naturally resulted in the other economic sectors slowly seizing a greater part of the workforce. Throughout the decades, a growing share of economic life thus appears as being taken up by the tertiary sector, encompassing wholesale, retail, and a multitude of different service industries. On the other hand, while the primary sector steadily holds on to a very limited position, the activities of the

Figure 16: Number of workers in the secondary (excluding coal mining) and tertiary sectors, 1951–2000.



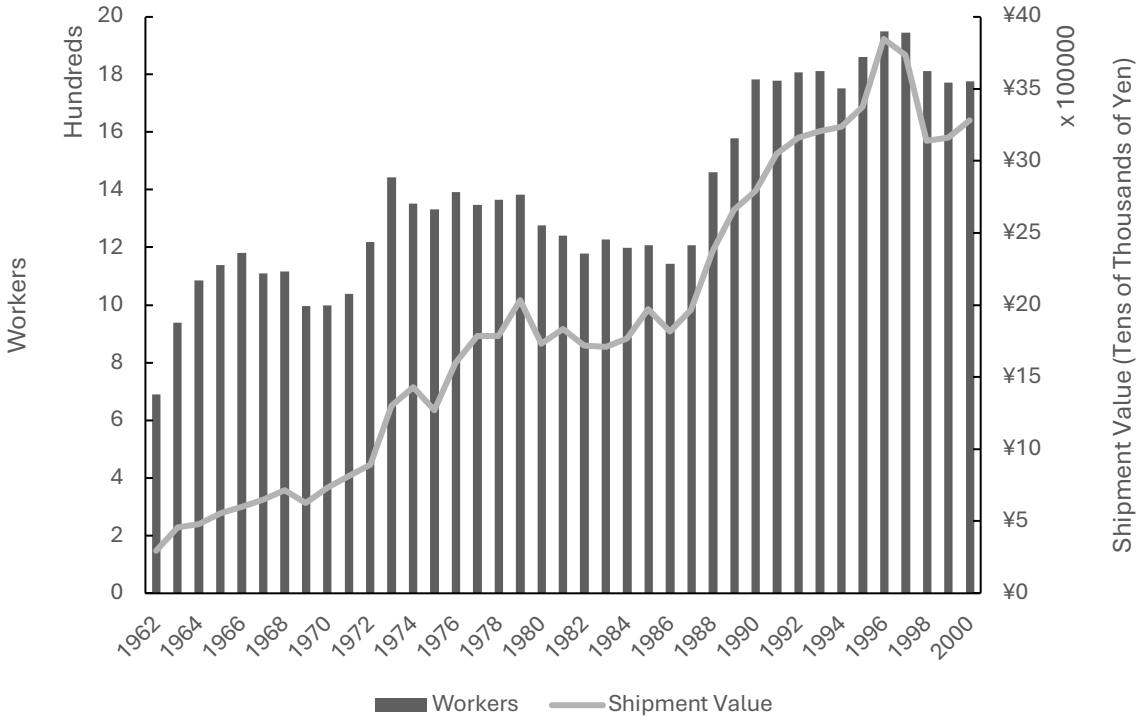
Source: Akabira chōsei yōran Shōwa 27; Akabira shisei yōran 1970, 1976; Akabira shi tōkeisho Shōwa 57, Heisei 13.

secondary sector outside of coal mining, such as construction and manufacture, similarly experience a steady growth.[6]

There are however some significant differences in the tendencies displayed by the secondary and the tertiary sector. The change in the number of employees of these two sectors is displayed in Figure 16. Despite both areas experiencing a workforce growth during the 1945–to–1960 period, starting in 1965 their paths significantly diverge. On the one hand, the number of workers employed by the secondary sector remains somewhat stable and only presents some minor contractions towards the end of the century. On the other hand, while the number of people employed by the tertiary sector remains significantly greater, over time this figure appears to shrink significantly. Additionally, limited data relating to the number of workplaces further confirms these tendencies. Starting in 1969, the secondary sector appears as having maintained a number of businesses that floats around the figure of one hundred and fifty workplaces. Conversely, the tertiary sector begins the seventies with more than one thousand and two hundred

[6] Both the *Akabira shisei yōran* and the *Akabira shi tōkeisho* booklets treat coal mining as an industry belonging to the secondary sector.

Figure 17: Yearly shipment value and workforce of the manufacturing sector, 1962–2000.



Source: Akabira shisei yōran 1967, 1970, 1975, 1978, 1984, 1993, 2002.Prices: 2020 base.

companies but later contracts to amount to only a little over five hundred businesses in 2001.

Based on these observations, it is possible to argue that companies in the secondary sector of the local economy of Akabira managed to build and safeguard a form of independence from the dynamics of coal mining. While their workforce never grew to the size of the tertiary sector, these activities appear to have been able to maintain their size and number despite the national and local crisis of coal. Conversely, the tertiary sector appears to be significantly more responsive to the dynamics of change that transformed Akabira throughout the decades. From a steady growth during the early years of economic development, shops and business in other areas of service later appear to be damaged significantly by the coal crisis and the resulting depopulation. Their meteoric rise and subsequent collapse contrast strongly with the stability of the secondary sector, suggesting the existence of a stronger bond between the tertiary sector and coal mining. The rationale behind this tendency is most obvious and is to be found in the broader market dynamics that likely developed in Akabira. As depopulation advanced starting in the sixties, it is only natural to assume that businesses aimed at the people

Figure 18: Yearly value of goods sold and workforce of commercial businesses, 1960–2000.



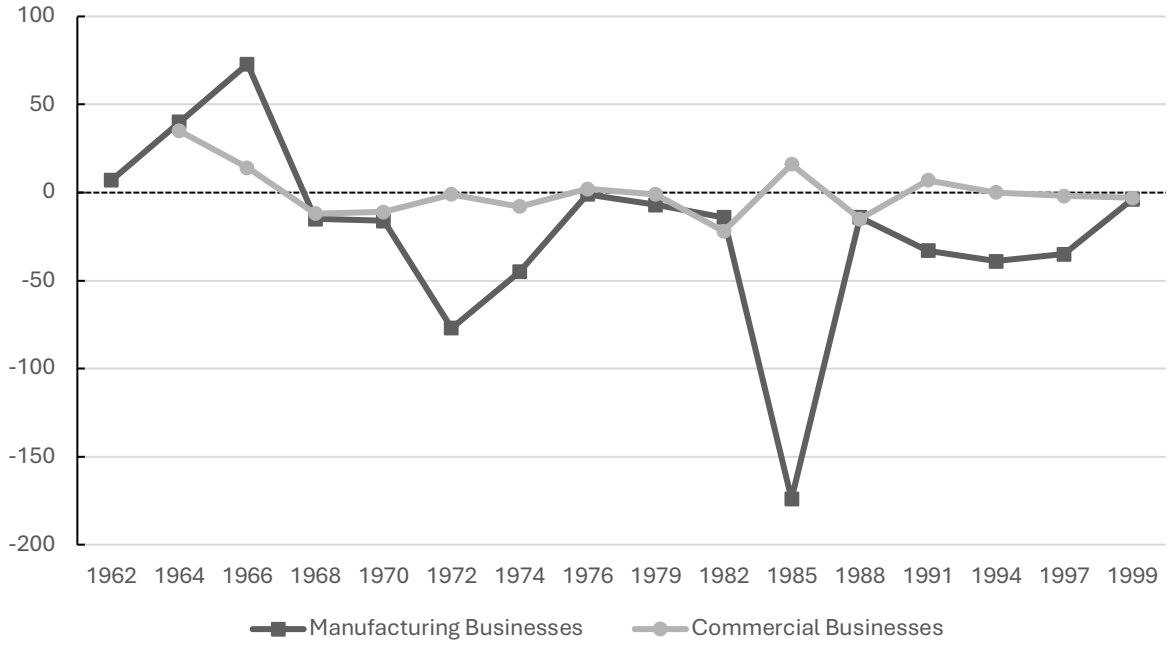
Source: Akabira shisei yōran 1970, 1972, 1984, 1999, 2002. Prices: 2020 base.

living in the city could only struggle in seeing the number of their customers starting to shrink.

These tendencies are confirmed when looking at the yearly values of shipments and workforce of the manufacturing industry, which are displayed in Figure 17. Similarly, the cumulative value of the goods sold by commercial businesses and the number of their workers over time are displayed in Figure 18.[7] Finally, the periodic change in the number of workplaces in both industries is displayed in Figure 19. Between 1962 and 2000, the manufacturing sector displays an overall growth in the number of its employees, which nonetheless shows some occasional lesser shifts. The number of workers first grows until the end of the sixties to later experience a cut in the early seventies. After another period of growth with the beginning of the new decade, the workforce slowly

[7] It is not entirely clear what the *Akabira shisei yōran* booklets refer to when talking about both *kōgyō* and *shōgyō*. Notably, the numbers referring to both these categories differ from those belonging to the secondary and tertiary sector presented in the *Akabira shi tōkeisho* booklets. However, there are similarities between the numbers presented in *Akabira shisei yōran* and those of *Akabira shi tōkeisho* when the former are understood as referring respectively to the manufacturing industry and the wholesale and retail businesses (excluding restaurants) in the latter. Based on this, I have decided to treat both the *kōgyō* and *shōgyō* categories presented in *Akabira shisei yōran* as pointing to these specific subsets of economic activities.

Figure 19: Change in the number of workplaces in the commercial and manufacturing sectors, 1962–1999 (starting year: 1960).

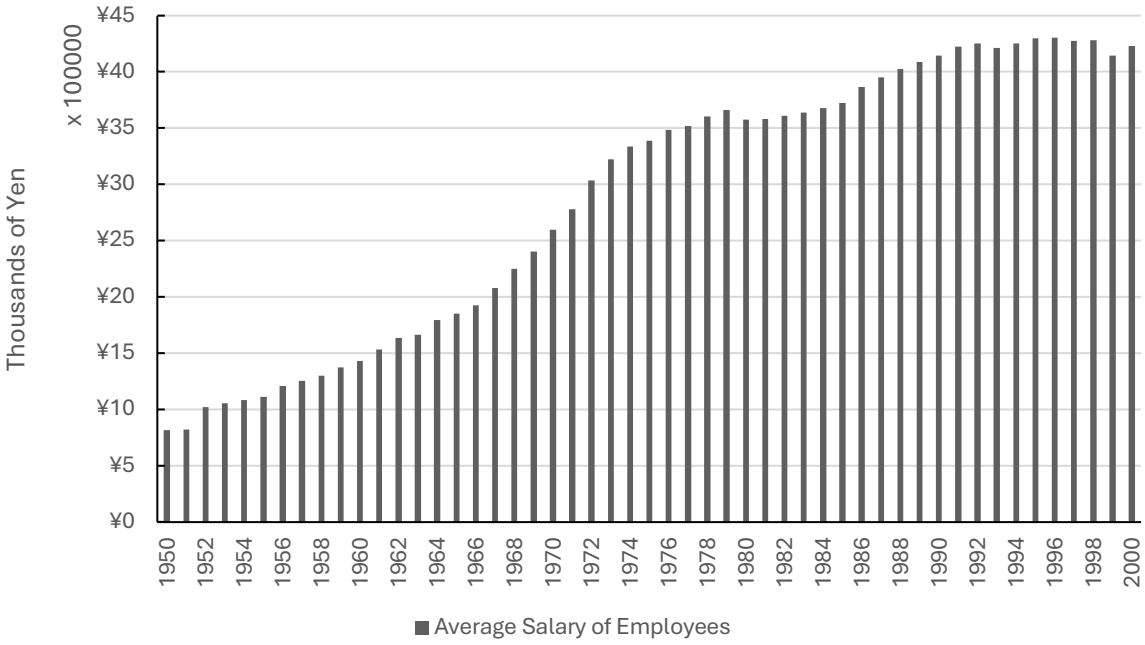


Source: Akabira shisei yōran 1967, 1970, 1972, 1975, 1978, 1984, 1993, 1999, 2002.

shrinks until the late eighties, when it once again starts climbing significantly. During the same time frame, the production value of the manufacturing industry grows constantly, only experiencing some very limited contractions. Together with the number of workers, yield then appears to boom significantly starting in the late eighties. A slightly more significant reduction in both figures only appears at the end of the century, albeit while already showing signs of future recovery. Throughout the entire period, the number of businesses only changes slightly, often dropping and later recovering in the span of a few years.

The significant growth in the production size of the manufacturing sector once again confirms its remarkable independence from the fate of coal mining and the broader demographic tendencies of Akabira. Conversely, the cumulative value of the goods sold by commercial businesses between the sixties and the end of the century shows greater stability. While experiencing changes in the range of a few billions of yen, wholesale and retail activity in Akabira does not display the same unrelenting growth seen in the manufacturing sector. The reason behind the striking balance that this economic sector was able to achieve amidst the worsening depopulation of Akabira is thus likely to be found elsewhere.

Figure 20: Nationwide growth of the average salary of employees of private companies, 1950–2000.

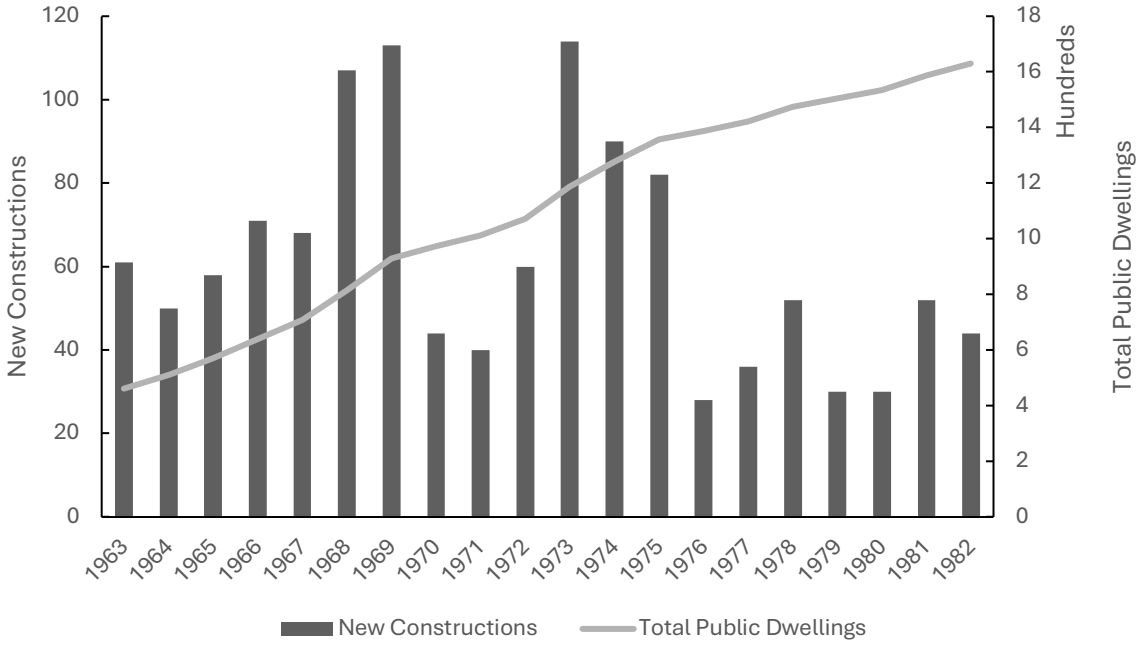


Source: National Tax Agency, Survey of Salaries in the Private Sector. Prices: 2020 base.

It is reasonable to assume that the loss of customers that shops had to endure was at least partially offset by an increase in consumption by the remaining citizens. This would have been made possible by the significant growth that Japanese salaries of employees in the private sector experienced during the multiple years of the national economic miracle, seen in Figure 20. Consequently, while depopulation pushed revenue down by cutting the customer base, an increase in the business volume by the remaining citizens managed to somewhat bring sales back up. At the same time, the shrinking activity of commercial businesses is readily apparent when looking at the number of their workers, which drops continuously after 1966. The periodic change in the number of businesses similarly shows figures much greater than what is displayed by the manufacturing sector. Finally, it is unsurprising that the value of goods sold shows a significant collapse in the years following the closure of the Sumitomo Akabira coal mine. The resulting loss of workers and wealth likely generated a spending hole that the rest of the city could not compensate. To make matters worse, this also coincided with a time where the growth of Japanese salaries had already slowed down significantly.

While data on inexpensive public housing in Akabira is fragmented, the limited resources still offer the chance to see the effects of the coal crisis on another area of community life.[8] The overall trends which can be observed point towards a significant impact of the worsening conditions of Akabira in driving the number of cheap dwellings required by the community. As seen in Figure 21, in the 1963–to–1982 period the number of houses built and offered by the local administration almost quadruples. Available homes move from a starting figure of a little over four hundred and fifty dwellings to just over one thousand and six hundred houses. While the yearly growth is somewhat stable, some significant peaks in new constructions in the late sixties and early seventies are immediately apparent. As this time frame coincides with the Toyosato (1967), Moshiri (1969), and Akama (1973) mines going out of business, it is possible to hypothesize a link between

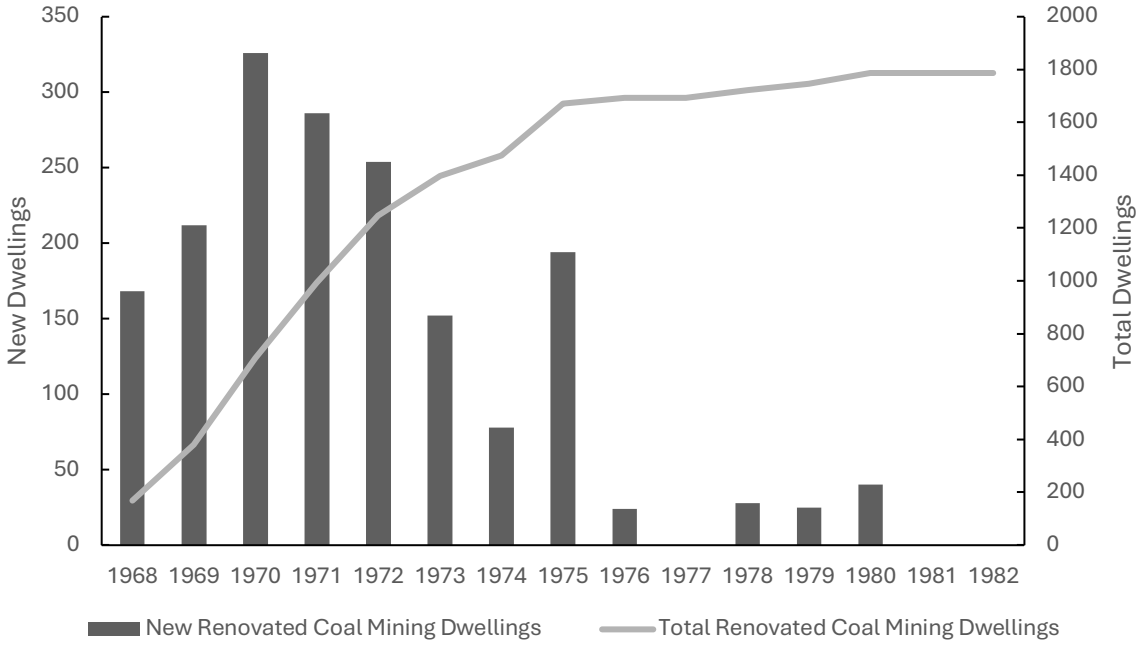
Figure 21: Number of public dwellings constructed yearly and overall number of public homes (excluding renovated dwellings), 1963–1982.



Source: Akabira shisei yōran 1967, 1970, 1983.

[8] It must be noted that the available data relating to public housing in the last three decades of the century is particularly fragmented. Additionally, multiple changes in the categorization criteria of municipal dwellings in the official documents make it particularly hard to accurately follow the change in the number of inexpensive houses over time. While showing similarities, the housing data offered by the *Akabira shisei yōran* booklets also occasionally differs from that of the *Akabira shi tōkeisho* series. As the former provides more granular information, I have decided to use these figures when talking about public housing in Akabira.

Figure 22: Number of renovated coal-mining dwellings acquired yearly and overall number of renovated coal-mining dwellings, 1968–1982.

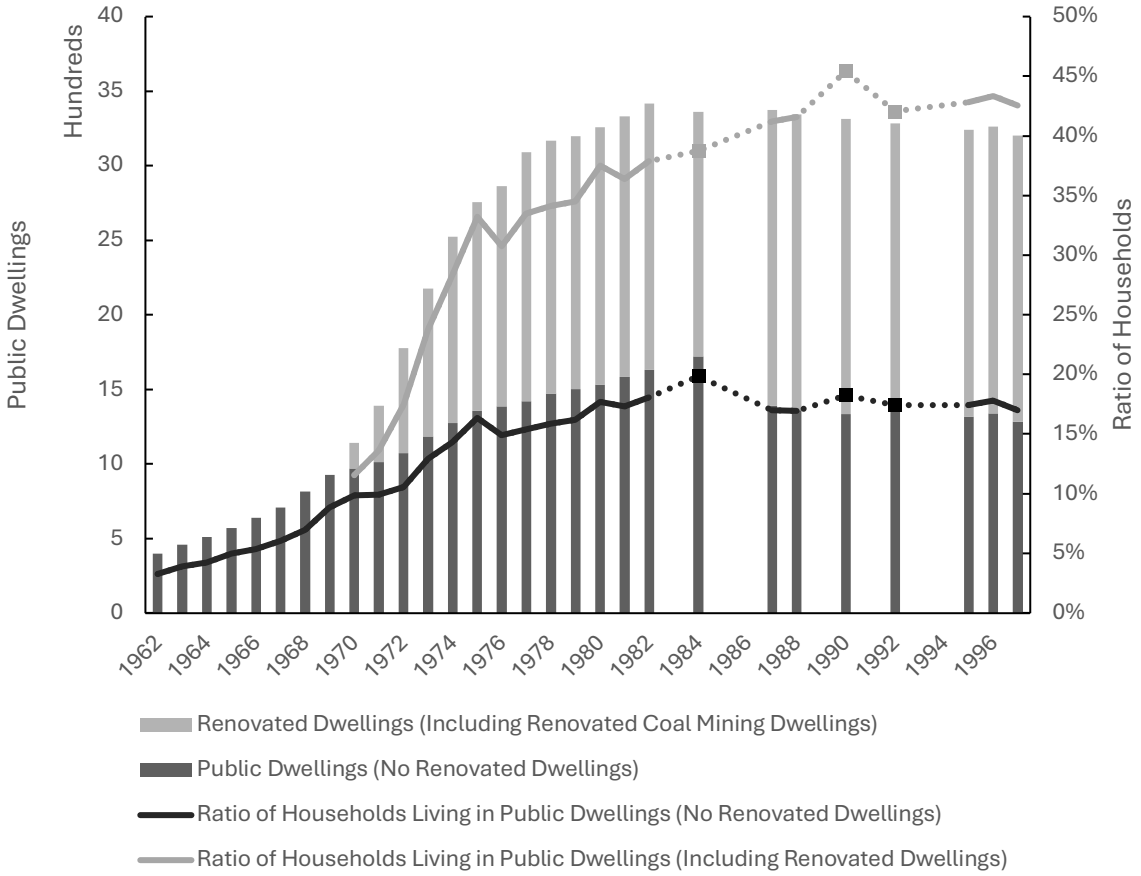


Source: Akabira shisei yōran 1967, 1970, 1983.

the worsening circumstances of the employees of the coal mines and an increasing need for inexpensive housing. It is thus likely that displaced workers whose salary significantly contracted or disappeared as a result of the coal crisis could no longer afford to pay for private residences. Consequently, the local administration saw fit to intervene by expanding the availability of cheap homes to avoid a further outflow of the population.

The size of the local administration's intervention in the housing market is even more striking when considering the figure relating to *kairyō jūtaku* ("renovated dwellings"), which were introduced in 1960 through the Residential Area Improvement Act. The *Akabira shisei yōran* booklets offer data concerning these renovated houses starting from the late sixties, referring specifically to *tankō kairyō jūtaku* ("renovated coal-mining dwellings"). With the enforcement of the new law, these dwellings, which were formerly aimed at the employees of the coal mines, moved to municipal management and received significant renovations. Beginning in 1968, the yearly figure of these modernized houses reaches a few hundreds, with the most significant number of acquisitions appearing in the early seventies. Once again, this lines them up with the closure of the major mines. While their number later grows slowly starting from the late seventies, their cumulative figure reaches over 1,700 houses in 1978 and later expands steadily to

Figure 23: Total number of public dwellings (including renovated dwellings) and ratio of households living in public dwellings, 1962–1996.

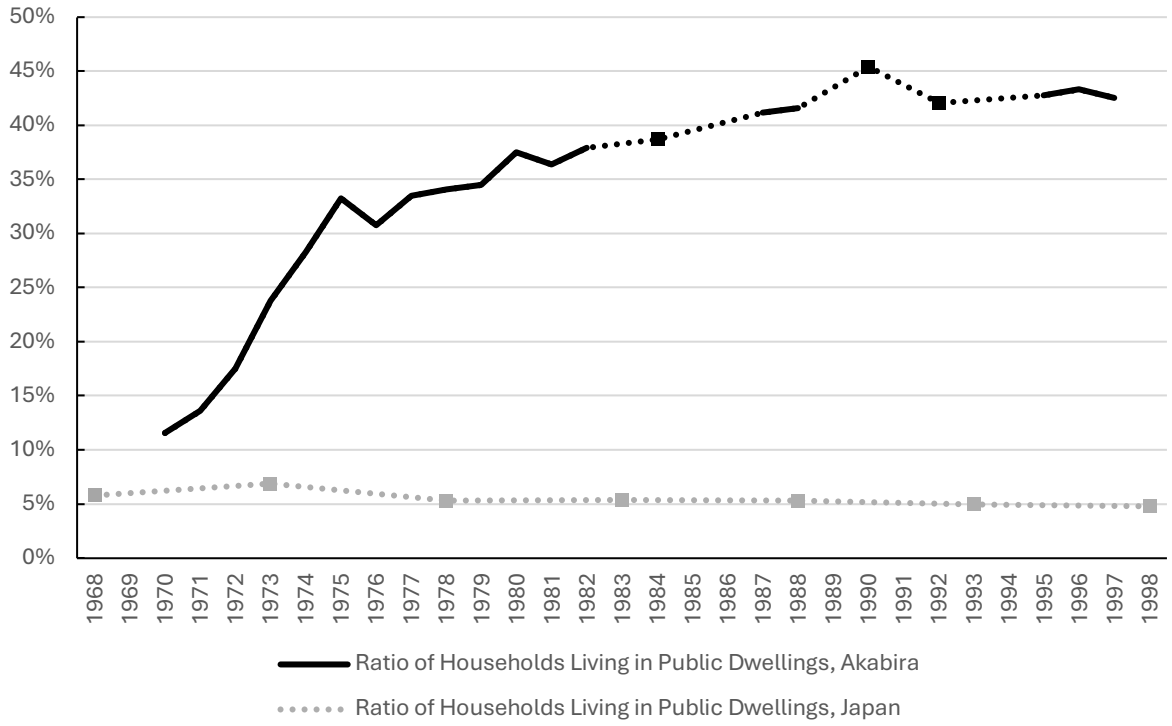


Source: Akabira shisei yōran 1967, 1970, 1983, 1984, 1987, 1990, 1992, 1994, 1995, 1996, 1998. Households data source: see Figure 1.

amount to close to 2,000 dwellings at the end of the century. These trends are displayed in Figure 22.

The combined figure of public houses and *tankō kairyō jūtaku* portrays the population of Akabira as being significantly reliant on public and inexpensive housing. As the number of municipal dwellings grows over time during the years of the coal crisis, the existence of a strong link between the two dynamics can be hypothesized. As seen in Figure 23, some additional information can be gathered when looking at the changing ratio of households residing in public housing. It is immediately apparent that the developing of the coal crisis and the subsequent expansion of the municipal offer of inexpensive dwellings saw a gradual increase in the number of families renting these homes. The ratio of households living in public dwellings when excluding both standard *kairyō jūtaku* and *tankō kairyō jūtaku* sees a steady increase starting in the early sixties, which only stabilizes and subsequently drops slightly in the late eighties. The 1984 peak

Figure 24: Ratio of households living in public dwellings in Akabira and in Japan, 1968–1998.



Akabira data source: Akabira shisei yōran 1970, 1983, 1984, 1987, 1990, 1992, 1994, 1995, 1996, 1998. Akabira households data source: refer to Figure 1. Japan national data source: Ministry of Internal Affairs and Communications, 2023 Housing and Land Survey. It is unclear whether national data includes renovated dwellings.

displays a staggering ratio of almost 20% of the city's households living in public homes. Furthermore, their overall relevance grows significantly when also considering renovated dwellings. Their impact starting in the seventies is most significant and sees the total ratio of households residing in inexpensive homes reach an extraordinary 45% in 1990.[9] As seen in Figure 24, this ratio massively overpowers the national average, which floats around 5% of the total number of Japanese households.

It must be noted that these impressive numbers are certainly impacted by the significant portion of citizens leaving Akabira over time, thus boosting the net relevance of inexpensive housing. Nonetheless, its figure still climbs fast enough to suggest an autonomous dynamic of expansion in the need for cheap dwellings. Had the number of citizens leaving the city dropped alongside that of those residing in public housing, the resulting ratio would most likely have remained somewhat steady. Instead, what these

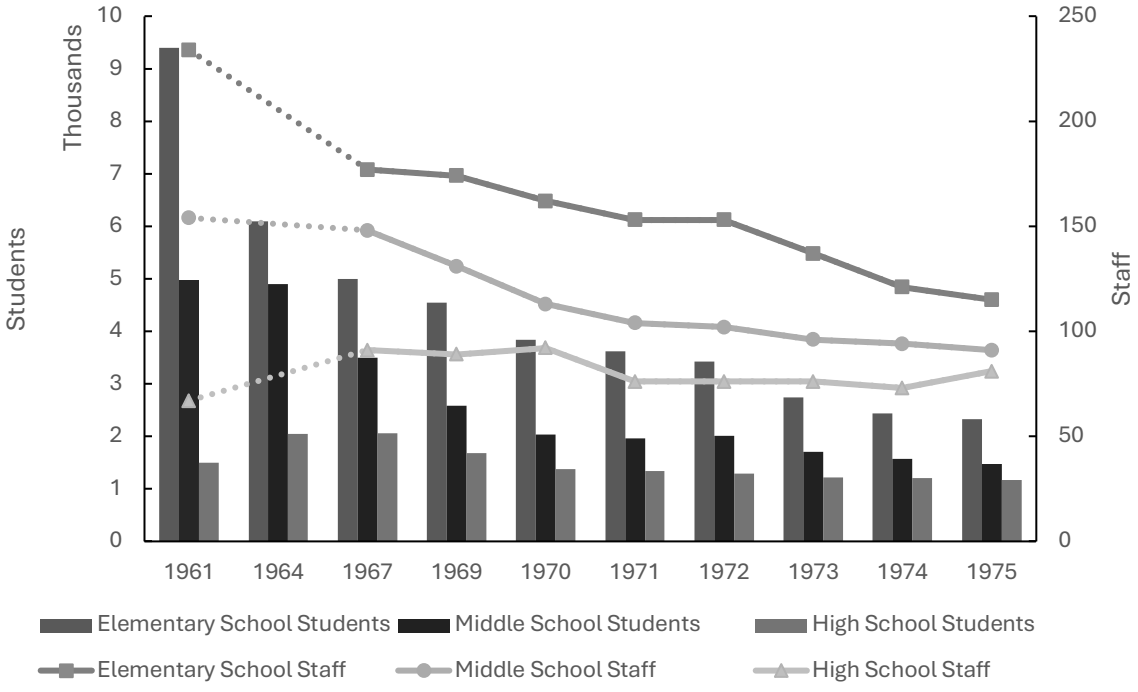
[9] The *Akabira shisei yōran* booklets do not directly report on the ratio of households living in public housing. While the *Akabira shi tōkeisho* series does, its figures only refer to the latter part of the century and are thus limited. Consequently, the ratios displayed in Figure 23 are obtained by simply dividing the number of households with the number of public dwellings available each year. Therefore, it must be noted that this hypothesizes that all the available public homes were fully rented out to families at all times.

numbers suggest is a combined effect of the shrinking population and an expanding pool of households in need of support to secure housing. This consequently brought about an explosion in the relevance of public housing at a time when the population of Akabira was nonetheless dropping.

A DECLINE IN SCHOOLING AND CULTURE

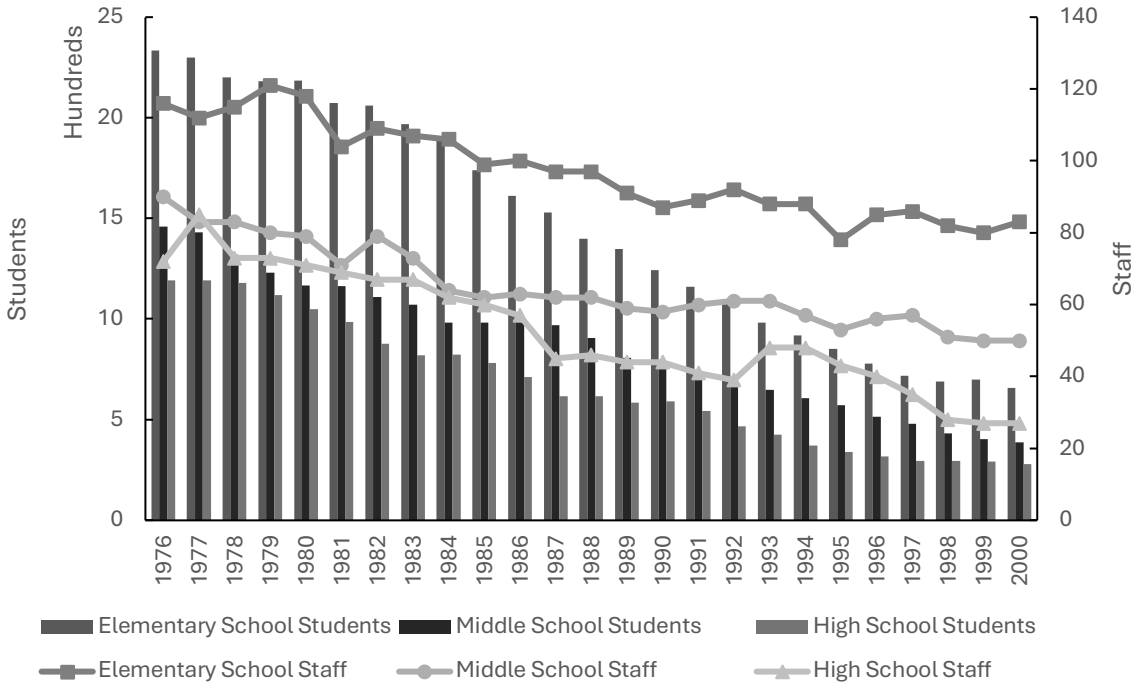
The effects of the coal crisis and the resulting depopulation of Akabira are visible in the internal dynamics of its education institutions as well. While data relating to schooling in the years before 1960 is sparse, the available information nonetheless allows for the observation of changes in education patterns in greater detail starting from the sixties. This makes it possible to evaluate the impact of the crisis of the coal industry on this area of community life as well. Overall, the last four decades of the century see a significant reduction both in the number of students and teachers at every level of schooling. Their trends are displayed in Figure 25 and Figure 26. Elementary school students appear as

Figure 25: Change in the number of students and staff at every level of schooling, 1961–1975.



Source: Akabira shisei yōran 1964, 1967, 1974, 1977.

Figure 26: Change in the number of students and staff at every level of schooling, 1976–2000.

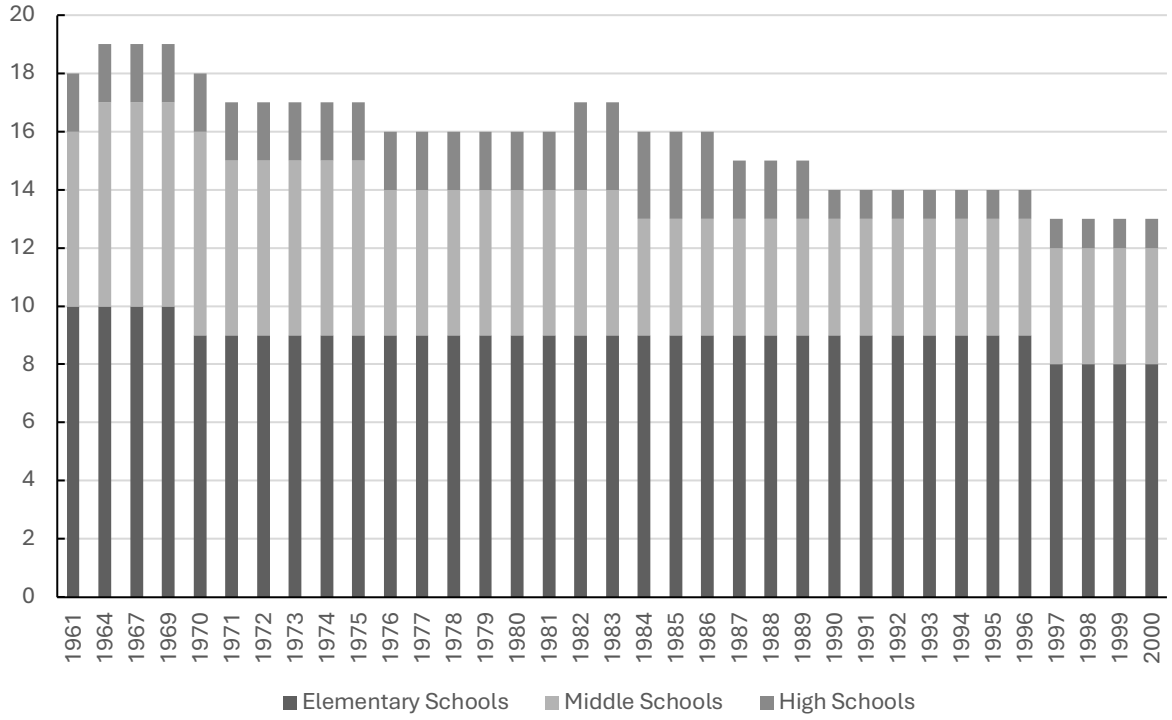


Source: Akabira shisei yōran 1977, 1981, 1984, 1987, 1990, 1992, 1993, 1996, 2000.

being the most impacted group, with their number ultimately reducing to one fourth of its original figure. Middle school students similarly display a massive drop, with their number in 2000 amounting to just one third of its 1961 figure. Finally, albeit while showing greater stability, the number of high school students appears to shrink as well. In the same way, the figure relating to teachers experiences a significant contraction at every level of schooling throughout the decades. At the end of the century, the number of staff members appears as having shrunk to less than half of the level it registered in the sixties.

Overall, these tendencies are consistent with the outflow of people leaving Akabira as a result of the decline of the coal sector. It is most reasonable to assume that, as mine workers left the city, they were joined by their families, who had previously followed them there, including their school-aged children. As a result, the number of students previously enrolled in the municipal schools experienced a significant reduction. Unsurprisingly, the fastest rate of contraction in both the number of students and teachers is recorded during the 1961–to–1975 period, which saw the major mines of Akabira cease their operations and the biggest wave of citizens leaving the community. As seen in Figure 25, significant drops of greater size are recorded in the years immediately following the closure of the Toyosato (1967), Moshiri (1969), and Akama

Figure 27: Change in the number of elementary, middle, and high schools, 1961–2000.

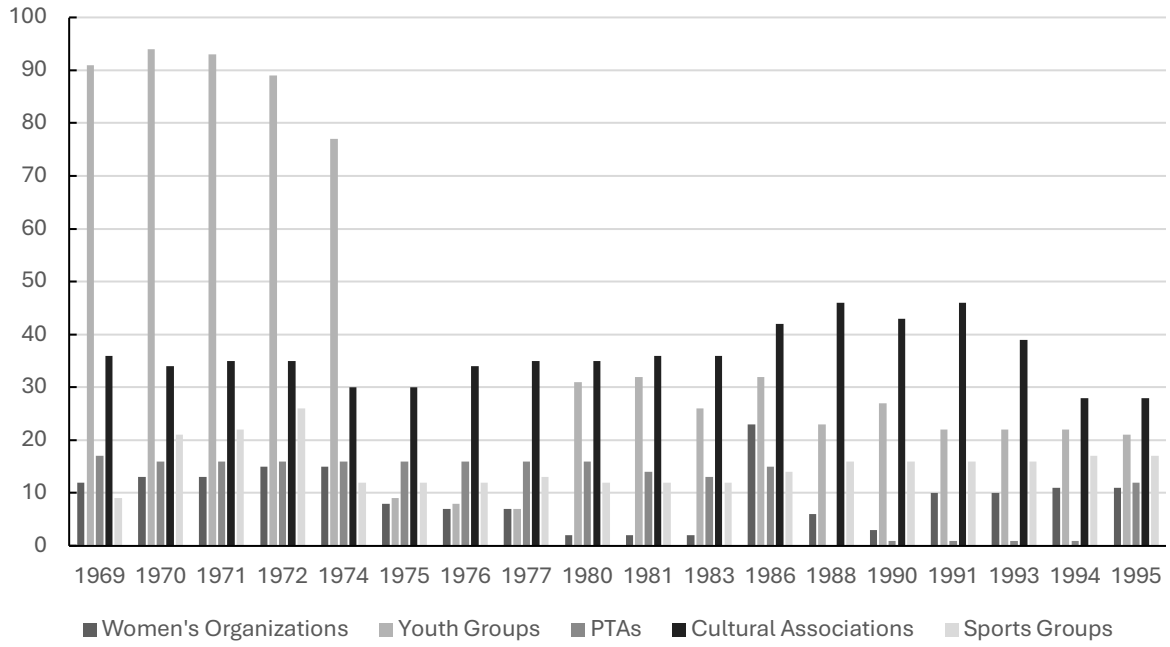


Source: Akabira shisei yōran 1964, 1967, 1974, 1977, 1981, 1984, 1987, 1990, 1992, 1993, 1996, 2001.

(1973) mines. These contractions appear clearly for both elementary and middle schools, while high schools only display a significant cut after the Moshiri mine ceased its operations. It is possible to argue that the greater stability displayed by high schools is a result of families wishing to see their older children complete their higher-level education before leaving the city. However, this desire could still not offset the effects of the massive shutdown of the Moshiri coal mine, which immediately displaced close to 1,500 workers.

Despite both students and teachers seeing their size drop, schooling institution in Akabira maintain a steadier level. As see in Figure 27, between the sixties and the end of the century only two elementary schools out of an original figure of ten ceased their operations. Middle schools appear slightly more impacted by the coal crisis, with their number dropping by three out of a peak value of seven. Finally, high schools once again show the healthiest trend of all, as the original figure of two institutions even shortly increases to three between the early and mid-eighties. However, this is quickly followed by a rapid drop that sees their number move back down to just one institution starting in 1990. Among these different tendencies, the sustained number of elementary schools

Figure 28: Number of active social and cultural groups in multiple fields, 1969–1995.



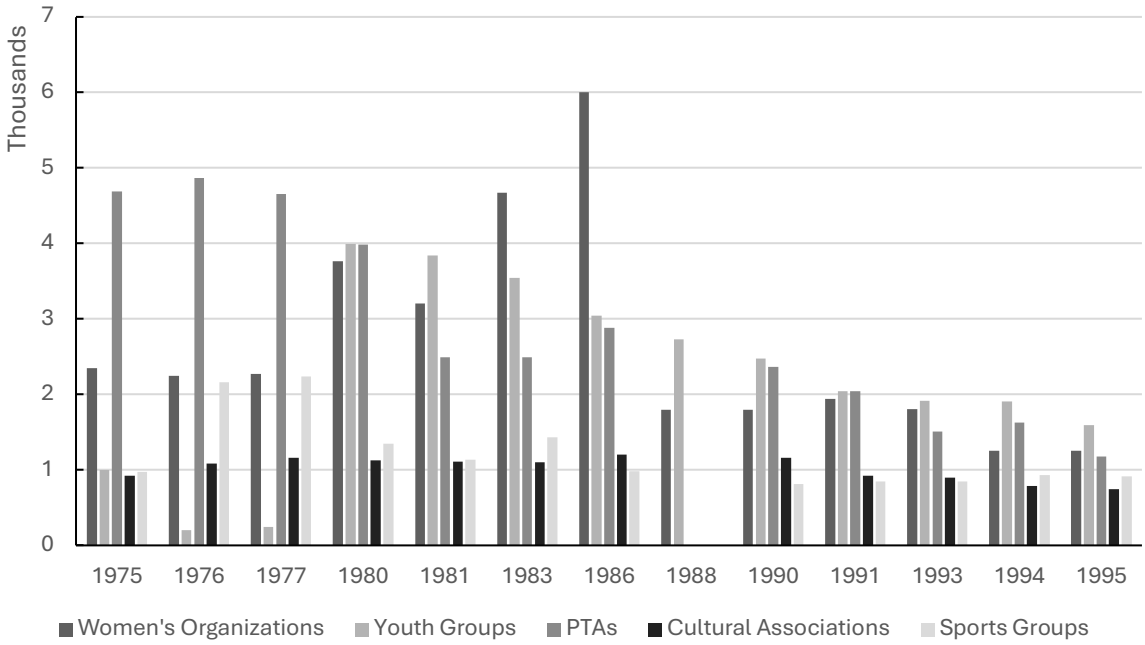
Source: Akabira shisei yōran 1970, 1971, 1972, 1974, 1975, 1976, 1978, 1979, 1981, 1983, 1984, 1987, 1990, 1992, 1993, 1994, 1995, 1996. Data for youth groups in 1995, 1994, 1993 and 1991 only refers to boys' groups. Data for youth groups in 1977, 1976, 1975, 1972, 1971, 1970 and 1969 only refers to adolescents' groups.

despite the significant shrinking of the number of their students appears as particularly striking. Based on the available data, it was unfortunately impossible to reconstruct the most likely reason behind this greater stability.

Further information can be gathered from data relating to cultural and social activities outside of formal education in Akabira.[10] These are women's associations, youth groups, parent-teacher associations (PTAs), cultural associations operating within a wide range of artistic and social activities, and sports groups. Quite surprisingly, the number of operating groups in different fields remains somewhat stable from the beginning of the seventies to the end of the century, while only showing a minimal reduction. Their tendencies are displayed in Figure 28. Youth groups are the only exception, with their number appearing as particularly impacted by the depopulation trend of the city. Their starting number of almost a hundred associations in 1969 shrinks to amount to only a little more than twenty in 1995. On the other hand, women's

[10] It must be noted that interpreting this data is particularly difficult. On top of significant gaps, this is due to what appears to be an often-changing approach to counting of the number of organizations and their members that the *Akabira shisei yōran* series employs with each yearly release. Consequently, some of the numbers displayed in Figure 28 and Figure 29 appear counterintuitive or outright unreasonable. Nonetheless, I still believe it to be possible to identify some relatively apparent tendencies.

Figure 29: Number of members of social and cultural groups in different fields, 1975–1995.



Source: Akabira shisei yōran 1976, 1978, 1979, 1981, 1983, 1984, 1987, 1990, 1992, 1993, 1994, 1995, 1996. Data for youth groups in 1995, 1994, 1993 and 1991 only refers to boys' groups. Data for youth groups in 1977, 1976 and 1975 only refers to adolescents' groups.

organizations, PTAs, cultural associations and sport groups only see their number contract slightly while occasionally expanding as well.

However, this apparently stable reality reveals itself as much more fragile when looking at the number of individual members of the aforementioned associations. As seen in Figure 29, between the mid-seventies and the end of the century all the different cultural and social groups in Akabira show a sizable cut in their membership, often amounting to thousands of people. PTAs in particular show a staggering downward trend, certainly aided by the ever-decreasing number of students enrolled in municipal schools. The number of their members thus moves from a peak value of almost 4,900 people in 1976 to just shy of one thousand and two hundred associates in 1995. Conversely, the remaining groups appear to peak in their membership sometime during the eighties, only to later experience a similar contraction.[11]

[11] Data relating to women's organizations in both 1983 and 1986 appears strikingly different compared to the overall trend. Such a quick rise in the number of the organizations' members, which is immediately followed by a steep decline starting in 1988, seems somewhat unreasonable. I believe this to be the result of the different approaches to counting the number of members mentioned earlier. After all, the *Akabira shisei yōran* booklets make no mention of any specific causes which could have led to such a quick expansion in the membership of these groups.

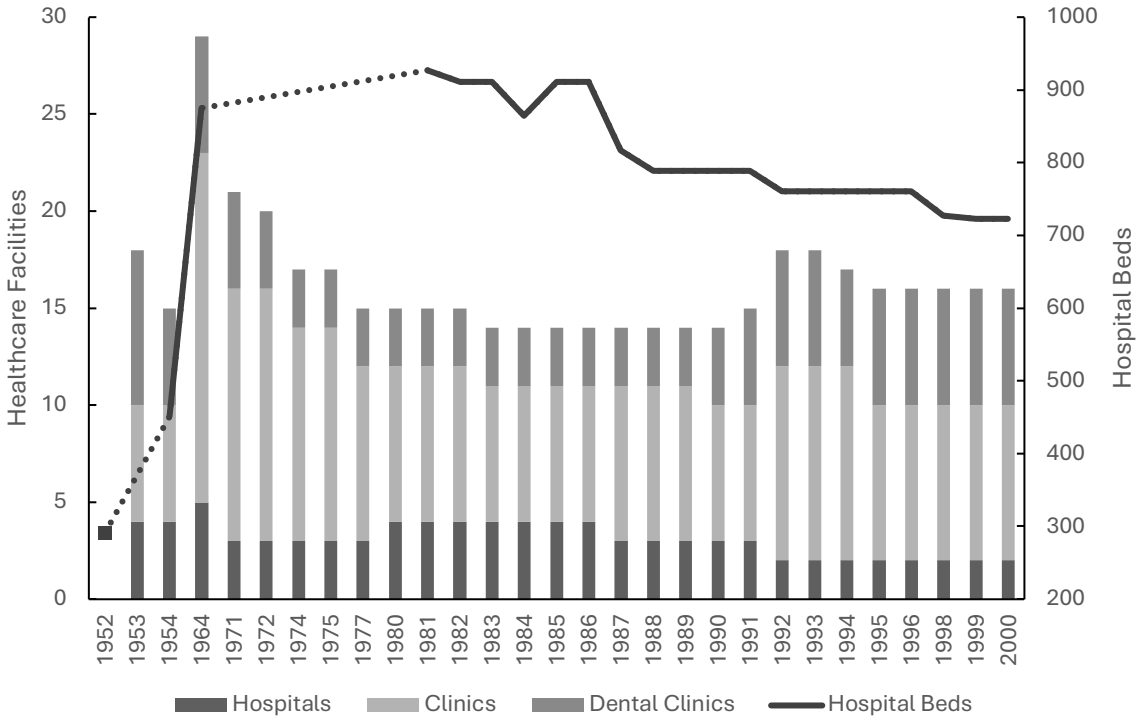
While this data does not allow for an in-depth understanding of the health of cultural activities in Akabira, it still makes it possible to paint an overall clear picture. That is, the depopulation resulting from the coal crisis had its impact on the social and cultural life of the city as well. On top of the more apparent demographic trends, it is thus possible to argue that the struggles of coal also had an effect on the everyday lives of the people of the city. While these changes appear as indirect consequences of the struggles of coal, they nonetheless originate within the broader crisis of Akabira as a coal-mining city.

THE CRISIS AS SEEN IN HEALTHCARE AND WELFARE

The overall tendencies that have so far appeared in multiple areas of community life can similarly be found when looking at healthcare in Akabira. Relevant data markers relating to the fifties–to–sixties period are unfortunately quite rare, making it difficult to accurately gauge changes within the first fifteen-year growth period of the city between 1945 and 1960. Starting from the seventies, the greater availability of data allows for a more precise description.

As seen in Figure 30, what is readily apparent is a significant growth in the number of health facilities between the early fifties and the mid-sixties. The number of hospitals grows by one to reach a total of five, whereas clinics see an even greater expansion in their number to reach eighteen facilities in 1964. Conversely, when looking at data relating to the beginning of the seventies, these figures appear to have shrunk significantly, with an overall loss of around ten institutions. This descending trend continues well into the early eighties, when decline finally stabilizes at fourteen total facilities. In the meantime, the number of hospitals appears to have shrunk to three centers. The sudden introduction of an additional hospital in the early eighties is only temporary, as their number drops back down to three just a few years later. Finally, the downwards trajectory of healthcare somewhat reverses starting from the nineties, as the city sees an increase in the number of its clinics. However, the number of hospitals still takes another hit when its number drops to just two in 1992.

Figure 30: Number of medical facilities and hospital beds, 1952–2000.

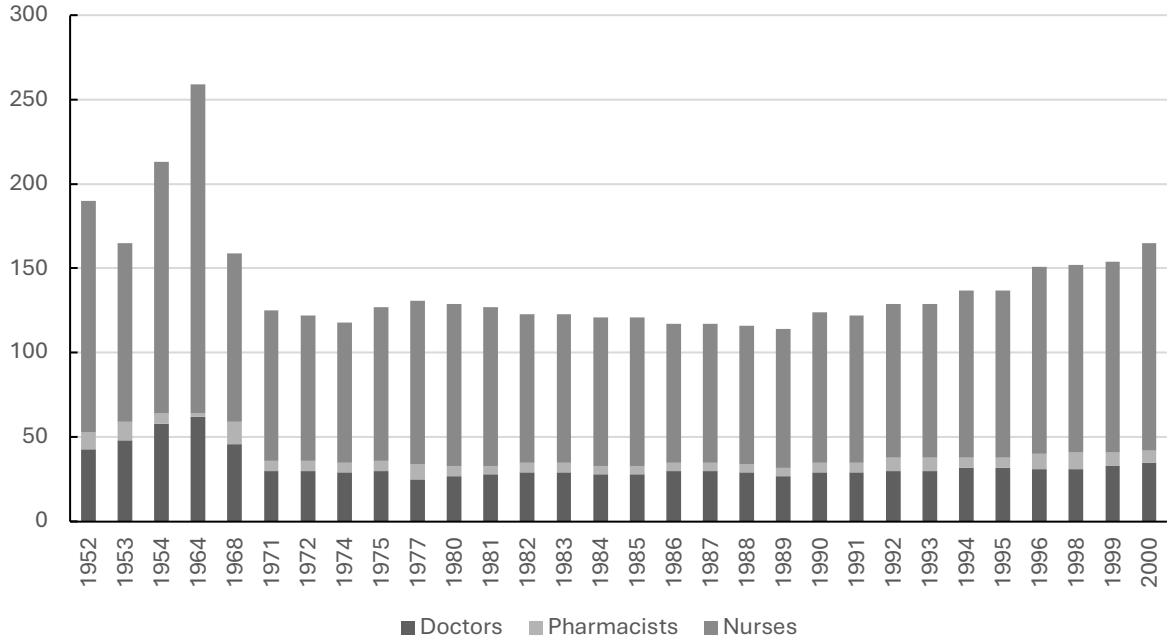


Source: Akabira chōsei yōran Shōwa 27, 28, 29; Akabira shisei yōran 1964, 1972, 1974, 1975, 1979, 1981, 1984, 1987, 1990, 1992, 1995, 1999, 2002.

In the same way, the availability of hospital beds within Akabira sees an early expansion followed by a slow decline. Their number, which amounts to almost three hundred beds in the early fifties, first grows almost nine hundred in 1964. Overall, this threefold expansion is most significant and confirms the growth of healthcare in the city within the first period of community and economic expansion. Conversely, while no data is available with regard to the seventies, the first data marker of the eighties sees their figure having grown just slightly to a little more than nine hundred beds. Starting from the early eighties, this number then proceeds to shrink progressively together with the loss of healthcare facilities. At the end of the century, available hospital beds thus appear to have contracted to a little over seven hundred. Within this trend, the nineties nonetheless see a reduced rate of contraction, with the overall number remaining somewhat more stable than it had done during the eighties.

The number of available physicians once again confirms these trends, albeit with some significant exceptions. After a peak in 1964, which follows a steady growth in the fifties, their number begins to drop starting in the late sixties. Following a significant reduction during the seventies, through the end of the eighties the number of doctors

Figure 31: Number of available doctors, pharmacists, and nurses, 1952–2000.

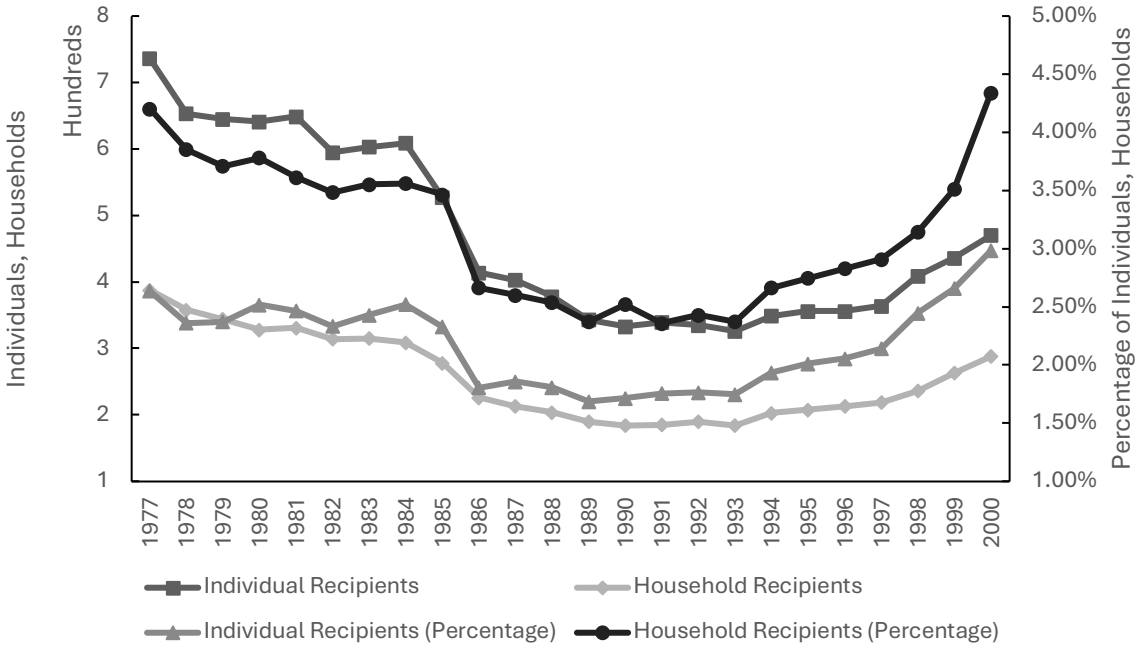


Source: Akabira chōsei yōran Shōwa 27, 28, 29; Akabira shisei yōran 1964, 1970, 1972, 1974, 1975, 1979, 1981, 1984, 1987, 1990, 1992, 1995, 1999, 2002.

shows greater stability. However, with the beginning of the of the nineties this figure notably starts climbing once again. Thanks to this reversion, availability in 2000 is consequently greater than it had been since at least the late sixties. Within the same time frame, the number of pharmacists operating within Akabira shows greater stability, with their number fluctuating between fifteen and twenty professionals. Finally, just like the number of physicians, the figure relating to nurses peaks in 1964 and later shows a contraction. However, this tendency, too, sees a reversal with the beginning of the nineties, once again boosting the availability of care at the end of the century. The changing number of healthcare professionals in Akabira is displayed in Figure 31.

This data once again confirms the overall pattern of growth and decline of Akabira in multiple areas of community life seen earlier. The availability of healthcare facilities between the fifties and the mid-sixties follows the expansion of the coal industry and of the city as a whole. Conversely, with the beginning of the subsequent decades, the decline of coal and the resulting process of depopulation ends up impacting welfare as well. The sharp decline in both health institutions and medical professionals between 1964 and the early seventies is most reasonable when considering the shutdown of the Toyosato (1967), Moshiri (1969), and Akama (1973) mines. Nonetheless, the greater

Figure 32: Number and percentage of individuals and households receiving livelihood protection, 1977–2000.



Source: Akabira shi tōkeisho Shōwa 57, 61, Heisei 3, 8, 13.

stability in healthcare seen starting in the eighties, and the following slight grow at the end of the century, suggest a transformation in the needs of the population. It is possible to hypothesize that, just like in the rest of Japan, the growing issues of an aging population changed the approach to welfare. It is reasonable to imagine that the needs of the remaining citizens of Akabira moved from relating to acute conditions to chronic circumstances, requiring greater domestic care. As such, while the number of hospitals and other institutions could remain somewhat stable, medical professionals operating in the city had to see their number grow to respond to greater demand.

An additional indicator of the crisis resulting from the dynamics of coal mining can be inferred when looking at the number of recipients of *seikatsu hogo* ("livelihood protection") measures. Unfortunately, as the *Akabira shisei yōran* booklets do not report on the matter, the only available data is provided by the *Akabira shi tōkeisho* series starting from 1977. Nonetheless, the available figures make it possible to observe the consequences of the closure of the massive Sumitomo Akabira coal mine in 1994. As seen in Figure 32, the number of welfare recipients between 1977 and 1993 gradually decreases. This can likely be seen as the result of the depopulation process in both its social and natural components. While some people receiving aid presumably left the city,

it is only natural to believe that a certain portion of recipients also simply passed away. However, beginning in 1994 both the number of individuals and households needing welfare support in their daily lives suddenly start increasing once again.[12] As the time frame suggests, it is reasonable to argue that this sudden shock was triggered by the Sumitomo Akabira coal mine ceasing its operations and leaving a few hundred workers without a stable income. Despite the lack of data relating to the previous decades, it is fair to hypothesize that the previous major closures of the late sixties and early seventies could have had a similar effect on the community.

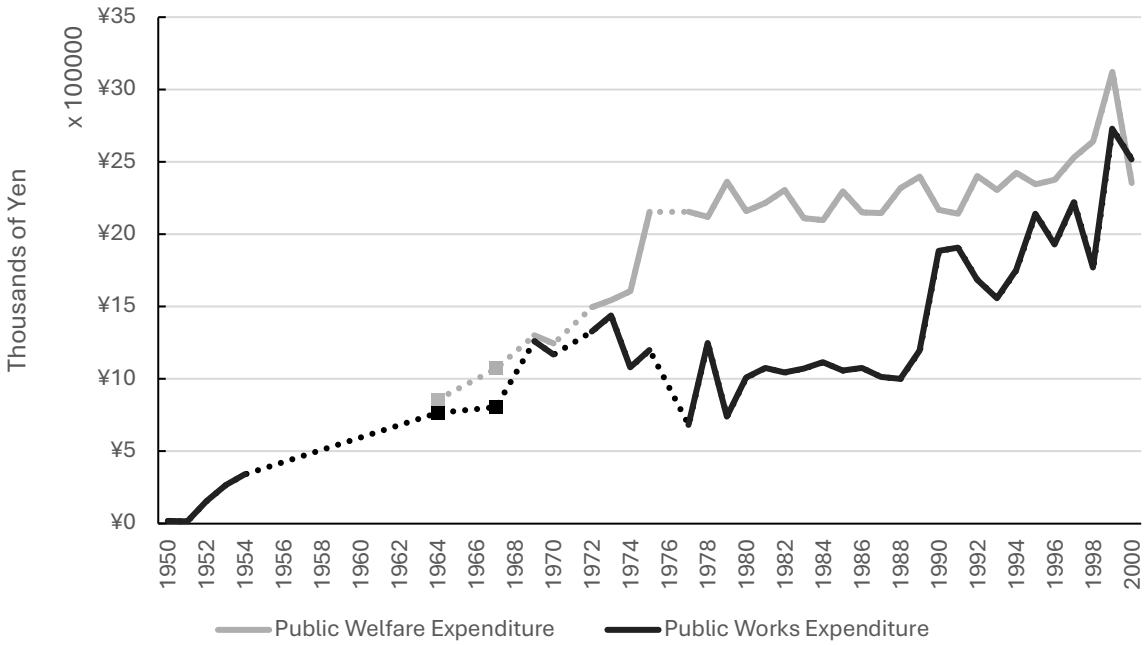
CHANGES IN MUNICIPAL SPENDING

The various processes of change seen so far also appear when looking at the evolution of the different components of the yearly expenditure of the city. Among the different items, the *minseihi* ("public welfare expenditure") segment appears as the most significant expense between the early sixties and the end of the century. During this forty-year period, its size grows considerably, expanding close to three times and only being rivaled by the *dobokuhi* ("public works expenditure") right before the turn of the century. These trends are displayed in Figure 33.

While data relating to the price of welfare during the sixties is somewhat incomplete, some trends are nonetheless visible. Most importantly, it is readily apparent that this expense item first experiences growth around the time that the Toyosato (1967) and Moshiri (1969) coal mines ceased their operations. A further and bigger jump in the size of the *minseihi* is later recorded in 1975, right after the closure of the Akama coal mine. Conversely, the amount of money being used for public welfare between the mid-seventies and the early nineties remains somewhat stable, only occasionally expanding and contracting in a limited manner. It is possible to imagine that the naturally growing

[12] An increase in the percentage value of welfare recipients, similarly seen in Figure 32, could simply be the result of the number of beneficiaries remaining stable while the overall population of Akabira declines. However, the increasing number of actual recipients among individuals and households seen starting in 1994 pushes against this interpretation of the available data.

Figure 33: Municipal expenditure for public welfare and public works, 1950–2000.

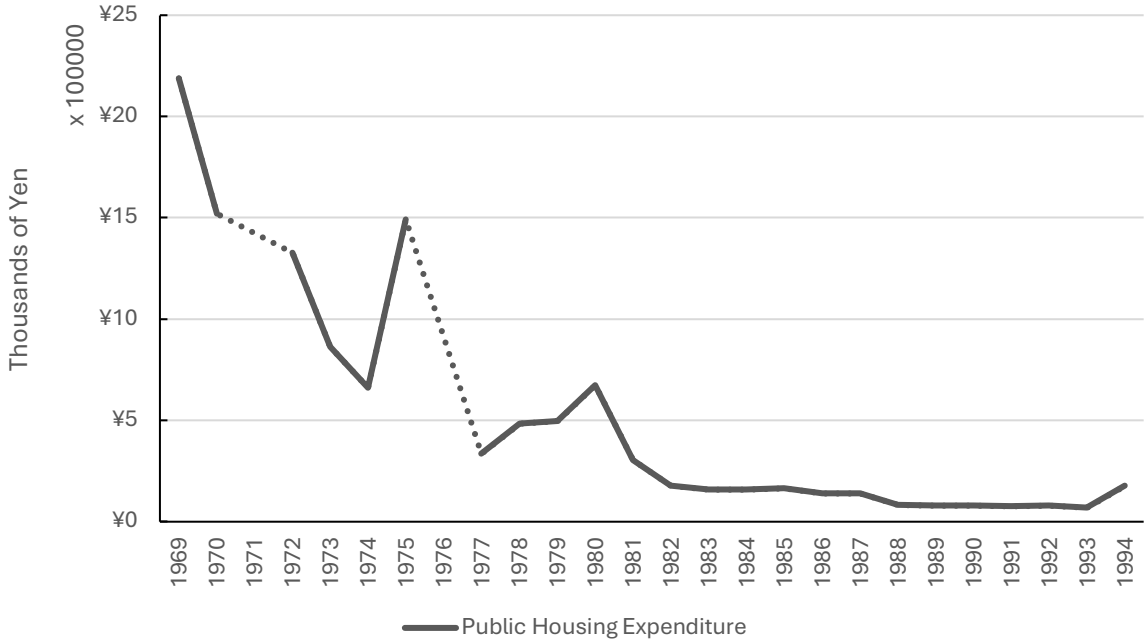


Source: Akabira chōsei yōran Shōwa 27, 28, 29; Akabira shisei yōran 1964, 1967, 1970, 1971, 1972, 1974, 1975, 1976, 1978, 1979, 1980; Akabira shi tōkeisho Shōwa 58, 62, 63, Heisei 3, 4, 6, 9, 12, 13. Prices: 2020 base.

need for public assistance at the time was counterbalanced by the slow erosion of the population, thus keeping the overall budget consistent.

However, after almost two decades of stability, the *minseihi* then starts experiencing a renewed and significant growth with the beginning of the nineties. Nonetheless, no significant jump is observed at the time of the closure of the Sumitomo Akabira coal mine (1994). Still, it appears somewhat unreasonable to think that no form of increased spending was experienced at the time. After all, the more granular data concerning livelihood protection seen earlier already confirmed that the mine ceasing its operations had a significant impact on the community. It is entirely possible that the renewed and massive interest in welfare tools in Akabira starting in the nineties mostly reflected the growing national concerns for the looming demographic crisis. The resulting significant expansion of the *minseihi* at the local level thus likely ended up concealing the growth in welfare needs directly resulting from the Sumitomo Akabira coal mine going out of business. As this component ends up being a smaller part of an already growing expenditure, it consequently does not clearly appear in the aggregated *minseihi* data. Unfortunately, the *Akabira shisei yōran* booklets and the *Akabira shi tōkeisho* series do not provide more granular information regarding the individual components making up

Figure 34: Municipal expenditure for public housing, 1969–1994.

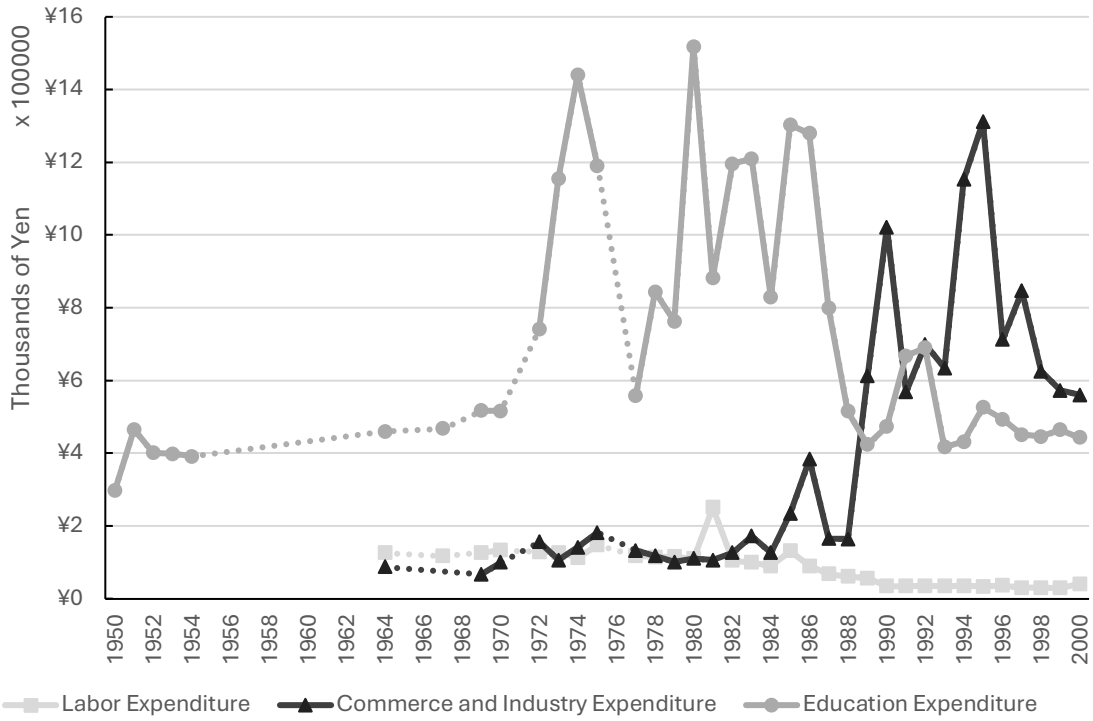


Source: Akabira shisei yōran 1970, 1971, 1972, 1974, 1975, 1976, 1978, 1979, 1980; Akabira shi tōkeisho Shōwa 58, 62, Heisei 1, 3, 4, 6, 9. Prices: 2020 base.

welfare spending in the city. As such, it is not possible to confirm this hypothesis without relying on other, more detailed sources.

As seen in Figure 33, some more data concerning the evolution of local spending is available regarding the *dobokuhi*. The available data points suggest a significant growth in expenditure between the early fifties and the late sixties, which then slows down starting in the early seventies. This dynamic is consistent with the expansion period of Akabira resulting from the peak activity of the coal mines. However, with the beginning of the decline of coal mining described earlier, public works appear to stagnate as well. The amount of money channeled towards the infrastructural development of the city thus remains roughly the same throughout the seventies and the eighties. A renewed and most significant expansion in public works then once again appears starting in 1990. Unfortunately, the reason behind this expansion appears particularly hard to identify given the available sources. Notably, this growth somewhat lines up with the bursting of the Japanese asset bubble and the subsequent wave of public works at the national level. It thus appears somewhat reasonable to assume a link between the two events, albeit while keeping in mind that the time frame of the two does not line up perfectly. As with welfare spending, understanding this dynamic of change taking place in Akabira thus

Figure 35: Municipal spending for labor, commerce and industry development, and education, 1950–2000.



Source: Akabira chōsei yōran Shōwa 27, 28, 29; Akabira shisei yōran 1964, 1967, 1970, 1971, 1972, 1974, 1975, 1976, 1978, 1979, 1980; Akabira shi tōkeisho Shōwa 58, 62, 63, Heisei 3, 4, 6, 9, 12, 13. Prices: 2020 base.

likely requires additional sources. Further research should consequently focus on understanding the decision-making process at the municipal level in greater detail.

The rapid pace of public works during the fifties and sixties is even more significant when considering that this component of the overall expenditure of the city is devoid of the money used to develop and manage public housing in Akabira. As the *Akabira shisei yōran* and *Akabira shi tōkeisho* booklets show, these expenses appear to instead be handled in a separated special budget, reasonably named as *shiei jūtaku jigyō kessan* ("special account for the business of public housing"). As such, the course of municipal spending relating to public works only refers to the building and maintenance of other infrastructural assets. As seen in Figure 34, the dynamic that appears when looking at the money outflow of the aforementioned account lines up with the development of public housing discussed earlier, which peaked in the 1960–to–1980 period. Spending peaks thus coincide with the years during which the building of inexpensive homes or the acquisition of renovated coal-mining dwellings was most active. This, in turn, once again reflects the twists and turns of the local coal mining industry.

Interesting data can also be gathered from some lesser components of the overall municipal expenditure, which nonetheless confirm the overall tendencies of the city. These are the *rōdōhi* ("labor expenditure"), the *shōkōhi* ("commerce and industry expenditure"), and the *kyōikuhi* ("education expenditure"). The evolution of their size throughout the years is displayed in Figure 35. The *rōdōhi* encompasses expenses related to workers' welfare, public handling of unemployment, and the training of workers. Unsurprisingly, the amount of money being used for these different projects shrinks over time, reflecting the decline in the workforce of Akabira. While its size shows stability between the sixties and the mid-eighties, the following fifteen years see a rapid reduction that takes public handling of work issues to a very modest size.

The expenses meant to promote the development of businesses, industry, and commerce in the city display a similar trend. After all, between the sixties and the late eighties their size appears modest. However, starting in 1989 the path of the *shōkōhi* diverges significantly from that of the *rōdōhi*. The amount of money allocated to the different development projects suddenly grows significantly and reaches a new baseline level which is maintained throughout the last decade of the century. Notably, a significant peak also appears at the time that the Sumitomo Akabira coal mine ceased operations in 1994. Overall, this data seems to suggest that Akabira relied on its nature as a mining city right until the collapse of the local coal industry appeared inescapable. This prompted a sudden shift in spending to guarantee the city an economic future beyond the activities of its remaining coal mines.

Finally, the *kyōikuhi* shows the most puzzling trend of all. Throughout the decades, the amount of money spent for education repeatedly expands and contracts significantly. These variations appear as being disconnected from the gradual reduction in the number of students and staff seen earlier, as they would suggest a gentler slope rather than a multitude of peaks and dips. The expenses related to schooling however drop significantly starting in the mid-eighties, reaching a new level that they ultimately maintain until the end of the century. Just like the expenditure for public works, it appears to be impossible to effectively reconstruct the reasons behind these changes solely based on the available data. Additional sources would most likely allow for a deeper

understanding of the changes in education patterns that originated this ebb and flow in the amount of municipal money allocated to schooling.

Overall, it can be stated that the tendencies seen in the local budget confirm the broader transformation of Akabira resulting from the coal crisis. Throughout the decades, as expenses related to work, schooling, and public works shrink, the money used for welfare and to promote a diversified commercial and business network in the city grows. These trends broadly reflect the significant process of depopulation and its far-reaching consequences, such as the greater social and economic disarray. Once again, the local dynamics of coal appear as having a most significant impact on the life of the city as a whole.

LEARNING FROM AKABIRA

THE ECONOMIC, SOCIAL, AND POLITICAL MEANING OF AKABIRA

Reconsidering the contemporary history of Akabira is obviously most useful when evaluating the changes that a Japanese coal mining community went through after the Second World War. As has been reconstructed in the previous chapter, the experience of the city appears as being strongly tied to the national course of coal mining. After all, the demographic, economic, and social patterns observed in Akabira between 1945 and 2000 can easily be linked to the evolution of the national circumstances of coal mining. As such, looking at the experience of the city makes it possible to evaluate the real-world effects of these transformations during the different phases of decline that the Japanese coal industry went through. However, when turning to a broader scale, these changes appear as displaying the consequences of a larger global phenomenon on the smaller experience of a local Japanese community. Ultimately, the experience of Akabira thus becomes a useful example of the results of a multitude of overarching processes of change on a smaller scale. While this experience primarily offers insight into the national course of the Japanese economy and society, it can also be understood as a symbol of transformation in the global scenario.

The economic and demographic growth of Akabira between 1945 and the end of the fifties appears as being the consequence of the significant relevance of coal at the national level during this fifteen-year period. As Japan managed postwar reconstruction and economic growth, coal found itself in a key position to fuel the Japanese industry at large. As a result, local mines in Akabira were able to expand their coal yield as to respond to greater demand. In a virtuous cycle, this dynamic called for the population of the city and its overall workforce to grow as well. Additionally, the money that the local administration could collect thanks to mining grew and likely paid for a major part of the success of the community. Overall, the experience of the city in the early postwar scenario consequently presents strikingly encouraging circumstances. With a booming population, an expanding economy, and a healthy revenue stream, the city could likely

consider itself on the path to greater well-being. It is reasonable to assume that, to the people inhabiting Akabira, these circumstances appeared as promising a bright future for the entire community.

However, when examined through the lens of a broader historical standpoint, this apparently bright phase of the course of Akabira appears as being challenged by significant risks. As has been described in the previous chapter, it is readily apparent that the city developed while being exceedingly reliant on the local coal mining industry. This meant that the life of Akabira depended greatly on the national course of Japanese coal as well as the changing international patterns in energy supply. As such, when the outlook on the position of Japanese coal started worsening, it was only natural that the fate of Akabira would head in the same direction. As has been reconstructed in the first chapter of this work, it did not take long for this scenario to reveal itself. Starting with the fifties, the national discourse concerning coal was already highlighting some of the key issues in supporting this energy source while heading towards the future. When looking at some of the contrasting trends already brewing in the background during this first fifteen-year phase, these concerns for the future of Akabira become obvious. After all, the increasing coal yield, improved productivity, and booming municipal tax revenue did not result in a similarly expanding pool of mine workers, the number of which instead began to drop.

In a way, Akabira can nonetheless be considered lucky. The survival of its major mines throughout the entirety of the sixties places its course among that of the Japanese mining areas which could survive the early phase of the Scrap and Build policy. The experience of Akabira thus appears as a clear example of the early desire of the Japanese state to cling on to coal mining despite growing national and international concerns for its viability. However, the echoes of the looming coal crisis could not be avoided for long. When the sixties brought deeper awareness of the fate of coal, Akabira found itself facing the consequences of its excessive reliance on a single industry. Despite coal yield reaching its peak, the city at large soon responded to the changing scenario and started to collapse. Together with the massive drop in the number of coal mine workers, the population at large found itself with increasingly compelling reasons to leave. With the Akama, Moshiri, and Toyosato mines closing, the decline of Akabira became indisputable.

The timing of their closure fully locates them within the major wave of mining retrenchment that resulted from the early coal policies.

The detailed course of the city during the 1945–to–1960 period thus allows for the evaluation of the early and mid-term effects of the national and international arrangements concerning coal at the local level. Overall, as the story of Japanese coal moved from reconstruction to decline through an intermediate phase of significant expansion and resistance, the same happened within Akabira. The exceedingly deep reliance on the part of the community on its coal mining industry meant that changes in the latter rippled to the former as well. As such, when the industry started to disappear, the resulting depopulation brought about a crisis in housing, medical care, schooling, and culture for the remaining citizens. Beginning with the seventies, the survival of the sole Sumitomo Akabira coal mine then once again positions the experience of Akabira as a symbol of the slower erosion of coal mining in Japan after its first phase of rapid decline. As the mine continued operating until the mid-nineties, its course was nonetheless marked by a gradual curtailment of its production quota as well as the number of its workers. This slow path towards what must have clearly appeared as an inescapable shutdown is once again apparent in the resulting social and economic trends. Just like during the previous decades, the crumbling of Akabira as a whole did not stop. As such, the collapse of the different areas of local life thus ultimately continued through the end of the century, albeit while slowing down compared to the previous decades.

Interestingly, during the latter part of the century Akabira nonetheless appears to have maintained a strong link to its identity as a coal-mining city instead of urgently diversifying its economic landscape. No individual business or group of economic activities appears as having emerged during the multiple decades of crisis that the city experienced. It can reasonably be argued that, as coal mining kept declining, this lack of a network of industries or businesses fully able to replace coal made it impossible for Akabira to retain its population. In a vicious cycle, the resulting demographic crisis appears to have catalyzed even harsher economic circumstances, which in turn pushed people out of the city even more. In the absence of a diversified business climate, the city could not avoid the relentless erosion of itself that is readily apparent throughout the latter part of the twentieth century. The sole exception to this trend appears to be the

secondary sector, which was previously described as being able to guarantee itself greater stability. However, when looking at the overall contemporary history of Akabira, its experience seems to suggest that diversifying the economy of a local community experiencing the crisis of its key industry is no easy task.

The postwar history of Akabira consequently poses the key question of the appropriateness of a high degree of concentration of a single industry in a broader area, be it a city or an entire region. The experience of Akabira seems to appear as an example of the potentially dire consequences that the lack of differentiation in the economic network of a local community can have on the people. Significantly, this matter can once again be seen as resulting from the changing national and international circumstances of a country and its surrounding area. After all, mining in Akabira first developed as a result of the energy needs of the Japanese state, and its course was ultimately defined by these changing demands. Moreover, as seen in the first chapter, the reliance on coal on the part of the Japanese state until the end of the fifties moved on the basis of a set of assumptions that ultimately proved flawed. The development of a broader international context and the resulting sudden rise of fluid energy meant that the energy scenario of Japan changed quickly.

Overall, the resulting experience of coal mining and of its different areas within Japan, such as Akabira, consequently stands as an example of the risks originating from excessive industrial concentration in a single area. Additionally, the lasting significance of any key regional economic activity appears as dangerously reliant on a specific set of ever-changing international circumstances. In the case of Akabira, this is most clear as its fate resulted from the sudden shift in what previously appeared as a stable scenario concerning energy supply. As the relevance of international commerce and economic cooperation has only gotten greater since the end of the Second World War, it is fair to imagine that the likelihood of other significant shifts occurring at the global level could be significant. As such, the chance of stories akin to that of Akabira developing within Japan or abroad is not negligible. Reconsidering experiences similar to that of Akabira can thus help in refining the local and national approach to matters of economic growth, industrial concentration, and community livelihood to better tackle instances of transformation in the future.

The responsibility of national and local governments in driving the necessary changes in the face of the decline must be considered. After all, it is somewhat unreasonable to consider the course of local communities such as Akabira as being compromised to the point that overarching rescue attempts would prove completely unsuccessful. At the national level, the experience of Akabira highlights the relevance of the Japanese state in aiding depressed areas through economic means and the limits of this approach. While it is certainly true that the Japanese government fueled the survival of Akabira through an ever-increasing amount of public funds, this could also be considered the natural consequence of its obligations. With the exception of the money originating from the national and prefectural treasuries, the contribution that the Japanese state offered to Akabira mostly originated from long-lasting nationwide projects. That is, while their size would have certainly varied had the circumstances of the city been different, Akabira would have nonetheless received its share of public contributions. As a result, the scenario that emerges when considering the history of Akabira seems to suggest that the Japanese state could have intervened with a broader policy. Similarly, the course of action of the local government appears as lagging behind the changing circumstances of coal. This is especially apparent when considering the slow rise in public spending for the promotion of a diversified business and commercial network within Akabira. After all, as seen in the latter part of the previous chapter, the municipal *shōkōhi* only saw its value increase towards the end of the century.

As previously described in the first chapter of this work, the Japanese government is nonetheless certainly recorded as having intervened multiple times to address the concerns of coal-mining areas. However, when looking at the course of community life in Akabira, it becomes natural to wonder how much its efforts truly managed to impact the lives of the citizens. The relentless demographic collapse and the erosion of community life that the city experienced seem to suggest that the government's attempts likely proved unsuccessful or insufficient. These results also notably contrast with the significance that the Japanese government nonetheless placed on the issues of displaced coal mine workers. As Shimazaki Naoko notes, the Japanese state certainly seemed to recognize the issues of coal mining employees as socially significant and worthy of governmental attention. Awareness concerning the external factors catalyzing

the demise of coal mining also made it clear that overarching coordination was needed to effectively deal with the issues raised by this industrial crisis.[1] Still, as these measures rightfully focused on the circumstances of the individuals and their families, the position of the former mining areas only seems to appear in the background. As Shimazaki notes, "the relocation of large numbers of displaced workers had the potential to place entire regional communities on the verge of collapse, as it exerted their influence on many areas, including not only the economy of coal-mining areas but also issues related to children's education and welfare for the elderly".[2] In a way, the two goals of revitalizing former coal-mining areas and aiding displaced workers thus appear to have clashed, as the success of relocating unemployed miners somewhat implied the growth of even deeper issues in the former mining areas. One must certainly consider whether a more comprehensive approach, likely resulting from greater coordination with the local government, could have changed the dire fate of Akabira.

Based on these points, some areas of further research appear as potentially fruitful in better understanding the history of local communities in the face of a decline fully or partially originating outside of the community itself. A deeper understanding of the potentially positive consequences of greater industrial and economic diversification certainly appears as one of these issues. While the available data does not make it possible to evaluate the key reasons behind the lack of diversification in Akabira, understanding its rationale could certainly prove useful. Most importantly, it could potentially lead to a deeper grasp of the local economic and social dynamics brewing in the shadow of national and international transformations. Nonetheless, it is far beyond the scope of this work to evaluate the generalized economic consequences of excessive industrial concentration in a single area. However, further investigation in the experience of Akabira could likely lead to a deeper understanding of the risk of local weakness and decline originating from such a scenario.

On the same note, greater investigation could be conducted as to understand the rationale behind the measures taken by the national Japanese government and the local

[1] SHIMAZAKI Naoko, "Support for Workers Displaced in the Decline of the Japanese Coal Industry: Formal and Informal Support", *Japan Labor Review*, 12, 2, 2015, p. 9.
[2] SHIMAZAKI Naoko, *Support for Workers…*, cit., p. 10.

Akabira administration in the face of the coal crisis. Once again, it is beyond the scope of this research to fully gauge the difficulties that the local administration might have encountered in the process of transforming Akabira into something other than a mining city. However, additional inquiry into the topic, which would certainly require a greater amount of data, could deepen the understanding of the consequences of national and international crises on political decision making. The experience of Akabira could potentially function as a significant case study in the handling of the consequences of economic and industrial shifts at the local level. Ultimately, these findings could potentially inform an updated rationale in the management of circumstances similar to those of Akabira, within Japan or outside of it. In the meantime, the findings of the second chapter of this work make it reasonable to wonder whether these different actors expended their utmost efforts to guarantee an orderly retreat of coal mining.

Finally, another potential area of inquiry that naturally presents itself is the qualitative position of the citizens of Akabira, which appears as substantially precarious and collateral. After all, the overarching tendencies of community life in Akabira described in the second chapter of this work seem big enough to hypothesize the powerlessness of the different actors operating outside of coal. Other than the assistance that miners were provided with in order to find further employment, the citizens of Akabira mostly appear as being treated as the powerless victims of changes greater than them. After all, reconstructing the history of Akabira seems to suggest that the local economy, in the form of coal mining, took the utmost priority in defining municipal dynamics. Conversely, it can be stated that the experience of the citizens of a community should lead the way in designing the history of their local society itself. A more detailed recollection of the individual experience of the coal mine workers and the citizens of Akabira would thus prove useful. Significantly, it would allow for a deeper understanding of the limits of individual agency in a community facing its demise as a result of economic crisis. Moreover, it would allow for considering the possibility of individual or group action in the face of governmental attempts at reversing the course of a depressed city.

Having looked at Akabira in great detail, it is now possible to compare its evolution to that of nearby Yūbari thanks to the findings of Suzanne Culter's *Managing Decline: Japan's Coal Industry Restructuring and Community Response*. While this work mostly focuses on the changes that Yūbari experienced between the sixties and the mid-eighties, the information it provides is still useful in building a proper long-term comparison between the two communities. Most significantly, doing so allows for the construction of a first fragment in the comparative history of coal in the broader Ishikari coal basin during the latter part of the twentieth century. Unsurprisingly, the individual stories of Akabira and Yūbari appear to have much in common. Nonetheless, some of the details concerning their changing relationship with coal mining emerge as being slightly different.

The demographic evolution that Yūbari experienced after the end of the Second World War resembles that of Akabira in a striking manner. After a fifteen-year period of significant growth, Yūbari appears to have reached its population peak of a little over one hundred thousand people in 1960. Just like in Akabira, the rationale behind this expansion is found in the boom of the coal sector during the early postwar period and the years of the Korean War.[3] Notably, this demographic record is located exactly one year after Akabira had recorded its largest population figure in 1959. In the exact same way, during the following fifteen years the citizens of Yūbari then drop massively. The 1975 Yūbari population census records a little over fifty thousand people, thus marking the halving of the number of inhabitants compared to the previous peak. Just like in Akabira, this number also sees the population drop to less than its 1945 amount.

However, while the previously mentioned 1945–to–1975-comparison saw Akabira exhibit a population difference of close to six thousand people, the gap of almost twenty-five thousand inhabitants recorded in Yūbari is even more striking. Still, while Culter only references further data up to 1986, the contraction of the population of Yūbari later appears to continue relentlessly along with the perduring crisis of the local coal mining industry. In yet another similarity with Akabira, *Managing Decline* also presents this collapse as being strongly linked to the outflow of people leaving the city as a result of its

[3] Suzanne CULTER, *Managing Decline…*, cit., p. 59.

changing circumstances. Just like in Akabira, the very limited variation in population resulting from births and deaths appears unable to alter what is an overwhelming dynamic of social and economic crisis relating to coal mining.[4]

The course of Yūbari's coal industry also closely resembles that of the Akabira mines. The number of its workers similarly appears to first drop around the mid-fifties, likely responding to the first wave of the energy revolution. At the same time, this early cut in employees is met with stability in the local coal yield thanks to national subsidies and, most importantly, production changes relating to rationalization. Just like in Akabira, the latter stages of the coal crisis at the national level then appear to have hit Yūbari particularly hard. As Culter mentions, between 1962 and 1969 the city saw twelve small- and medium-sized mines cease their operations, which were quickly followed by two bigger mines going out of business in 1971 and 1973. Most apparently, the timing of this series of closures strikingly resembles that of the Toyosato, Moshiri, and Akama mines of Akabira. The end of the eighties later sees the last two Yūbari mines close as well, just like the Sumitomo Akabira mine would do just a few years later.[5] Just like in Akabira, it thus becomes possible to argue that the Yūbari mines managed to survive a little longer compared to the earlier scrapping of the Japanese collieries of different areas.

Similarities continue when looking at data relating to work in both cities. In 1955, both Yūbari and Akabira saw slightly more than 50% of their working population being employed in coal mining. However, following the major decline in the number of miners in the following decades, a slightly bigger difference in this ratio appears in 1985. At this time, coal mines in Yūbari still employed 26% of workers compared to the 19% of Akabira. While not appearing as significantly different, these numbers nonetheless suggest that Akabira managed to achieve a relatively lesser reliance on coal mining a little earlier compared to what Yūbari could manage. In yet another similarity between the two communities, Culter's research also clearly highlights how the collapse of the local coal mining industry had remarkable consequences on the financial health of the remaining areas of work in the city. *Managing decline* notes three main phases during which coal mining declined in Yūbari, which are located in the 1960–to–1965 period, the 1970–to–

[4] Suzanne CULTER, *Managing Decline…*, cit., pp. 62-68.
[5] Suzanne CULTER, *Managing Decline…*, cit., pp. 59-62.

1975 period, and the 1980–to–1985 period. All in all, each of these different intervals saw the number of employees of the other economic sectors drop as well. As has been described previously, this dynamic is similarly most apparent in Akabira as well.[6]

Nonetheless, some slight differences in the course of the two cities do appear. While the aforementioned intervals similarly saw the number of coal mine workers in Akabira shrink, the 1965–to–1970 period does not display the greater stability seen in Yūbari. The experience of Akabira is thus best described as being characterized by a first collapse located between 1951 and 1955, followed by a brief respite until 1960. Starting with the new decade, the number of coal mine workers then starts dropping relentlessly until 1975, when the city experiences another brief five-year period of greater stability. Finally, the employees of the coal mines once again see their number shrink with the beginning of the eighties, which marks the origin of a downward trend that ultimately continues until the end of the century. As mentioned above, the two cities nonetheless share an overall contraction of the workforce resulting from the crisis of coal mining. While this contraction amounts to 60% of the employees in Yūbari, the figure stops at close to 50% in Akabira. Once again, this notes the slightly better circumstances of the latter municipality.[7]

Just like in Akabira, the collapse of the coal industry in Yūbari appears to have brought lasting consequences to the broader economic climate of the area. Culter notes the striking decline in commercial activity that accompanied the demographic transformation of the city, which nonetheless attempted to push back against its decay. The attempts by the local government of Yūbari to promote the development of additional industrial businesses within the city appear as one such attempt, which nonetheless is reported as having failed. While this plan had originally managed to bring new companies to Yūbari starting in the sixties, their activities still proved strikingly reliant on the overall health of the local economy. As coal mining and population declined, these new businesses consequently found themselves unable to thrive and provide the population with new jobs. Conversely, an area of limited success that the local administration seems

[6] Suzanne CULTER, *Managing Decline…*, cit., pp. 62-66.
[7] Suzanne CULTER, *Managing Decline…*, cit., pp. 66-68.

to have been able to present to the city is the focus on melon farming.[8] In any case, both Yūbari and Akabira can be described as experiencing a broad crisis resulting from the collapse of the coal industry, which appears as strikingly apparent within the tertiary sector. Some lesser elements of divergence can nonetheless be found in the slightly better position of the secondary sector in Akabira, which was described earlier. Similarly, no focus on a specific product of agriculture akin to the Yūbari melon is registered in Akabira.

Housing in Yūbari, too, shows the effects of the coal crisis. Just like in Akabira, *Managing Decline* mentions the increasing number of former coal-mining dwellings being acquired by the municipality and later rented out as inexpensive homes. Over time, these houses appear as being increasingly occupied by elderly inhabitants and individuals suffering from poor economic circumstances. In her work, Culter thus notes an overall ratio of 34% of households living in public housing in 1985, which is close to the almost 40% recorded in Akabira in the same year.[9] Additionally, just like in Akabira, throughout the years the number of renovated coal-mining dwellings in Yūbari increases significantly. Their number moves from an original figure of fifty in 1970 to over one thousand and three hundred houses in 1985. Overall, the timeline of public acquisitions in Yūbari consequently appears to mostly overlap with that of Akabira. Nonetheless, the latter city shows a slightly earlier focus on *kairyō jūtaku*, as the first renovated dwellings are already recorded in the late sixties.[10]

A bigger difference between the two areas seems to appear when looking at new constructions outside of renovated coal-mining dwellings. When talking about Yūbari, Culter highlights how the municipality repeatedly dealt with empty houses left behind by people moving outside of the city. For safety concerns, these homes were often demolished and only occasionally replaced with newer constructions. Conversely, albeit at a slower rate, the building of new dwellings in Akabira appears to have continued well into the eighties. However, both the *Akabira shisei yōran* booklets and the *Akabira shi*

[8] Suzanne CULTER, *Managing Decline…*, cit., pp. 72-76.
[9] It is important to note that, without access to the original data used in *Managing Decline*, comparing these numbers can be difficult. As described earlier, data relating to housing in Akabira appears fragmented and often changing in the way dwellings are categorized. It is entirely possible that the approach used in sorting the numbers relating to Yūbari is different compared to that of Akabira.
[10] Suzanne CULTER, *Managing Decline…*, cit., pp. 72-78.

tōkeisho series make no mention of old and uninhabited houses needing to be destroyed. It is thus impossible to accurately confirm this difference beyond doubt. Existing data only suggest that, while Yūbari faced an excessive number of dwellings which soon turned to uselessness, the circumstances of Akabira proved different. That is, with the worsening economic conditions of the city, the available homes still proved insufficient for the remaining citizens, thus requiring for additional houses to be built.[11]

Schooling and healthcare in Yūbari also similarly appear to have suffered significantly from the crisis of the local coal mining industry. Culter notes a sizable reduction in the number of elementary, middle, and high schools between 1960 and 1987, which is joined by a contraction in the figure of the schools' employees and students. However, when considering this time frame only, the drop that Yūbari appears to have experienced is somewhat more significant compared to what has been described with regard to Akabira. While the number of schooling institutions in the latter city does shrink measurably, schools in Yūbari see their number cut almost in half, a sizable contraction that Akabira does not record. Both cities nonetheless experience a most relevant reduction in their faculty and students, which was previously confirmed as continuing well into the nineties within Akabira.[12]

Healthcare facilities, too, follow the same path in both cities. The size of this retrenchment is however somewhat different, in part due to the diverging magnitude of their original figures. Nonetheless, the healthcare offer of both Yūbari and Akabira in the mid-eighties appears impaired when compared to the previous decades. In talking about Yūbari, Culter notes a trend wherein the latter decades saw care become increasingly aimed at the elderly, while the younger population needed to seek medical help outside of the city. This greater concern for the health of the senior population has previously been hypothesized as the main rationale behind the slight expansion in the number of healthcare facilities and personnel which appears in Akabira starting in the nineties. Unfortunately, as Culter does not cover the last decade of the century, it is impossible to compare this tendency between the two municipalities. Conversely, an interesting addition to the discussion concerning health in Yūbari is the increase in mental health

[11] *Ibid*.
[12] Suzanne CULTER, *Managing Decline…*, cit., pp. 82-84.

conditions among the population throughout the decades mentioned in *Managing Decline*. As this topic was not covered by the *Akabira shisei yōran* booklets or the *Akabira shi tōkeisho* series, a discussion concerning this element of community life in Akabira is lacking within this research.[13]

Finally, throughout her research Culter notes the increasing reliance on public funds and subsidies originating within the Japanese central state as a tool to support Yūbari. Just like in Akabira, the city appears to have been hit particularly hard by the reduction in tax revenue resulting from the curtailment of the coal mining activities and the outflow of the population. Governmental and prefectural support thus acted as a catalyst to encourage companies to move to the city and farmers to focus on the production of the Yūbari melon. Additionally, *Managing Decline* repeatedly mentions the increasing efforts on the part of the city to redirect its business landscape towards tourism. However, this shift towards an economy driven by visitors appears as being out of place within the historical, social, and cultural context of Yūbari. Culter notes that, at its worst, tourism could mean the partial or total erasure of the local identity of the area. Her work thus records the doubts brewing among the population, which often saw itself as being exposed to projects it could not belong to. Unfortunately, while the regional development of tourism in central Hokkaidō is a significant theme which likely affected Akabira as well, it was not possible to cover it throughout this work. Additional research could reasonably fill this gap, as this theme appears to potentially hold significant social meaning within the community. Most importantly, Culter rightfully states that the former coal mine workers appeared as being pushed aside as a result of these renovation plans. It would be most interesting to know if the population of Akabira shared the same sentiment.[14]

Overall, it can ultimately be stated that the nearby communities of Akabira and Yūbari share a significant portion of their history as a result of the collapse of coal mining in Japan. Their nature as coal mining cities is readily apparent, as demonstrated by the second chapter of this work and by Culter's research. Within this context, both Akabira and Yūbari saw a major part of their mines resist the first wave of closures in the fifties to

[13] Suzanne CULTER, *Managing Decline…*, cit., pp. 85-86.
[14] Suzanne CULTER, *Managing Decline…*, cit., pp. 89-99.

later survive until the end of the sixties. Later on, their major mining activities could also resist through the nineties. The postwar struggle originating within the coal crisis in both cities thus follows the same timeline and is marked by significant economic and social changes. While some differences in the individual course of the two cities do appear, they can nonetheless be recorded as the finer details of a broader common story that affected a multitude of areas of community life. These findings can be considered a starting point in reconstructing the socio-economic history of the Ishikari coalfield and of Hokkaidō as a whole during the years of the Japanese coal crisis. Just like the similarities between Akabira and Yūbari, it is possible to imagine that the remaining communities of the region could have experienced the same fate.

BEYOND AKABIRA, BEYOND THE 20TH CENTURY

As of today, the former coal-mining communities of Hokkaidō still deal with the issue of their revitalization and survival after the sunset of the local coal industry. Some interesting information concerning the different approaches employed to face this issue can be found in Tai Wei Lim's work within *Coal mining Communities and Gentrification in Japan*. Interestingly, the striking present-day relevance of tourism in these areas links back to the strategies that Suzanne Culter already described in talking about Yūbari in the twentieth century. Overall, what consequently seems to appear from a broad overview of the course of the former Japanese coal-mining communities today is a significant process of gentrification. The historical and industrial heritage that these cities possess emerges as having become a key element in promoting their survival long after the failure of coal mining.[15]

The work of Lim highlights some of these processes in cities such as Yūbari, Mikasa, Bibai, and Kushiro. Yūbari is described as showing great care for its industrial heritage, which is promoted as a most significant source of tourism.[16] More broadly, the

[15] Tai Wei LIM, Naoko SHIMAZAKI, Yoshihisa GODO, Yiru LIM, *Coal Mining Communities*..., cit., *pp. 67-69*.
[16] Tai Wei LIM, Naoko SHIMAZAKI, Yoshihisa GODO, Yiru LIM, *Coal Mining Communities*..., cit., *pp. 69-70*.

development of coal-mining-related museums in Yūbari, Mikasa, and Kushiro is an example of the way these communities can make the most of their mining past. In doing so, the most meaningful elements of the former key industry of these areas can thus be leveraged to sustain the remaining communities by attracting tourists.[17] Overall, the cities thus seem to be doing a good job of harvesting their coal-related history and knowledge to preserve themselves.[18] Additionally, alongside these historically relevant attractions the cities seem to also be focusing their efforts on promoting nature-related tourist activities. As such, by adhering to the growing contemporary environmental concerns, the municipalities are removing the potentially damaging relics of their coal-mining past to protect the surrounding nature. The resulting Hokkaidō landscape itself consequently becomes reason for people to visit the former mining cities, be it to enjoy the natural beauty itself or to partake in a wide range of outdoor activities.[19]

Additional contributions to tourism then originate within the local network of events, such as seasonal *matsuri* or other occurrences which managed to attract significant attention within Japan and abroad. A most obvious example is an international film festival hosted in Yūbari, which has grown in size and importance over the course of many years. Similarly, food and agriculture have repeatedly managed to position themselves as notable local contributors. While the most obvious example is certainly the previously mentioned Yūbari melon, the wine produced in Mikasa and the general agricultural produce of Bibai are also worthy of recognition.[20] Finally, as noted by Lim during his fieldwork in Kushiro, the local Ainu heritage has also become the subject of attention. As such, the Ainu culture and history have been reconsidered to promote tourism in the area outside of its former coal-mining past.[21]

Japan, and Hokkaidō specifically, are not the only Asian regions leveraging their mining past to help their survival in the present day. As Lim notes, similar projects can be found in countries such as Malaysia and Indonesia, where the potential of the former mining culture has similarly been acknowledged.[22] However, these growing calls for the

[17] Tai Wei LIM, Naoko SHIMAZAKI, Yoshihisa GODO, Yiru LIM, *Coal Mining Communities…*, cit., *pp. 88-91*.
[18] Tai Wei LIM, Naoko SHIMAZAKI, Yoshihisa GODO, Yiru LIM, *Coal Mining Communities…*, cit., *p. 94*.
[19] Tai Wei LIM, Naoko SHIMAZAKI, Yoshihisa GODO, Yiru LIM, *Coal Mining Communities…*, cit., *pp. 85-86*.
[20] Tai Wei LIM, Naoko SHIMAZAKI, Yoshihisa GODO, Yiru LIM, *Coal Mining Communities…*, cit., *pp. 92-97*.
[21] Tai Wei LIM, Naoko SHIMAZAKI, Yoshihisa GODO, Yiru LIM, *Coal Mining Communities…*, cit., *pp. 105-106*.
[22] Tai Wei LIM, Naoko SHIMAZAKI, Yoshihisa GODO, Yiru LIM, *Coal Mining Communities…*, cit., *pp. 71-73*.

harnessing of tourism appear to require a significantly cautious approach in promoting this area of the economy as the key for the survival of former coal-mining communities. As has been discussed previously, Suzanne Culter's *Managing Decline* already noted the potential risks intrinsic in the growth of tourism in the late twentieth century. With the rise of globalization, these calls for care appear as even more significant. As the former coal-mining areas transform into gentrified spaces, the choice to rely on tourism should thus be taken carefully.[23] An unruly growth of tourism could potentially result in the remaining inhabitants of these communities finding themselves pushed aside once again. Ironically, this scenario would somewhat echo the fate that the local population experienced during the decline of the coal mining industry. On top of the most significant social meaning of these changes, their economic viability must also be considered. As an example, Lim notes that the city of Yūbari currently treads carefully in debating which projects it should push forward. After all, the city previously found itself dealing with ruinous finances after some striking failures in the previous decades. Ultimately, these past developments also call for the involvement of civil society and non-profit organization in shaping the future of these communities.[24] Notably, the key issue of the limited contribution of civil society in the contemporary history of Yūbari and the resulting issues has previously been described by Bi-Matsui Taotao.[25]

Finally, some extremely limited forms of coal mining also survive in present-day Hokkaidō. The most notable case is the Kushiro coal mine, which to this day still actively yields a limited amount of coal. Similarly, the city of Bibai is also recorded as having occasionally increased its remaining coal mining activities as to respond to temporary crises, such as the Great East Japan Earthquake of 2011 or the 2008 spike in oil prices. Nonetheless, the survival of these mines appears as strongly linked to national and international circumstances, while their long-term autonomous viability can be considered fully jeopardized.[26] Additionally, some of the key features of coal mining in these areas appear as being significantly different to those of the past. Namely, the

[23] Tai Wei LIM, Naoko SHIMAZAKI, Yoshihisa GODO, Yiru LIM, *Coal Mining Communities*..., cit., *pp. 74-75*.
[24] Tai Wei LIM, Naoko SHIMAZAKI, Yoshihisa GODO, Yiru LIM, *Coal Mining Communities*..., cit., *pp. 87-88*.
[25] BI-MATSUI, Taotao, "Weakness in Japan's Civil Society in the Postwar Era: The Yubari City Case Study", Risshō Management Review, 48, 1, 2015, pp. 73–74.
[26] Tai Wei LIM, Naoko SHIMAZAKI, Yoshihisa GODO, Yiru LIM, *Coal Mining Communities*..., cit., *pp. 82-84*.

present-day Kushiro mine appears to focus greatly on safety.[27] This change certainly reflects the transformations that the Japanese coal mining industry has enacted starting in the late twentieth century, which have been described in the first chapter of this work. As Japanese coal mining shifted its focus from production to safety and research, the surviving mines have welcomed this new role to guarantee their survival.

As this research focused on the experience and significance of Akabira in the twentieth century, the dynamics that developed in the city starting in the new millennium have not been discussed. Nonetheless, these local developments in the broader Hokkaidō scenario suggest that inquiry into the present-day circumstances of Akabira could further expand the knowledge of the evolution of the former Japanese coal-mining communities and of the broader Sorachi region. Topics such as tourism and gentrification appear as key in understanding how the contemporary history of these towns has progressed beyond the end of the twentieth century and the most striking phase of the Japanese coal crisis. As of today, some questions are certainly left unanswered. Nonetheless, an additional exploration of the history of Akabira and its neighboring communities promises to inform decisions concerning national and international crises which could potentially arise in the contemporary scenario.

CLOSING REMARKS

As the world increasingly calls for a move towards greater environmental sustainability, the relevance of coal as a viable energy source is certainly bound to shrink even more than it already has. As such, the story of Akabira and of the broader Sorachi region could lead the way in managing the curtailment of coal-related activities in different parts of the world. The contemporary experience of these mining communities appears as most significant due to the wide array of local and global processes ultimately shaping their survival. Their striking reliance on national and international circumstances, such as the shifting balance in energy supply and demand, emerges as an issue likely to similarly

[27] Tai Wei LIM, Naoko SHIMAZAKI, Yoshihisa GODO, Yiru LIM, *Coal Mining Communities…*, cit., *pp. 99-102*.

occur in different areas still dealing with coal. Furthermore, it can reasonably be argued that similar concerns will one day present themselves in regions dealing with other fossil fuels, the use of which will possibly experience a similar contraction in the near future. Additionally, the different approaches that these Hokkaidō municipalities are employing in their present-day rehabilitation, such as tourism and gentrification, can rationally be expected to find a place in the strategies of other areas of the world as well. As such, understanding the history of Akabira proves useful in anticipating some of the core concerns that may emerge in the different fields of social and economic life of a multitude of local communities dealing with industrial transformations.

Far from having been understood to the fullest, the detailed experience of Akabira still requires further research. Similarly, its position within the Sorachi region, and the broader course of the entire area itself, could use further inquiry. What nonetheless appears from this research is a set of undesirable consequences that the city of Akabira found itself dealing with specifically because of its position as a coal-mining city. Finding itself at the crossroads of changing national energy needs, international shifts in the energy markets, and community transformations, its experience could potentially be analyzed from a multitude of additional standpoints. What this research ultimately hopes to have achieved is providing some knowledge which could potentially prove useful in protecting people from the negative effects of economic dynamics outside of their control. In an increasingly globalized world, the experience of the people of Akabira could be that of other communities still in the making.

As has been described in comparing the experiences of Yūbari and Akabira, no two communities share the exact same course even when dealing with similar issues. However, it is my belief that the pain that different people deal with when facing the same unexpected and challenging circumstances can be likened to a significant degree. As such, I believe there is a lot that the experience of each group can teach to others as to lessen their burden. I like to think that the citizens of Akabira would want their story to reach other people sharing their concerns precisely to achieve this goal.

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