THE BIRTH OF STEEL INDUSTRY IN KOREA

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The Birth of Steel Industry in Korea

- Steel is to industrialization **what rainwater is to an oasis.**
- **Demand** for steel **surged as reconstruction** and **industrial development proceeded** in the 1960s. However, in 1961, the **domestic demand** for steel was at **most 116,000 metric tons**.
- The majority was produced through a process of **melting scrap iron** in **small-scale electric smelting furnaces**.
- As in other areas, South Korea was **lagging North Korea** in **steel production** during this period too.
- **North Korea** for instance had the **capacity to produce 1 million** metric tons of pig iron at the time.
- South Korea meanwhile **lacked** the **fundamental conditions favorable for developing an iron and steel industry**, because of both challenges of **economies of scale** and the difficulties associated with using iron ore as a **primary raw material**.
- South Korea had **few sizable iron ore deposits** on its territory. It also **did not have** the **requisite technology** and **capital for the construction** and maintenance of an integrated iron and steel plant.

Source: Directly quoted from Chun, S.H. (2018). *The Economic Development of South Korea: From Poverty to a Modern Industrial State*. London: Routledge.

The Birth of Steel Industry in Korea (cont'd)

- It wasn't just a question of limited domestic production, but also as alluded to earlier, the country had a **very marginal domestic demand** that made **the construction of a steel mill** an **impossible proposition**.
- The **average international annual capacity standard** required for a steel plant stood at **3 million metric tons**, then it becomes clear why this was the case.
- These explain why it was mainly established **industrial economies** of the day such as the **United States**, **Japan**, **Germany**, **Great Britain** and a few others who had the capacity to **produce industrial scale steel mills**.
- Despite the **unfavorable conditions**, President Park wanted to build an **integrated iron and steel works** as he had an unwavering belief that it was **an integral part of the industrialization** he was in pursuit of.

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- Moreover, it was **one of the three pieces of advice** given him by **West German Chancellor Ludwig Erhard** in 1964.
- As part of the first steps toward the realization of this goal, **Dr. Kim Jae-kwan**, a **Korean scientist resident in West Germany**, commissioned a report entitled "**Proposal for Development of Iron and Steel Industry in Korea**," as the **primary policy framework** for steel.
- Toward that end President Park asked **Fred Foy**, **chairman** of Koppers Co. of the **United States**, to organize a consortium for steel mill construction in Korea, which culminated in the **Korea International Steel Associates (KISA)** being formed in December 1966, bringing together **steel mill builders and engineering companies** from the **United States**, **West Germany**, **Britain**, **France** and **Italy**.
- Under a presidential decree, a **long-term project** to develop a **domestic steel industry** was incorporated into the **second Five-Year Economic Development Plan** starting in **1967**.
- The KISA decided in October 1967 that the mill's annual production capacity would be **600,000 tons** and that its construction would be financed with **$100 million in loans** from abroad and another **$25 million from domestic sources**.

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The Birth of Steel Industry in Korea (cont'd)

- For some reason, the government put the cart before the horse in 1968 when it went ahead to establish the **Pohang Iron and Steel Co. (POSCO)** and declared **the launch of steel mill construction** without procuring the required funding for the project.
- Unsurprisingly, the negotiation for procuring a foreign loan hit a snag along the way, seriously calling into question the entire project. President Park **dismissed Chang Ki-young** from the **post of deputy prime minister**, holding him responsible for the delay in securing the funding and **appointed Minister of Trade and Industry Park Chung-hoon** as his replacement.
- No immediate progress was forthcoming even with this personnel shift. The new deputy prime minister visited the **United States** and **West Germany** to persuade their export-import banks to commit themselves to the provision of loans to the country's steel mill project, but **his efforts were to no avail**.
- Although **no progress** was being made in its negotiations with **potential loan providers**, the **KISA** urged the government to **conclude a contract** with a **technical service provider** on operating the plant for the first several years.

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- Around this time, an official in charge of the **Korea desk at the World Bank** published a report claiming that the **country's steel mill project had no economic viability**.
- In fact, it is worth noting that there is a precedence of developing countries failing at steel mill ventures.
- A number of developing countries, including **India**, **Turkey**, **Mexico** and **Brazil**, ventured into similar grand projects in the early 1960s, with **economic viability in mind**.
- However, they ran into **various difficulties** concerning **financing**, **technology**, **operation** and **diseconomies of scale**. South Korea's conditions for integrated steel mills was **even worse** than those countries in terms of **domestic market** and **resource endowment**.
- It therefore came as no surprise that the project failed to attract the required funding, to which President Park was quoted as saying, "**We will still have to build a steel mill no matter what**." President Park was under pressure to abandon his steel mill plan.
- Newspapers came out and demanded in their editorials that the nation should choose to **import steel products instead of pushing for domestic production**. Rather than yielding to mounting pressure, he renewed his resolve, **appointed Kim Hak-yeol to succeed Park Chung-hoon** as new deputy prime minister and put him in charge of building POSCO.

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- Entering his office for the first time as the new deputy prime minister, Kim Hak-yeol wrote "**Construction of an Integrated Iron and Steel Plant**" on the **blackboard in his office**.
- Then he told his secretaries that it should only be erased when he leaves office or when the steel mill construction is completed.
- As the new man at the helm of the bid to secure funding for the project, he was practically **burdened by the pressure to deliver results**. President Park was **under pressure to abandon his steel mill plan**.
- After nearly every effort had failed, **the last resort** was to go against the terms of the **bilateral agreement with Japan** over the **reparation funds**.
- The fund projects **were already underway** based on **the formal agreement between both governments**.

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- Given that the funds were a **compensation for Japan's colonial rule**, few would have imagined they could justifiably be used for such an industrial project.
- It was generally believed that they **should be used to improve the quality of life of all Korean people**, because they were the **victims of Japan's colonial occupation** in one way or another.
- Yet, the negotiators proposed to spend them on a large industrial project. On hearing the proposal, President Park ordered that the existing spending plan of **the reparation be suspended and renegotiated**. His aim was **to spend the remainder of the fund on the steel mill project**.
- It took a great deal of persuasion to get Tokyo to accede to the proposed changes to the originally agreed terms.
- Then a new agreement was signed on December 3, 1969, **paving the way for POSCO to build an integrated iron and steel mill**.

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- In fact, South Korea was **indebted to Yoshihiro Inayama**, **Nippon Steel chairman**, for the successful renegotiations. **He endorsed the steel mill project** in the face of opposition from China, which declared the four Zhou Enlai principles in May 1970, effectively banning Japanese companies doing business with Taiwan and South Korea from entering the Chinese market.
- President Park, set the capacity for iron **production at 1 million tons**, much **smaller** than the **international standard capacity** mentioned earlier.
- To get the project up and running, an additional **KRW 23 billion** from state coffers had to be injected into the project in addition to **investing $30.8 million from the reparation fund**.
- The government also appropriated **$42.9 million in soft loans** from the **Japanese government** and another **$50 million in commercial loans** from the **Export-Import Bank of Japan** to help cover the remainder.
- Another measure taken by the government to help POSCO attain sound financial management was to **shoulder the burden of financing** the construction of all **required infrastructure.**

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- In addition, it also made it possible for POSCO to **turn loans from public institutions and banks into equity shares** to **retain profits instead of paying them out in dividends** to its shareholders – the Korean government, Korea Development Bank, commercial banks and the Korea Tungsten Mining Company.
- If funding proved to be an extremely tall order, construction was not any easier. When construction started, **none of the 30-odd POSCO founding members knew what a smelting furnace was really like**.
- Those responsible for construction later compared the construction process to waging a war.
- Yet they accomplished the mission, comprising **22 huge plants**, **in record time** and at the **lowest possible cost**.
- POSCO had to reclaim **8.26 million square meters** of **coastal wetland by dredging sand**, rocks and clay from the seabed for the construction site, of **concrete to be poured each day**, but the tight work schedule raised the amount to **700 square meters per day**.

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- Based on its business strategy of **manufacturing final steel products with imported intermediate products** during the period of construction works underway, POSCO built rolling mills ahead of smelting furnaces and other plants.
- By doing so, it could use **profits from the final products** to help **defray the construction cost**.
- POSCO's growth into a global steelmaking powerhouse cannot be talked about without mentioning the unwavering support President Park had as its patron and the unreserved devotion **Park Tae-jun** maintained as its founding leader.
- President Park **protected POSCO from undue influence** of special interest individuals and groups.
- One case in point involved political contributions by corporations. It was a **political custom** that a **part of foreign loans** that Korean businesses procured to finance their projects found its way into the **pockets of political parties and leaders**.
- Aware of this canker, President Park ordered **Tae-jun** to never yield to any unjustifiable pressure from politicians and told him to **report** any such cases **directly to his office**.

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- With **demand for steel soaring**, POSCO decided to build **a second integrated iron and steel plant** on the coast of Kwangyang Bay.
- Here again, POSCO **relied on the Japanese steelmaking** industry **for technical assistance**. Japanese steelmakers, who were wary of POSCO making inroads into the Japanese market, were **initially reluctant to provide technical assistance**.
- Due credit should be given to **Yoshihiro Inayama, Nippon Steel chairman**, who reportedly persuaded wary Japanese steelmakers to provide technical assistance for POSCO's new construction project here too.
- Japanese steelmakers decide to **provide POSCO with technical assistance**, instead of engaging directly in construction.
- With the combined production capacity of the Pohang and Kwangyang steel plant reaching **41.43 million tons in 2014**, South Korea became the **fifth largest steel producer** in the world after China, Japan, the United States and India.

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- Dr. John P. W. Jaffe, who authored the **World Bank report** that **cast aspersions on the POSCO project**, recalled later that "Korea virtually created something out of nothing when it built steelworks, despite a feasibility study that had concluded it would not be viable in any way.
- It was nothing short of a miracle. As its **integrated iron and steel plants had very effective forward and backward linkages**, **POSCO** was of great help to the country's **industrial development**.
- In retrospect, it clearly goes without saying that had the **steel mill project not being carried out**, then it clearly the nation's economic development **behind Taiwan and China**. and that made the construction of a **steel mill an impossible proposition**.
- If you think of the fact that the **average international annual capacity standard** required for a steel plant stood at **3 million metric tons**, then it becomes clear why this was the case.
- These explain why it was mainly **established industrial economies** of the day such as the United States, Japan, Germany, Great Britain and a few others who had the capacity to produce industrial scale steel mills.

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