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Emerging of New Korean Manpower Generation Post WWII, 1945-1963

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【Abstract】

Unlike the dazzling economic growth in the 1960s, building human resources in Korea occurred post WWII and in the 1950s under very weak conditions. In general, the Korean economy is said to have started to grow in earnest in the 1960s, but we need to analyze the recovery process of the technical void immediately post WWII and in the 1950s that made the economic growth of the 1960s possible. The graduates of elementary and middle increased immediately post WWII because the U.S. Military Government reconfigured school education. The Survey of Employed Technical Manpower says that graduates in science and engineers enlarged post WWII more speedy than colonial period. During post WWII to 1950s called void period, new manpower generation emerged and it made a basis of economic growth in the 1960s.

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Keywords : Manpower, Human Resources, New Generation, Colonial Period, Post WWII

Introduction

The purpose of this paper is to shed light on the continuity and discontinuity of the colonial period into the 1960s by analyzing the establishment of human resources in the 1950s. In general, the Korean economy is said to have started to grow in earnest in the 1960s, but we cannot say that there is enough research on the recovery process of the technical void[1] in the 1950s that made the economic growth of the 1960s possible. Hence the analysis of the actual conditions of the recovery process through the establishment of human resources is the primary task of this paper.

Unlike the dazzling economic growth in the 1960s, building human resources in Korea occurred post WWII and in the 1950s under very weak conditions. Taiwan and North Korea as the colonized and Japan as the colonizing imperial nation were in similar repetitively chaotic situations after the end of the war,

1) *Joseon gisulga myeongbu* 〔Engineers' Name List in Korea〕 is the most reliable source on the condition of colonial technicians and contains a complete list of technicians from 1939 who graduated from at least vocational school. The total number of technicians was 6,775, among whom 5,720 or 84.4percent were Japanese (Sawai and Sun, 1930 nendai 40 nendai zenhan no chosen niokeru gijutsusha bunpu).

but they went through different situations in building human resources. In a short period of time, Japan secured 4.2 million highly skilled resources in the form of returnees, including Japanese technicians from its colonies, which is equivalent to 12 percent of its domestic labor force, and they were streamlined mainly into the non-agricultural labor market.[2] Taiwan filled the void in human resources left by the large number of Japanese engineers and technicians returning to their homeland through restructuring its organizations in the form of promoting technology education, hiring mainland Chinese who had experience in running companies as executives and managers, and promoting Taiwanese managers who had on-the-job experience as superintendents.[3] North Korea, on the other hand, expanded its human resources by detaining Japanese technicians to alter fuel engine to make natural fuel and by putting them in charge of technology education.[4]

The condition of human resources in South Korea was at a considerable disadvantage in comparison to its neighbors. South Korea was in a position to concentrate more on training engineers and technicians.

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2) Odaka, Hikiagesha to senso chokugo no rodoryoku.
3) Minato, *Kindai taiwan dennryoku sangyo: shokuminchi kogyoka to shihon shijo*.
4) Morita and Nagata, *Chosen Shusen no Kiroku*.

I. Data: Survey of Employed Technical Manpower

We have little information in terms of post WWII and in the 1950s. The *Chieop gisulgye injeokjawon josa bogoseo* (Survey of Employed Technical Manpower, Economic Planning Board, Republic of Korea, 1963, hereafter the Survey of 1963) provides information for human resources in science and engineer even it was not serial survey itself. The Survey of 1963 aimed at surveying the numerical status of technical manpower resources in Korea, preparing statistical tables by industry and occupation and providing basic data necessary for formulation of the technical development policies. The Economic Planning Board already surveyed for same purpose in 1961 (*Hanguk gisulgye injeokjawon josa bogoseo*, 〔Technical Manpower Resources Survey of Korea〕). The survey of 1963 was upgraded what the questionnaire was designed not in the individual unit form but in the multi unit form and the number of enumeration items was steeply increased. Therefore, we can classify supply side as like major at school and demand side as like experience and occupation.

The survey of 1963 was conducted to enumerate technical workers who are engaged in the various establishments and organizations. In the case of establishments, it was divided into two groups which are large, and medium and small establishments. In the taking of survey, 1,586 large establishments (employing 50 persons and over), and 2,106 public establishments ('government offices', 'public entities' and 'various science and engineering schools')

were enumerated in the complete enumeration method, while 3,580 medium and small establishments (employing 5 to 49 persons) in sampling method.

The most strength of the Survey of 1963 is that it provides time series information for technical manpower is able to compare between colonial period and post WWII. But we need to recognize that the information in colonial period would be underestimated because that information gets from those who were employed in 1963.

Ⅱ. Supply: Education and Major

The number of enrollment students at elementary school and at middle school was 2,159 thousand and 124 thousand in 1946 respectively (Figure 1).[5] In 1962, right before high growth period, they increased into twofold of 4,089 thousand and fivefold of 655 thousand in particular. This is the evidence that middle education service was not enough rather than elementary school service in colonial period. During the Korean War, 1950-1953, it affected the growth of student but it was not big impact ever we thought. The ratio of reduction was 22 percent from 1950 to 1951 but it recovered in 1954.

5) The number of 1945 does not include the data of branch school.

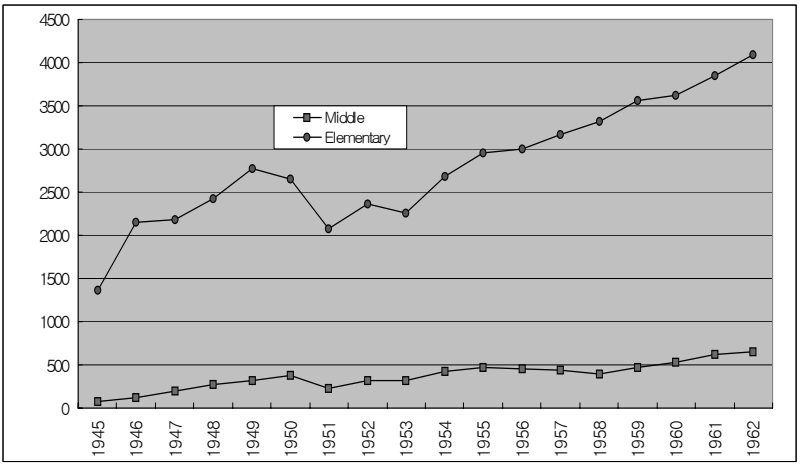

Figure 1. Enrollment after post WWII (thousand students)
Source: Tonggyero bon hangukgyoyuk ui baljachui.

First of all, we need to focus on the growth of student in the immediate post WWII even though Japanese teachers went back to their home country. The number of elementary school teachers increased from 28,338 of 1946 to 68,124 of 1962 during the number of elementary schools expanded from 3,172 of 1946 to 4,732 of 1962.[6] The number of middle school teachers increased from 4,899 of 1946 to 16,163 of 1962 during the number of middle school expanded from 344 of 1946 to 1,122 of 1962. The growth ratio of teacher was 240 percent at elementary school and 330 percent at middle school from 1946 to 1962.

The rapid reestablishment of educational institutions had made to give a chance to Korean people during reconstruction period from 1945 to 1962.[7] On September 1945, the U.S. Military

6) Korean Educational Development Institute, *Tonggyero bon hangukgyoyuk*.
7) Sun, Building of Human Resources.

Government Establishment held a meeting with the Korean leading group of education in order to reopen closed schools and substitute Japanese officials and teachers to Koreans. The U.S. Military Government Establishment also established the "Committee on Technology Education" to dispatch students to study abroad in the U.S. and train apprentices domestically on December 1945.

The graduates of science and engineering and the graduates of agriculture and fishery dramatically increased from 1947 to 1956 (Figure 2). The major in science and engineering consists of basic science (physics, astronomy, chemistry, mathematics, topography, geology, biology, plant, animal, science), engineering (chemical, fibro engineering, civil engineering, construction engineering, electricity engineering, electron engineering, machine engineering, ship building, shipbuilding and aviation, metal engineering, atomic engineering), medical and pharmacy (medicine, physic science, dentistry, nursing), and manufacturing and mining (applied chemistry, food manufacturing, fibro, textile, dyeing, dressmaking, engineering work, civil engineering and architecture, construction, sculpture, design, electricity, electronics, correspondence, machine, weapons, knitting, navigation, engine, automobile, ceramics, watch, iron work, mining, metal, mine, metallurgy, mine and metallurgy).[8] But after 1957, the graduates of agriculture and fishery decreased during the graduates of science and engineering maintained and

8) By the way, the major in agriculture and fishery is consist of agriculture, forestry, agricultural engineering work, agricultural chemistry, agricultural biology, horticulture, stockbreeding, sericulture, silk yarn, agricultural household, agricultural manufacture, marine manufacture, fishing, multiplication, veterinarian, veterinary and stockbreeding, beacon and agriculture and industry.

expanded even not so much. The reconfiguring school education policy influenced science and engineering part rather than agriculture and fishery part.

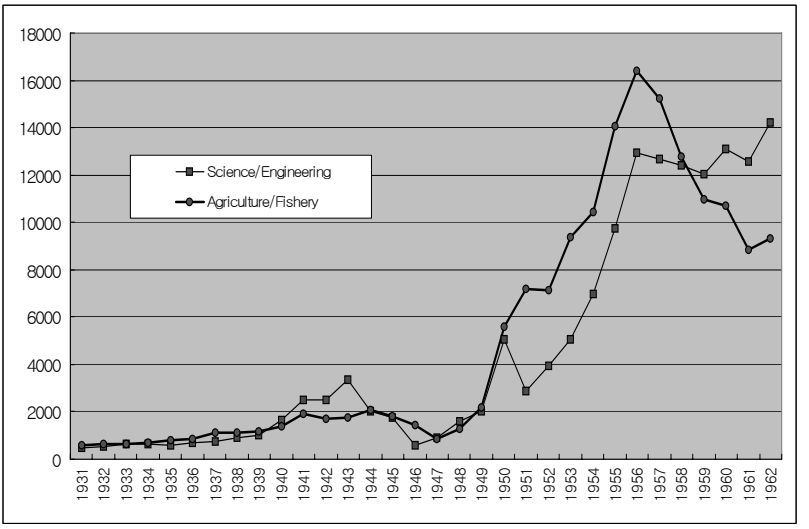

Figure 2. The trend in the science and engineering graduates comparing to agriculture and fishery per major (students)

Source: Chieop gisulgye injeokjawon josa bogoseo.

The result of reconfiguring school education policy emerged at increasing graduates number of science and engineering (Figure 3). During Asia-Pacific War, the number of middle school graduates increased swiftly although it decreased in 1944. We need to give attention to increasing the number of university and college graduates as well as middle school graduates from 1946 to 1956 except 1951. We can also recognize that the Korean War did not affect so much the growth of science and engineering graduates. But after 1957, the number of graduates at university and college

enlarged continually during the number of graduates at middle school declined. The basic science, engineering, and medical and pharmacy led the growth of higher education graduates. This means that the education policy in science and engineering concentrated to higher education intentionally as well as middle education post WWII and the results emerged after the last of 1950s.

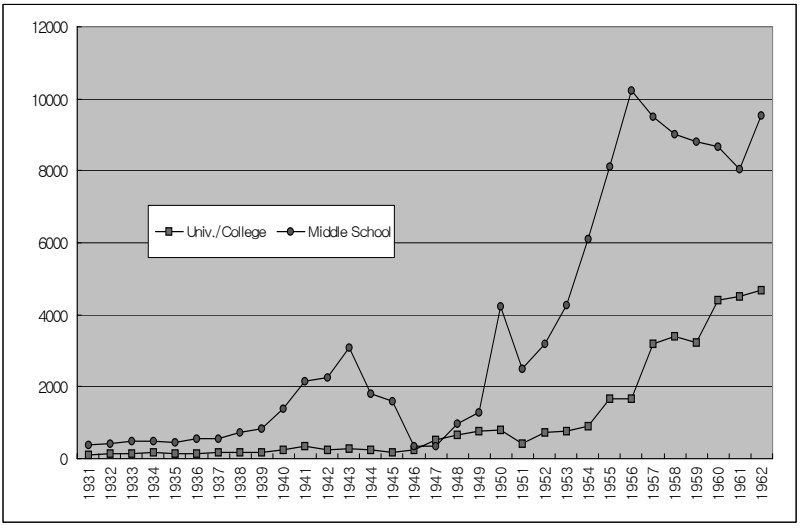

Figure 3. The number of graduates in the science and engineering (students)
Source: See Figure 2.

Four main majors, which were chemistry, electricity, machine and textile, led industrialization since 1960s. Chemistry major graduates extended from 1947 to 1957 except in 1951 of a little decreasing (Figure 4). Electricity major graduates enlarged from 1948 to 1957 except in 1951. Machine major graduates boosted from 1947 to 1956 more speedy than colonial period except in 1951 which decreased into 55 percent comparing to 1950. Textile major

graduates increased gradually from 1948 to 1956 even though 44 percent decreased in 1951. We recognized that the trend of four main majors' graduates was similar to total graduates in the science and engineering even though we need to figure out why textile major graduates dramatically boosted from 1961 to 1962.

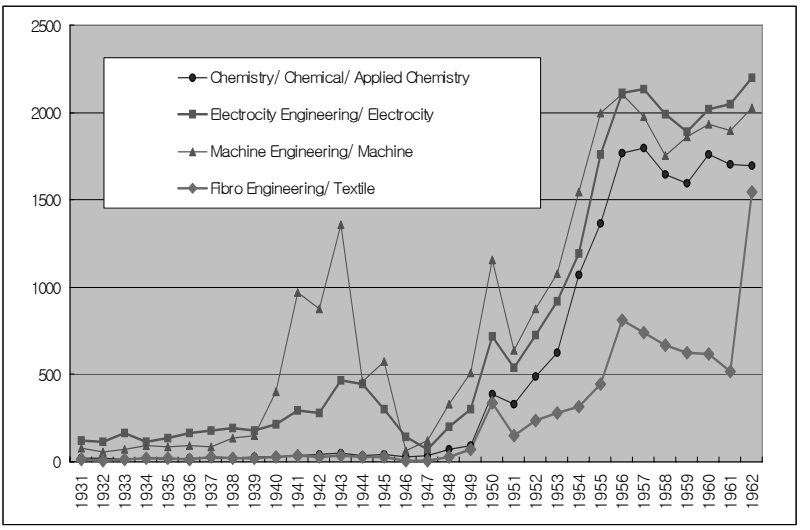

Figure 4. The trend in the science and engineering graduates per major (students)
Source : See Figure 2.

Ⅲ. Demand: Skill, Experience, Age and Scale

At the *Chieop gisulgye injeokjawon josa bogoseo*, skills are classified into engineers, technicians, skilled craftsmen and semi-skilled craft. Those are explained as follows:

Engineers

Graduates of science and engineering colleges (including old system colleges) within and outside the country or those who passed "the Examination for Public Technical Senior Officials" who are now engaged in the technical field in which they were trained (or in scientific or engineering work in closely related work).

Holders of Public license of class A and class B in construction engineering who are engaged in the work for which they are licensed.

Technicians

A. Those who graduated from junior science and engineering colleges or those who finished the second year course of science and engineering in a senior college, within and outside the country, or who passed "the Examination for Public Technical Junior Officials" who are now engaged in the work in the technical field in which they were trained.
B. Graduates of technical high schools who are engaged in the work requiring high school training and have three years or more experience.
C. Holders of Public license of class C in construction engineering who are now engaged in the field in which they are licensed.

Skilled Craftsmen

Skilled craftsmen are those who can perform the work which can be mastered with three years or more experience in the technical field requiring six months or more experience and who can supervise other workers with lower skills. Skilled craftsmen must have a thorough knowledge of the production process involved and ability to exercise considerable independent judgment. Usually a high degree of dexterity is required, and sometimes the craftsmen must have the responsibility for valuable products and equipment.

Semi-skilled Craftsmen

Semi-skilled craftsmen are those who can perform, under the supervision of skilled craftsmen, the work that can be mastered and

performed with experience of one to three years, in the technical field requiring six months or more experience.

In 1963, by experience, public establishment employed 9,112 engineers that were 56.2 percent of 16,201 total engineers. Large scale establishment and medium and small scale establishment employed 3,679 engineers of 22.7 percent and 3,410 engineers of 21.1 percent respectively. Also, public establishment employed 7,227 technicians that were 51.4 percent of 14,171 total technicians. Large scale establishment and medium and small scale establishment employed 3,154 technicians of 22.3 percent and 3,790 technicians of 26.3 percent in particular. By the way, public establishment employed 18,235 craftsmen that were only 10.1 percent of 180,931 total craftsmen. Large scale establishment and medium and small scale establishment employed 72,323 craftsmen of 40.0 percent and 90,373 craftsmen of 49.9 percent respectively. Almost 80 percent engineers and technicians were employed at public establishment and large scale establishment.

Public establishment employed 7,534 engineers post WWII that was 82.7 percent of 9,112 total engineers. Large scale establishment employed 2,904 since 1945 that was 78.9 percent of 3,679 total engineers during medium and small establishment employed a half of 3,410 total engineers post WWII (Figure 5). This trend is similar to the trend by age group (Figure 6). Approximately, 70 percent of technicians were employed since 1945 at Public establishment and large scale establishment during a half of technicians were employed post WWII at medium and small scale establishment. In case of craftsmen, above of 85 percent was

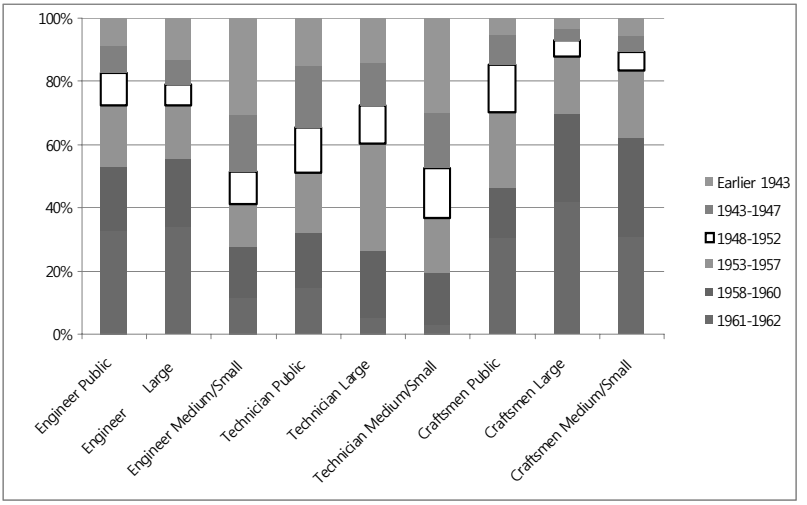

Figure 5. Employees by skill classification and experience at public establishments, large, and medium and small establishments (%)

Source : See Figure 2.

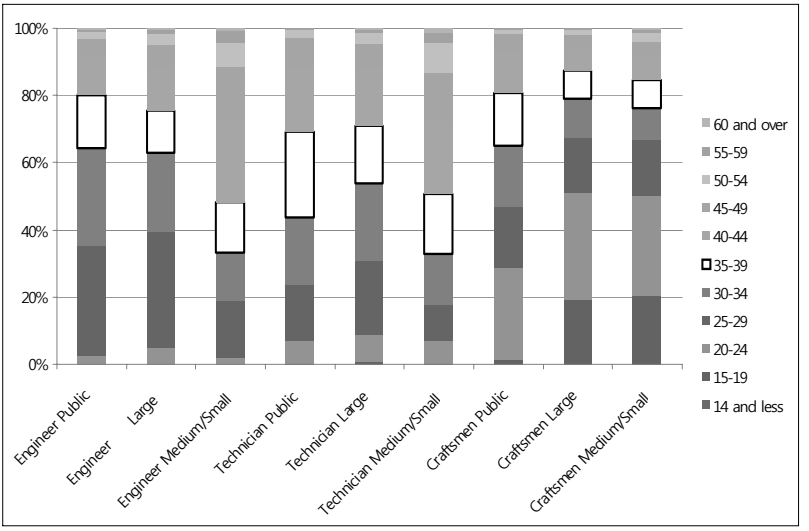

Figure 6. Employees by skill classification and age group at public establishments, large, and medium and small establishments (%)

Source : See Figure 2.

employed post WWII at all establishments.

A ratio of engineers, who were employed post WWII, at electricity, machinery and chemical occupations was higher than technicians who were employed post WWII (Figure 7). Almost 90 percent of technicians for chemical and textile were employed after 1947. Electricity technicians of 70 percent were employed after 1947, but machinery technicians of 40 percent were employed before 1948. This was originated from machinery major graduates enlarged during Asia-Pacific War (Figure 4). Even though that ratio was higher than other occupations, machinery engineers, who were employed after 1947, were 74.2 percent because the number of machinery major graduates increased post WWII rather than Asia-Pacific War period.

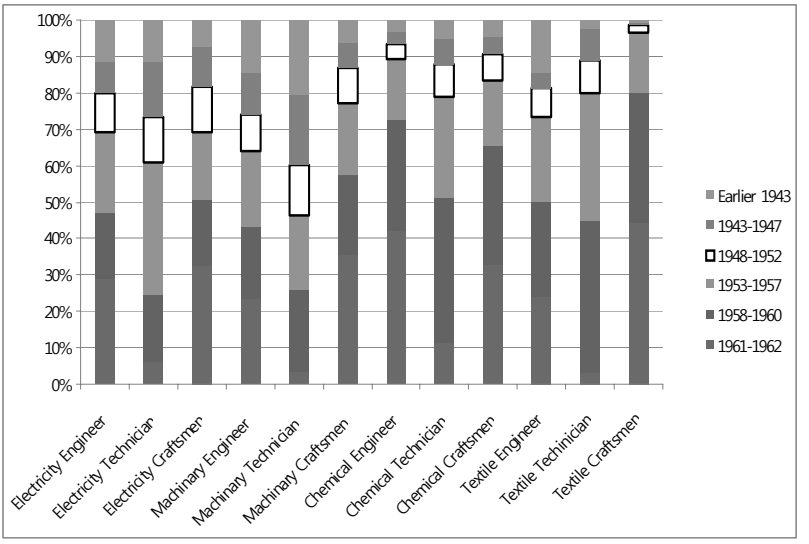

Figure 7. Employees by skill classification, experience and occupation (%)

Source : See Figure 2.

The total number of engineer, technician and craftsmen, who worked at electrical, machinery, chemical and textile industries, was 91,000 while the total number of engineer, technician and craftsmen, who has electricity, machinery, chemical and textile occupations, was 122,272. The electricity occupation engineers and technicians were 1,229 and 2,500 while the engineers who worked at electrical and machinery industries were 143 and 220 respectively. This says the fact that engineers, technicians and craftsmen, who have occupations of electricity and machinery which use for general purpose, worked at various industries. We can verify this fact at Figure 8 that a ratio of engineers and technicians who were employed post WWII and worked at chemical and textile industries, was higher than at electrical and machinery industries.

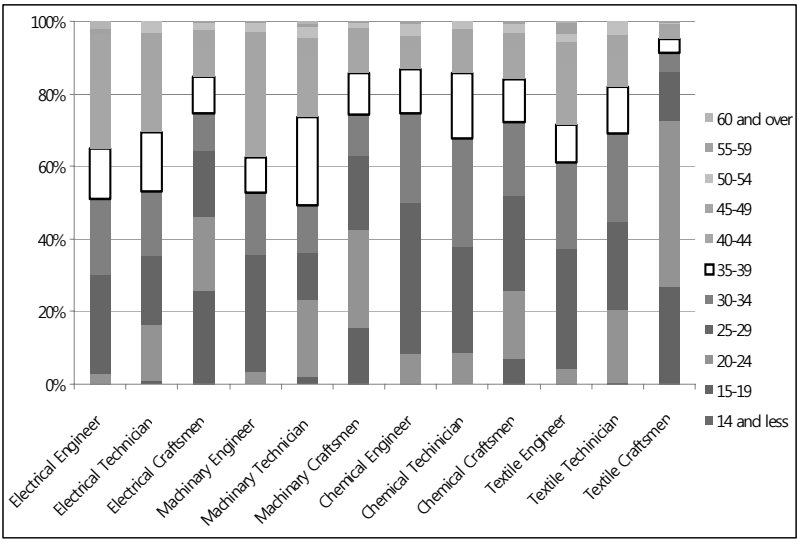

Figure 8. Employees by skill classification, age group and industry (%)

Source : See Figure 2.

Concluding Remarks

Korea's economy immediately post WWII repeatedly went through chaos. But human resources, which was most important to reconstruction in the late 1950s and the sudden development since the late 1960s, have been relatively systematically prepared through trial and error since 1945.

The U.S. Military Government Establishment reconfigured school education by means of obtaining advice from Koreans in the field of education, the result of which was the rapid expansion in the number of science and engineering students who graduated since the mid-1950s. Technology was smoothly introduced since the mid-1950s in preparation for full-scale industrialization in the 1960s because the U.S. Military Government and the Korean Government systematically improved the system of training skilled laborers and the school educational system post WWII.

The growth of graduates in science and engineers post WWII made a new manpower generation. Most of engineers, technicians and craftsmen, who worked at public establishments and large scale establishment, and all of workers of medium and small scale establishment, graduated post WWII even though a half of engineers and technicians, who graduated before 1945, worked at medium and small scale establishments.

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【국문초록】

해방 후 새로운 인적자원의 출현, 1945-1963

선재원

1960년대의 눈부신 경제 성장과는 달리, 해방직후부터 1950년대의 한국의 인적자원은 매우 열악한 환경 속에서 새롭게 형성되었다. 일반적으로 한국경제는 1960년대에 본격적으로 발전하기 시작했다고 하지만, 해방직후와 1960년대의 경제성장을 가능하게 한 1950년대 기술공백의 회복과정을 주목해야 한다. 해방직후 초등 중등 졸업생이 늘어난 것은 미군이 학교교육을 개편한 결과였다. 고용된 기술인력에 대한 조사에 따르면, 과학과 공학분야의 졸업생들이 식민지기보다 해방 후에 더 빠르게 증가했다. 해방 후 최초로 체계적으로 조사된 인적자원 통계에 의하면, 해방 직후 공백기라고 불리는 1950년대에 새로운 인적자원이 출현했다. 이 새로운 인적자원이 1960년대 경제성장의 기초를 마련했던 것이다.

주제어: 노동력, 인적자원, 새로운 세대, 식민지기, 해방 후