

**Research Unit for Statistical
and Empirical Analysis in Social Sciences (Hi-Stat)****Labor Force of the Philippines, 1903-2010**

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Introduction

The analysis of the labor force in the Philippines spans approximately a century, from the early 20th to the early 21st century, using Philippine labor force statistics. In contemporary times, starting from the late 1980s, the Philippines experienced a lower real GDP growth rate compared to other Asian nations such as Thailand, Indonesia, and South Korea. However, after 2000, economic development centered on the tertiary industry, including the outsourcing business, such as call centers, which accounts for a substantial proportion of the country's gross domestic product and drives the economic growth of the Philippines. Given this background, examining long-term employment trends becomes highly significant. In this paper, the statistics are broadly categorized into three groups: employment by industry, unemployment, and by-employment.

Section I, titled 'Genealogy and Overview of the Labor Force Statistics Survey,' provides an in-depth explanation of the survey's content, concept, and aggregation standards. Of particular significance are the classification standards of industries, the conceptual understanding of occupations, and the inclusion of by-employment and unemployment data. This article thoroughly explores these essential concepts, drawing on relevant literature from economic history.

Section II, titled 'Analysis of the Composition of Employed Workers by Industry,' delves into a comprehensive analysis of the labor force statistics following the conceptual organization. Initially, we examine the fluctuations in the number of unemployed and underemployed, tracing their patterns alongside the trajectory of industrialization. Subsequently, in the analysis of the main employment, the focus lies on scrutinizing the changes in the labor force participation rate and the composition of workers across various industries over the 100 years, starting from the early 20th century.

While conducting the analysis of by-employment, we primarily rely on data from the 1939 Census due to limitations in the availability of surveys. Despite this constraint, the national complete survey on by-employment offers detailed information, allowing us to gain valuable insights into the transformation of the industrial structure from a distinctive perspective.

I. Genealogy and Overview of the Labor Force Statistics Survey

Before World War II, the national census compiled data on the employed population by industry in the Philippines. After World War II, alongside the national census, *the Integrated Survey of Households* (the successor to *the Statistical Survey of Households*) became the primary method on collecting such data. In counting the employment population, a crucial distinction was made based on age. Before 1976, the employment population was considered to be individuals aged 10 years old or older. However, starting from 1977, this criterion was revised, and the employment population was defined as individuals aged 15 years old or older. This age threshold applied to both the national censuses and *the Integrated Survey of Households*.

[1] Data on Employed and unemployed population

Statistics on the labor force have been included in the population censuses, which were conducted three times before World War II, specifically in 1903, 1918, and 1938 (1939 Census which was surveyed in January 1, 1939). In all instances, the labor force data for individuals aged 10 and over were presented in the statistics. For instance, the 1903 Census organized the employment population by occupation, categorizing them by sex and age. Similarly, the 1918 Census provided information on the employment population by sex and age as part of the population statistics, but it did not offer detailed industry-specific data like the 1903 Census. On the other hand, the 1939 Census included a notable feature in its labor force statistics by incorporating data on by-employment and unemployed individuals.

The 1948 and 1960 Censuses also included a count of the employment population by industry in the demographic data. However, it is important to note that the national census used in this research employed different counting methods before 1948 and after 1960. Prior to 1948, all households were surveyed by visiting surveyors with 1975, whereas in 1960, 1970 and 1980, sample surveys were adopted.

Additionally, there were variations in the reference periods used as the standard for data collection. In the 1948 Census, the reference period was the year immediately preceding the date of the survey. In contrast, for the 1960 and 1970 Censuses, the reference period was the calendar week (Sunday to Saturday) immediately preceding the surveyor's household visit. These distinctions should be taken into account when interpreting and comparing data from different censuses in the research. (Philippines (Republic), National Economic and Development Authority 1975: 20-23)

Apart from the census, a series of sample surveys have been conducted on a household-by-household basis nationwide in the Philippines. These surveys include *the Philippine Statistical Survey of Households* (1956-1964) and its successor, *the Bureau of the Census and Statistics Survey of Households* (1965-1973), followed by *the National Sample Survey of Households* (1974-1976), and *the Comprehensive Household Survey* (1977-).

The first survey, *the Philippine Statistical Survey of Households*, commenced in 1956, and at that time,

6,500 households were sampled nationwide. All of these surveys encompass statistics on unemployment. However, it is important to note that *the Household Census Survey* and *the National Household Sample Survey* were conducted irregularly, whereas *the Household Comprehensive Survey* is estimated every quarter, ensuring more frequent data collection.

[2] Concepts of labor force statistics

This part addresses several concepts related to labor force statistics, including occupation, main employment, by-employment, unemployment, underemployment, and the labor force participation rate. These concepts serve to illustrate the characteristics of the occupational structure, which can be linked to the development stage of the Philippine economy. To provide a comprehensive understanding, we will begin by referencing relevant studies and research in this area.

(1) Existing Scholarship

In the context of proto-industrialization theory, Saito [2010] explores the concept of by-employment in Europe and Asia, including Japan. By-employment is seen as not only a means of inter-industry labor mobility but also a form of labor input, which is crucial for understanding the realistic occupational structure of a country.

By-employment exists in two senses: at the household level and the individual level. However, Saito's research primarily focuses on the cross-departmental by-employment of individuals. This entails understanding the flow of labor supply by comparing scenarios where the primary industry serves as the main employment and the secondary or tertiary industry serves as the by-employment, with cases where the secondary or tertiary industry is the main employment and the primary industry is the by-employment.

In analyzing the labor supply flow and labor input within the context of industrialization to comprehend the occupational structure, Saito emphasizes the significance of considering by-employment alongside main employment.

The concept of unemployment can also have different interpretations, depending on the stage of industrialization. Odaka [2004] defines unemployment as a concept applicable to highly industrialized economies and societies. In the early stages of industrialization, the labor supply often exceeded the demand, going beyond the limit of full employment. As a result, excess labor did not necessarily manifest itself as unemployment; instead, it widely presented itself as disguised unemployment. This phenomenon occurred because the economic society during that stage lacked the earning power or savings to sustain actual unemployment.

This historical context sheds light on why the Philippines' unemployment statistics remained incomplete until some period after World War II. The nature of the Philippine economy, which was still in the early stages of industrialization, led to a prevalence of underemployment, so called “disguised unemployment” rather than conventional unemployment, making it more difficult to measure and capture accurate unemployment figures.

In the mid-1980s, even within the urban informal sector, there were signs of disguised employment characterized by inadequate wages and working hours, and a noticeable prevalence of multi-employment within households. However, multi-employment, which is linked to income growth, was not prominently observed (Nakanishi 1991: 110-161). Even if the labor market in the slum areas had imperfect competition, it might have been challenging to realize secondary employment opportunities when there was an excessive surplus of labor force available to work extended hours.

Conversely, monographs detailing specific cases in rural areas have shed light on the prevalence of multi-employment among both households and individuals. This phenomenon was underpinned by the division of labor that had been established since pre-war times and the enhanced land productivity resulting from the Green Revolution, starting in the late 1960s. Regardless of whether it pertained to primary or secondary employment, the expansion of the agricultural sector significantly contributed to employment in the secondary and tertiary industries.

(2) Occupation, main employment, and by-employment

In the 1903 Census, the concept of occupation was broadly defined as "including all actual earners," although the definition may not have been explicitly clear (United States, Bureau of the Census 1905: 114). During data collection, surveyors (enumerators) made efforts to describe occupation names as precisely as possible. As the data reached the final stage of aggregation, the various occupation descriptions were narrowed down and classified into a total of 224 distinct occupations.

In the 1918 Census, detailed industry-specific data for the employed population was not provided. Additionally, “Men and women who do not have a job with a stable income and are engaged in domestic work belong to one of the six industrial classifications” (Philippine Islands, Census Office 1921: 75). This classification system resulted in the inclusion of unemployed individuals who did not work at all in the employment population count.

Consequently, the labor force participation rate during the 1918 Census was calculated at 100% for both men and women. This meant that the number of individuals in the employment population equaled the number of individuals in the corresponding age group (10 years old or older). To estimate the employment population in the table, the revised labor force participation rate was adjusted to the working-age population.

The employment population data for the year 1938 only accounts for individuals engaged in their usual

occupation or main employment. According to the population census statistics, the total number of workers in each industry is the combined count of workers from both the main employment and the by-employment categories. Accordingly, the number of persons engaged in by-employment is deduced from the sum of workers. However, the census does not provide a clear definition of what constitutes by-employment. Furthermore, the employment population count in the census included individuals who were not employed at the time of the survey if they had prior work experience. This approach led to the inclusion of many cases of disguised unemployment, highlighting the challenges in accurately distinguishing between those who were genuinely employed and those who were unemployed.

In the 1939 Census, housekeepers or housewives who did not have any actual earned income were initially included in the employment population by industry. However, they were later subtracted from the employment population count (Philippines (Commonwealth), Commission of the Census 1943: xi-xvii). Despite this adjustment, the domestic worker population data still represents the number of individuals engaged in by-employment by industry and gender. Due to this classification, the by-employment data for domestic workers is recorded as their main employment in Table 1. (Philippines (Commonwealth), Commission of the Census 1943: 778).

In the population statistics of the 1948 Census, the employment population by industry encompasses not only individuals currently employed but also those who were previously employed and are currently unemployed. Therefore, both the 1939 and 1948 Censuses count as part of the employment population by industry those who had previous work experience, regardless of their current employment status. The only segment excluded from the employment population in both censuses is the group of unemployed individuals who had no prior work experience.

In a series of sample surveys from *the Household Census Survey* in 1956 on, for example, *the Household Comprehensive Survey* in the third quarter of 1977 extracted data on 31,258 households from 4,705 surveyed villages. For those who have multiple jobs, the number of those who work more hours is counted as their main employment. When dealing with individuals who hold multiple jobs, the survey methodology counts them based on the number of hours they work in their main employment. This approach ensures that the main employment, in terms of hours worked, is considered for those who engage in multiple forms of employment. (*Integrated Survey of Households Bulletin* 1877: ix-xvii).

(3) Unemployment and Underemployment

Data on the unemployed has been available since the 1939 Census. As of the 1948 Census, too, only individuals without any previous work experience were counted as unemployed. However, during the 1948 Census, unemployed individuals actively seeking work but lacking prior work experience were categorized

separately as "new workers" (Philippines (Republic), Bureau of the Census and Statistics 1954: 397- 398). Despite this classification, they are still considered as part of the unemployed population in this paper.

In all statistics since 1960, finally, the unemployed population refers to individuals who are not employed at the time of the survey but are willing to work. After April 2005, a new condition was introduced, allowing employment within two weeks of the survey, which narrowed the scope. Furthermore, the definition of unemployment has varied between different statistical surveys, particularly regarding the length of time individuals have been out of work. Starting from 1956, *the Philippine Statistical Survey of Households*, *the Bureau of the Census and Statistics Survey of Households*, and *the National Sample Survey of Households* used the week preceding the survey as the period to measure unemployment and underemployment. In contrast, *the Comprehensive Household Survey* conducted in 1977 adopted the International Labor Organization (ILO) standard, targeting the three months prior to the survey as the reference period for measuring unemployment. As of 1988, the definition reverted to using the week before the survey as the period of unemployment. In addition, underemployment referred to individuals working less than 40 hours in the week prior to the survey, but when adopting the ILO criteria, it referred to those working less than 65 or 70 days in the reference period.

Based on the aforementioned definitions of occupation (the employment population), main employment, by-employment, and unemployment, this paper's analysis of the employment population by industry focuses solely on main employment. However, it is essential to note that historical statistics before the 1960s often considered the unemployed as part of the employment population. For instance, the employed population figures from the 1939 and 1948 Censuses included individuals who were unemployed at the time of the census but had prior work experience. In both the 1939 and 1948 Censuses, a person's industry was attributed to both their current employment and the industry in which they had previously worked.

Therefore, while the current analysis concentrates on main employment, historical data may have a broader definition of the employment population that includes the unemployed individuals with prior work experience.

(4) Labor Force and Labor Force Participation Rate

The labor force population is defined as the combined total of the employed and the unemployed population. However, the way it is calculated has varied over time. In 1903 and 1918, the employed population was considered equivalent to the labor force population since there was no recorded data for the unemployed population during those years. In contrast, in 1938 and 1948, the employment population was calculated as the sum of the employed population and the unemployed population without work experience. Notably, individuals who were unemployed but had prior work experience were still included in the employment population, as mentioned earlier.

The definition and composition of the employment population have evolved over time, reflecting the available data and changing methodologies in data collection. As mentioned earlier, before the *Philippine Statistical Survey of Households* began defining the unemployed population in 1956 as "those who were willing to work but were not working at the time of the survey," there was a lack of clear distinction between the employed and unemployed populations. This ambiguity arose due to the prevalence of disguised unemployment in the socio-economic context during the early stages of industrialization.

Therefore, the unemployment statistics up to the 1960s can be viewed as reflective of the developmental stage of the country during the early phases of industrialization, where disguised unemployment was prevalent, and precise measurements of unemployment were difficult to obtain.

Last, the labor force participation rate will be discussed. The labor force participation rate is calculated as the ratio of the labor force to the working-age population. However, in 1918, due to the possible allocation of the entire working-age population to various industries within the employment population data, the actual labor force participation rate cannot be accurately determined. As a result, if we were to use the original data, the labor force participation rate for both men and women would appear close to 100%.

To address this issue and provide a more realistic estimation, the labor force participation rate for 1918 was derived by applying the annual average rate of change in the labor force participation rate from 1903 to 1938. This estimation method allows for a more reliable approximation of the labor force participation rate during 1918, compensating for the lack of precise data and potential misallocation of working-age population figures in that period.

[3] Industry classification

Throughout the compilation of statistics on the employment population by industry from the early 20th to the early 21st century, the adoption of a standardized industrial classification system became essential. However, it is crucial to acknowledge that the criteria for industrial classification of the employment population varied in the original data sources, including the national censuses and *the National Sample Survey of Households*. Researchers need to be aware of the variations in industrial classification methods while interpreting the data.

Table 1 presents data that has been organized according to the industrial classification standard of *the Comprehensive Household Survey*, which has been the source of employment population statistics since 1977. However, a limitation of using *the Household Comprehensive Survey's* industry classification is the absence of detailed information on the specific content of each industry, particularly due to the lack of medium and small classifications. Especially, the primary industry poses a specific challenge as it fails to provide a breakdown of the employment population engaged in agriculture, fishery, and forestry. In contrast, the population census often offers more detailed industry information, which could have been useful for a

comprehensive analysis of the employment population in these sectors.

The industrial classification of the employment population by industry in the 1903 and 1939 Censuses involves categorizing detailed industry information into specific sectors. Constructing an industry classification from these details offers several advantages. One significant benefit is how it addresses the treatment of unpaid domestic workers, such as housekeepers or housewives. In the original census data for 1918 and 1938, domestic workers, including "housewives," were included in the employment population. However, the number of "housewives" was subtracted from the employment population only in 1938, as this data was not explicitly identified in the 1918 Census.

Additionally, in the 1939 national census' industry classification, "construction of roads and bridges" was initially included within the "transportation, warehousing, and communication" industries. However, for the sake of maintaining consistency in the chronological order of the industry classification, Table 1 reorganizes the details and assigns them to the "construction" industry, which falls under the secondary industry category.

However, in the original 1918 report, certain industries such as "Mining and Quarrying," "Electricity, Gas and Water," "Construction," "Financing, Insurance, Real Estate, and Business Services," and "Transport, Storage, and Communication" had blanks for the employment population data.

It is important to highlight that the Censuses of 1918 and 1939, along with other surveys, included a category called "Activities not Adequately Defined." These categories comprised workers whose specific roles or industries were not clearly defined. The treatment of these workers in the data varied over time, depending on the prevailing economic conditions and understanding of labor patterns.

Before the onset of full-scale industrialization in 1964, it was assumed that many of these workers engaged in "Activities not Adequately Defined" were likely involved in agricultural labor in rural farming communities. Therefore, they were added to the primary industry category to represent their probable engagement in agricultural work. However, starting from 1965, it was observed that a significant portion of these workers were involved in miscellaneous and diverse roles, such as being self-employed in small businesses within urban areas. Consequently, they were added to the category of "Community, Social, and Personal Services" to better account for their work activities.

Furthermore, in the 1939 Census, there were figures classified as "Laborers" without specifying the type of industry they were associated with. For similar reasons as stated above, these "Laborers" were also included in the agricultural workers category to reflect the likelihood of their involvement in agricultural labor.

By undertaking these adjustments and constructing the industry classification in a meticulous manner, Table 1 seeks to provide accurate and consistent data representation, allowing for more reliable analyses and comparisons across different time periods and sectors of the economy.

II. Analysis of the Composition of Employed Workers by Industry

[1] Unemployment and Underemployment

First, this study confirms the trends of unemployment in the Philippines of recent years. Between 1980 and 2000, the country experienced a lower real GDP growth rate compared to other Asian nations such as Thailand, Indonesia, and South Korea. Additionally, the Philippines had a higher population growth rate during this period, contributing to the expansion of the labor force, along with an increase in the female labor force participation rate. Simultaneously, the nation faced challenges in the form of higher levels of unemployment and disguised unemployment, primarily due to limited employment opportunities. Notably, unemployment rates were more pronounced among women, and a wage differential between men and women also existed. Furthermore, the relatively elevated unemployment rates for both genders fostered overseas labor migration as a coping strategy (Herrin 2006: 283-310). However, after 2000, economic development centered on the tertial industry tended to improve the GDP growth rate and unemployment rate.

The trends in unemployment after the World War II can be observed in Table 2. The number of unemployed people increased from 577,000 in 1960 to 942,000 in 1970, 874,000 in 1980, 1,993,000 in 1990, and 3,133,000 in 2000. Notably, the period from 1980 to 1990 witnessed a particularly rapid and remarkable increase in the unemployed population.

When considering the combined unemployment rate for both genders, it remained at levels of 5-8% during the 1960s. However, it experienced fluctuations in the 1970s, ranging from 4-9% in the 1980s, and settling at levels of 7-9% in the 1990s. In the 2000s, there was a declining trend, dropping from 10% to 7%. In the 1960s, it's possible that the relatively high rural population might not have adequately captured all unemployed individuals. Differences in aggregation criteria influenced the subsequent unemployment rates. In other words, the adoption of the ILO criteria, which had a longer reference period, tended to slightly higher the unemployment rate. Furthermore, the decrease in the unemployment rate during the 2000s can be attributed to what the definition of unemployment was narrowed from 2005 on and the reflected increase in economic growth rates. Regarding gender balance, the unemployment rate in the Philippines exhibited a noteworthy trend of increasing women's unemployment after World War II. This rise in female unemployment was observed in parallel with the upward trajectory of the female labor force participation rate.

When looking at the underemployment rate, it was in the 10% range from the late 1950s to the 1960s. Then, in the early 1970s, the underemployment rate decreased, and the economic reason for this is unclear. However, in 1977, when the ILO criteria were adopted, it sharply increased to 28.7%. During the late 1970s and the early 1980s, gender-specific data on the underemployment rate were not available, but the rate surged to

around 30% for both men and women combined. Toward the end of the Marcos regime and amidst the financial crisis, many Filipinos endured challenging living conditions. From the late 1980s to 2010, except for the years when the ILO criteria were applied, the underemployment rate remained in the late 20% range. From the late 1980s to 2010, except for the years when the ILO criteria were applied, it tends to remain in the late 20% range.

Since the 2000s, there has been a trend of improvement in the unemployment rate, but it can be said that, despite changes in industrialization policies, roughly 30-40% of the labor force has been in a state of unemployment or underemployment since the late 1970s, when the accuracy of unemployment statistics is believed to have improved.

[2] Main employment: labor force participation rate and employment composition by industry

This section provides an overview of the labor force participation rate and the employment population categorized by main occupation and industry. Previous studies (Balisacan 2006: 11-15; Herrin 2006: 283-310) have examined the employment population by industry from 1970 to 2000, revealing a significant decline in the share of agriculture after the 1980s. Surprisingly, it was the service industry, not the manufacturing industry, that absorbed a substantial portion of the labor force. In contrast, the percentage of the manufacturing industry slightly continued to decline, falling from 12% in 1970 to 11% in 1980, and further down to 10% in 2000, reaching the lowest level among East Asian countries by the year 2000.

Taking a long-term perspective on the composition of employment by industry, we begin by examining labor force participation rates before World War II. At the outset of the 20th century, labor force participation rates were generally high, irrespective of gender. In the 1903 Census, comparative analysis with the United States, Puerto Rico, Cuba, and others highlighted the Philippines' distinctive feature of a significant percentage of women actively engaged in the workforce (United States, Bureau of the Census 1905: 92-97). However, over time, the labor force participation rate experienced a decline for both men and women.

Several factors contributed to this decline. The expansion of secondary and higher education institutions provided alternative paths for individuals, leading some to opt out of the labor force. Additionally, the decline of spinning and textile production, industries where women were prominently involved, contributed to the reduction in labor force participation. Furthermore, the impact of the Great Depression resulted in a withdrawal from the labor market for both men and women. The overall tendency for the labor force participation rate to be lower might be attributed, in part, to the inability to adequately capture seasonal and irregular temporary employment.

Post-World War II, a notable shift occurred as the labor force participation rate (combined for men and

women) started to rise, forming a U-shaped curve. Between 1960 and 1975, the rate remained in the upper 40% range but surged beyond 55% in 1980 and surpassed 70% after 1990. One contributing factor could be the narrowing of the target population for the working-age population from 10 years and above to 15 years and above, starting in 1977. Furthermore, remarkable was the sharp increase in the labor force participation rate of women, crossing the 50% mark since 1990.

Examining the changes in the employment population by industry and main occupation, we observe a significant increase in the composition ratio of the primary industry, rising from 45% to 70% between 1903 and 1938. Although the ratio of the primary industry gradually declined after 1938, it was only after 1983 that it fell below 50%. Through the pre-World War II and post-war, the sustained high level of the primary industry's composition can be attributed to the potential existence of cultivatable land and agricultural production, including non-corporate agriculture.

Until the late 1960s, GDP expansion in agriculture relied on increased inputs of both land and labor. Moreover, the Green Revolution, which commenced in the late 1960s, led to enhanced land productivity and labor efficiency in agriculture, enabling it to absorb a substantial labor force. Concurrently, the pace of industrialization, which could have absorbed employment, did not progress as desired. Consequently, significant population migration persisted from rural to rural areas within the Philippines during the latter half of the 20th century (Nagano 2001: 49-69). Adding to this context, from the 1970s onwards, international labor migration gained momentum, tolerating the low growth of the domestic secondary and tertiary industries. The progression of international labor migration played a role in restraining the increase in the number of workers in these sectors.

Regarding the secondary industry, its composition of employment in 1903 accounted for over 30% of both men and women. It particularly contains a substantial number of women engaged in the manufacturing sector. The commercialization of rural economies and the development of handicraft production in densely populated rural societies were propelled by agricultural exports since the 19th century. However, in the first half of the 20th century, the share of the secondary industry, including both men and women, experienced a decline. During the transition from the latter half of the 19th century to the first half of the 20th century, the import of light industrial products from Europe, the United States, India, and China triggered a shift of the labor force towards primary industries. As a result, manufacturing was largely limited to specific products like embroidery, hats, mats, etc., primarily meant for export.

In 1948, immediately after World War II, the composition ratio of the secondary industry saw a rise to 11.6%, and by 1970, it reached 16.5%. However, after that period, the composition ratio of the secondary industry did not experience any further growth.

The significance of rural industries in the secondary employment sector cannot be underestimated. Following World War II, the merchant classes transitioned into entrepreneurs and took the initiative in

organizing rural industries. In 1962, the establishment of the National Cottage Industries Development Authority aimed to provide financial and distribution assistance for the growth of small cottage industries. Even during the 1970s, as export-oriented industrialization gained momentum, around two-thirds (approximately one million people) of manufacturing workers were rural handicraftsmen, and their contributions were highly valued as a means of earning foreign currency (Rutten 1990).

In both domestic and factory-based handicrafts, labor-intensive techniques continue to be embraced by rural industries in their respective societies. Moreover, women assume crucial roles as both entrepreneurs and workers in these rural industries. Their involvement has played an essential role in sustaining these industries and contributing to the overall economy (Hayami 2000: 207-214).

Last, the employment population in the tertiary industry has consistently remained above 20% since 1903. In 1918, there was a particularly high number of women employed in the tertiary industry, and it is highly likely that this figure included domestic workers. Over the years, the population employed in the tertiary industry has shown a tendency to rise, with the trend continuing even after the Second World War, eventually reaching over 55% in 2000. This consistent upward trajectory is evident throughout the 20th century.

In the 2000s, among the tertiary industries, the composition ratio of workers in the "Wholesale and Retail Trade and Restaurants and Hotels" and "Transport, Storage, and Communication" sectors has notably increased. These sectors have witnessed significant growth and have played a vital role in the overall expansion of the tertiary industry during that period.

Regarding the total employment composition by industry in the 20th century, the primary industry remained at a high level even after World War II but eventually leveled off by the 1980s. One of the contributing factors for this phenomenon is that the employment composition of the manufacturing industry did not experience substantial growth after World War II. In contrast, it can be clearly observed that the tertiary industry has witnessed continuous expansion over the past 100 years, making it a significant driver of employment growth during this period.

[3] By-employment

(1) Analysis of 1939 Census

The available information on by-employment in the Philippine labor force statistics is limited. As a result, the analysis primarily centers around the statistics of by-employment in 1938. Due to the scarcity of data on this aspect, in-depth examination and insights are primarily drawn from the available records of the by-employment statistics from that specific year.

The 1903 Census highlighted the rarity of Filipinos, both male and female, being engaged in a single

occupation full-time. The census report pointed out that many individuals pursued multiple occupations, and the choice of which occupation to apply for depended on various contingencies, particularly among individuals in the lower socioeconomic strata (United States, Bureau of the Census 1905: 112). However, it is important to note that the employment population data in the 1903 Census did not provide specific figures for by-employment.

The 1939 Census does provide detailed data on by-employment. According to Table 3, 24.5% of the total number of workers, which includes both workers engaged solely in their main employment and those involved in by-employment, had by-employment. For men, the percentage of those engaged in by-employment was notably higher, standing at 26.4%. The census data from 1938 sheds light on the prevalence of by-employment among the workforce during that period, especially for male workers.

Indeed, in the context of proto-industrialization theory, the distinction between main employment and by-employment and their movement between different industries holds significant importance. Understanding the dynamics of labor supply flows between industries is a central aspect of this analysis (Saito 2010).

The flow of labor supply from the primary industry (main employment) to the secondary and tertiary industries (by-employment) is a crucial factor in proto-industrialization studies. It helps to grasp the shift of labor from agrarian-based activities to emerging industrial and service sectors. Conversely, studying the movement of labor from the secondary and tertiary industries (main employment) back to the primary industry (by-employment) provides valuable insights into the interactions between various sectors in the economy.

By comprehensively examining the patterns of main employment and by-employment between different industries, researchers can gain a deeper understanding of the complexities and transitions associated with proto-industrialization and its impact on the labor market and economic development.

In 1938, approximately one-fourth of the employment population (male and female) in the Philippines had by-employment. When examining the industrial composition of this by-employment, the primary industry accounted for a relatively high proportion at 22.6%, followed by the secondary industry at 9.1%, and the tertiary industry at 6.6%.

Breaking down the data by gender, a higher percentage of males engaged in by-employment compared to females, with the primary industry being particularly prominent for male workers. Regarding the ratio of individuals engaged in by-employment of the secondary and tertiary industries, more men were involved in the tertiary industry as by-employment, while the secondary industry had a larger representation among women in terms of by-employment.

It's worth noting that although by-employment in analysis of Table 3 was presumably limited to one additional job per worker, the actual number of individuals holding more than two by-employment positions may not have been insignificant. This suggests that some workers could have taken on multiple secondary jobs, possibly to supplement their income or due to specific labor market conditions.

According to the data, 2.9% of all workers had primary industry as their main employment and secondary industry as by-employment, and 4.1% had primary industry main employment and tertiary industry by-employment, totaling 7.0% for both cases combined. On the contrary, there were only 1.9% of workers who worked in the secondary industry as their main employment and engaged in the primary industry as by-employment. And it was 1.2% that the tertiary industry workers as their main employment engaged in the primary industry as by-employment.

Overall, the data indicates that there was a notable flow of labor supply from the primary industry (main employment) to the secondary and tertiary industries (by-employment), which accounted for a substantial portion of the workforce. However, in contrast, the flow from the secondary and tertiary industries (main employment) to the primary industry (by-employment) was relatively limited.

In rural areas, especially rural industries, did not expand sufficiently to facilitate the development of industrialization after World War II. However, manufacturing activities continued to be widespread in rural areas even after the war, and the development of agriculture through the Green Revolution, from the late 1960s, supported this trend. While the training of this labor force was aimed at preparing for export-oriented industrialization in the 1970s and beyond, the weakness in job creation within the manufacturing sector and high unemployment rates encouraged overseas employment.

(2) By-employment in rural societies

The observed limited flow of labor supply from the secondary and tertiary industries (main employment) to the primary industry (by-employment) could be attributed to the relatively underdeveloped manufacturing industry in many farming villages in the Philippines. As a result, in rural areas, there may have been a larger proportion of individuals primarily engaged in agriculture but also participating in manufacturing and service industries to supplement their household incomes. In these rural areas, the beginnings of various economic activities could be traced back to rural industries.

Despite the overall trend, it is worth noting that some densely populated areas in the Philippines witnessed the development of rural industries even before World War II. In such regions, craftsmen often took on entrepreneurial roles, leading to the growth of these industries. Moreover, after the war, a notable transformation occurred as more merchants ventured into becoming manufacturing entrepreneurs. This shift was facilitated by the government's supportive policies and initiatives. Interestingly, a significant number of those who became entrepreneurs in the post-war period were women (Rutten 1990).

Indeed, before the war, the declining labor force participation rate of women in the workforce was indicative of a significant number of women transitioning to full-time housewives, taking on the role of homemakers rather than participating in formal employment. According to the 1939 Census, there were

2,444,780 people counted as "housekeepers" (housewives) who did not have any by-employment, representing 57.5% of the total workforce.

On the other hand, many men did not solely devote themselves to their main jobs, indicating that they often engaged in by-employment to support both themselves and their households. This suggests that many men pursued additional sources of income through by-employment to supplement their earnings from their main occupations. The practice of by-employment might have been a common strategy among men to cope with economic challenges and support their families during that period.

After World War II, the female labor force participation rate in the Philippines began to rise, reflecting an increasing number of women entering the workforce. During this period, both households and household heads became more involved in multi-employment, particularly in rural areas where seasonal employment was prevalent.

A survey conducted in rice-growing villages in Nueva Ecija Province of the Central Luzon Plain, where the population density is relatively low, indicated an increase in non-farm households between 1970 and 1992. Interestingly, a significant proportion of households with heads engaged in by-employment were farm households. This highlights the practice of individuals having additional sources of income alongside their primary agricultural activities.

Among the cases of by-employment reported in the survey, individuals engaged in roles such as civil servants or construction workers, demonstrating the diversification of employment opportunities beyond traditional agricultural activities. Overall, out of the 398 members belonging to the 228 households surveyed in the village, a substantial 81% were found to have some form of employment. This suggests a high level of labor force participation and the prevalence of multi-employment strategies within the community, reflecting the dynamic and multifaceted nature of economic activities in rural areas during the post-World War II period in the Philippines (Umehara 1995: 79-110).

The survey conducted in 2002 in a village in Bulacan Province, Central Luzon, which is densely populated, revealed a notable shift in employment patterns. It was found that the number of household heads engaged in secondary and tertiary industries had surpassed the number of farmers in that community. Out of the 39 households with working household heads, 12 were involved in by-employment, indicating a growing trend of diversification in employment options beyond traditional agricultural activities (Chiba 2003: 60-73).

This shift away from agriculture in rural communities signifies a changing industrial structure. While there are cases in which individuals have no choice but to rely on low-income employment with low land productivity, by-employment positions serve as a means to stabilize household income, similar to the situation in urban poor households. Additionally, it can be observed that by-employment also offers opportunities for farmers to move up the hierarchy, potentially allowing them to explore alternative and potentially more lucrative income sources.

The data indicates that the industrial structure in rural communities is gradually transitioning towards secondary and tertiary industries. This shift highlights the changing dynamics of economic activities in rural areas, where traditional agricultural practices are increasingly complemented by a more diversified range of employment opportunities in non-agricultural sectors.

In the early twentieth century, by-employment played an inadequate role in preparing for capital formation in the government-led industrialization that followed World War II. Nevertheless, it could serve as a foundation for the development of manufacturing through the training of the labor force. Additionally, for households experiencing disguised unemployment, it provided a supplementary source of income; for those who were economically well-off and had access to higher educational opportunities, by-employment, such as government employment, offered opportunities for upward social mobility.

Conclusion

Even after World War II, the employment composition of the primary industry remained at a high level, while the manufacturing industry's composition did not experience substantial growth. The tertiary industry has expanded continuously over the past 100 years, reflecting the employment growth during this period.

At the same time, the unemployment rate in the Philippines exhibited a trend of increasing women's unemployment. This rise in female unemployment was observed in parallel with the upward trajectory of the female labor force participation rate. However, the combined unemployment rate for both men and women has remained within the 6-10% range since the 1990s.

Analysis of by-employment highlights the diverse and complex nature of economic activities in the Philippines during different periods. The data from 1939 Census provides valuable insights into the prevalence of by-employment across different industries and gender groups during that time period, shedding light on the intricacies of the labor market and employment patterns in the Philippines in the mid-twentieth century.

These findings suggest that during the period under analysis (1938), there was a trend of workers diversifying their employment and taking on additional jobs in the secondary and tertiary industries alongside their main employment in the primary industry. On the other hand, there was relatively less movement of workers from the secondary and tertiary industries back to the primary industry for additional by-employment. This pattern may indicate the emergence of a more diversified labor market, with increased opportunities for multiple job engagements in various industries, driven mainly by the growth and expansion of the secondary and tertiary sectors during that time.

Disguised unemployment, often referred to as such, was more conspicuous in the urban informal sector. In

a mid-1980s survey conducted in Manila, numerous individuals expressed a desire for additional employment due to insufficient income, but this aspiration wasn't always feasible. In essence, for individuals in poverty-stricken households, the prerequisites for engaging in by-employment were not always readily available; specific conditions were necessary. Instead, individual by-employment was more prevalent in rural areas, where it was based on high agricultural productivity and the emergence of new job opportunities.

Consequently, in the Philippines post-independence, characterized by a weak job-absorption capacity in the secondary sector and high unemployment rates, numerous households and individuals found themselves compelled to pursue multiple employments. Nonetheless, while certain regions witnessed the growth of rural industries and entrepreneurial opportunities, others faced constraints in the development of the manufacturing sector. This divergence gave rise to distinct labor engagement patterns across different industries and genders. By-employment assumed significant importance not only for stabilizing household income but also for creating avenues for upward social mobility.

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1990	22532	14347	8185	67.1%	85.0%	49.4%	10185	7620	2555	3386	2340	1047	133	121	121	2188	1187	1001	91	75	16	974	957	18	8961	4388	4573	3145	1142	2005	444	269	1751	1137	1092	451	4235	1885	2550
1991	22979	14642	8337	68.7%	86.3%	50.6%	10403	7896	2506	3686	2529	1157	150	138	12	2391	1284	1107	99	84	15	1046	1023	23	8891	4216	4674	3172	1026	2146	451	280	1711	1143	1095	47	4125	1815	2310
1992	23917	15147	8770	69.7%	87.3%	51.3%	10869	8066	2784	3815	2612	1204	143	133	11	2546	1385	1160	92	80	12	1035	1014	21	9231	4448	4783	3283	1093	2190	452	281	1711	1221	1166	50	4275	1908	2567
1993	24443	15668	8975	70.7%	88.3%	52.0%	11194	8263	2931	3793	2610	1183	130	119	11	2485	1321	1134	106	90	16	1102	1080	22	9457	4596	4861	3405	1168	2247	496	298	1381	1299	60	4187	1831	2356	
1994	25166	15985	9181	71.8%	89.3%	52.8%	11249	8446	2803	3970	2735	1226	101	96	6	2582	1391	1191	100	83	18	1187	1166	21	9947	4804	5142	3563	1201	2362	494	296	1391	1402	1343	56	4488	1964	2524
1995	25688	16139	9305	72.9%	90.3%	53.5%	11323	8570	2934	4008	2794	1253	99	87	6	2637	1363	1209	103	85	16	1239	1219	19	10369	5067	5299	3748	1272	2473	511	334	1421	1489	64	4680	2040	2540	
1996	27442	17308	10134	74.7%	92.5%	54.9%	11451	8884	3068	4567	3299	1270	119	103	13	2756	1356	1221	123	108	15	1373	1352	21	11424	5625	5791	4062	1420	2642	681	421	2591	1650	771	5024	2204	2819	
1997	27888	17437	10451	75.3%	93.1%	55.6%	11560	8995	2965	4659	3327	1331	124	113	11	2755	1489	1265	139	119	20	1641	1606	35	11969	5816	6156	4219	1493	2726	680	404	2771	1769	1676	94	5301	2243	3059
1998	28262	17653	10608	76.0%	93.8%	56.3%	11727	8975	2898	4442	3177	1265	104	98	6	2687	1480	1207	140	119	21	1511	1480	31	12547	6102	6445	4328	1511	2811	695	408	2871	1885	1780	106	5639	2403	3236
1999	29003	17924	11079	76.9%	94.5%	57.0%	11342	8967	2976	4518	3136	1381	89	82	7	2778	1451	1327	145	118	26	1506	1485	21	13143	6421	6722	4619	1657	2962	716	407	3091	2009	1893	116	5799	2464	3335
2000	27775	17256	10516	77.9%	94.1%	57.9%	11001	7823	2578	4444	3055	1390	106	101	5	2792	1463	1339	116	97	19	1430	1404	21	12929	6381	6548	4587	1593	2994	678	380	2981	2024	1916	108	5640	2492	3148
2001	30085	18334	11751	79.3%	95.1%	58.6%	11253	8530	2923	4662	3287	1414	103	96	19	2882	1535	1357	116	96	19	1571	1540	31	14151	7638	7414	6226	2388	3841	848	467	3791	2171	2973	98	4906	1812	3096
2002	30251	18440	11811	79.6%	95.3%	58.9%	11311	8551	2960	4669	3298	1371	101	93	8	2855	1544	1372	124	105	16	1589	1556	33	14271	7970	7479	6334	2415	3916	878	495	3831	2171	2070	101	4888	1810	3077
2003	31553	19498	12055	80.3%	96.1%	59.7%	11741	8718	3022	4948	3516	1451	101	95	0	3046	1674	1371	113	92	21	1688	1655	33	14865	7264	7603	6454	2590	3885	1045	639	4061	2352	2243	1091	5014	1792	3223
2004	31741	19536	11905	80.6%	96.3%	60.0%	11785	8851	2935	4880	3483	1396	96	87	9	3020	1684	1335	121	96	25	1643	1616	21	15076	7503	7572	6586	2680	3906	1000	613	3871	2446	2319	126	5044	1891	3153
2005	32875	20205	12070	81.5%	97.0%	60.7%	12171	9024	3147	4883	3408	1477	116	100	11	3043	1640	1403	108	87	22	1616	1381	35	15820	7774	8048	7086	2903	4183	1073	635	4381	2471	2334	1391	5190	1902	3291
2006	32886	20289	12056	81.6%	97.1%	60.8%	12042	8971	3073	4892	3473	1419	134	123	11	3010	1648	1382	122	101	23	1626	1001	23	15951	7845	8104	7059	2902	4156	1165	677	4671	2460	2321	1391	5267	1945	3324
2007	33672	20754	12318	82.9%	97.6%	61.6%	12136	9090	3074	5076	3636	1439	139	125	11	3060	1701	1393	141	113	27	1740	1091	42	16446	8035	8412	7083	2906	4177	1285	672	5431	2600	2435	160	5498	1972	3527
2008	34533	21276	12524	83.9%	98.1%	62.4%	12420	9355	3305	5097	3701	1367	149	141	6	3287	1807	1509	144	116	41	1882	1042	48	18116	8374	8794	7194	3063	4284	1348	804	4284	2587	177	5681	2006	3606	
2009	35478	21908	12780	84.9%	98.6%	63.2%	12668	9026	3302	5159	3753	1365	152	149	6	3296	1827	1509	142	130	41	1886	1044	41	18322	8650	9038	7242	3121	4284	1348	804	4284	2587	177	5681	2006	3606	
2010	36488	22272	12416	86.0%	99.0%	64.0%	12263	9154	3099	5371	3664	1407	192	178	10	3059	1737	1322	152	134	26	1938	1015	43	18949	9154	9669	8269	3408	4865	1670	1002	686	2702	2517	181	6208	2227	3380
				87.1%	99.5%	64.0%	3356	4111	2186	1478	1738	959	055	088	011	844	786	933	044	066	022	544	866	033	5176	4111	6822	2276	1536	3426	468	458	476	744	1136	133	1706	1006	2606

(1) Productive age: more than 10 years old prior to 1976 and more than 15 years old from 1977 on

(2) On Survey period of year, the years (1903, 1918, 1938, 1948, 1960 and 1970) surveyed as a census varies. On the other surveys, it was November in the year of 1968, 1973 and 1974, May in 1964, 1969 and 1972, August in 1971, 1975 and 1976. The others were surveyed in October.

(3) Wholesale and Retail Trade and Restaurants and Hotels' of 1918 is referred as 'Commerce and Transportation' in the original source.

(4) 'Community, Social and Personal Services' and of 'Professional Services' in the original source.

(5) In 1938, 'Total' and 'Community, Social and Personal Services' are excluded housekeepers and housewives as unpaid labor in the original source form.

(6) In 1945, 'Wholesale and Retail Trade and Restaurants and Hotels' refers to 'Commerce' in the original source; 'Finance, Insurance, Real Estate and Business Services' refers to 'Professional Services'; 'Community, Social and Personal Services' adds the numbers of 'Personal Services', 'Government' and of 'Recreational Services'.

(7) In 1956-64, 1974, 1976, 1977, 'Wholesale and Retail Trade and Restaurants and Hotels' is equivalent for 'Commerce' in the original data.

(8) A category of 'Activities not Adequately Defined' in the original books is classified into the 'Primary Industry' prior to 1964 when the full-scale industrialization started since it is considered that almost all of them engaged in rural works. On the contrary, from 1965 on, they who tend to work in informal sector of urban societies are added to 'Community, Social and Personal Services'.

(Source) United States, Bureau of the Census (1905) Census of the Philippine Islands Taken under the Direction of the Philippine Commission in the Year 1903, vol.2, pp.986-7/ Philippine Islands, Census Office (1921) Census of the Philippine Islands Taken under the Direction of the Philippine Legislature in the Year 1918, vol.2, pp.801-1/ Philippines (Commonwealth), Commission of the Census (1943) Census of the Philippines, vol.2, pt.1, pp.496-504/ Philippines (Republic), Bureau of the Census and Statistics (1964) Summary and General Report on the 1948 Census of Population and Agriculture, vol.3, pt.1, p.410/ Philippines (Republic), Bureau of the Census and Statistics (1965-83) 1960-80 Census of Population, Philippine Statistical Survey of Households (1965-1964) Nos.3-17, Bureau of the Census and Statistics

Survey of Households (1965-73) Nos.18-40/ National Sample Survey of Households (1974-76) Nos.44-47/ Integrated Survey of Households, Labor Force (1977-2010) Nos.48-146.

Table 2 The Number and Rate of Unemployment and Underemployment (thousands, %)

	Employed Population			The Number and Rate of Unemployment			The Number and Rate of Underemployment		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
1903	3038	2013	1025						
1918	6441	3225	3217						
1938	5319	4217	1101	215	167	48			
				3.9%	3.8%	4.2%			
1948	5202	4121	1081	575	322	252			
				10.0%	7.2%	18.9%			
1956	7702	4946	2756	859	462	397	1102	772	330
				10.0%	8.5%	12.6%	12.5%	13.5%	10.7%
1957	8199	5352	2847	630	331	300	936	645	291
				7.1%	5.8%	9.5%	10.2%	10.8%	9.3%
1958	8329	5506	2823	647	319	329	1059	641	417
				7.2%	5.5%	10.4%	11.3%	10.4%	12.9%
1959	8575	5656	2920	540	259	282	899	568	330
				5.9%	4.4%	8.8%	9.5%	9.1%	10.2%
1960	7944	5990	1954	592	362	229	1065	644	422
				6.9%	5.7%	10.5%	11.8%	9.7%	17.8%
1961	9095	5932	3163	618	302	316	1382	793	588
				6.4%	4.8%	9.1%	13.2%	11.8%	15.7%
1962	9603	6219	3384	662	306	356	1411	804	606
				6.4%	4.7%	9.5%	12.8%	11.4%	15.2%
1963	9764	6272	3492	469	251	218	1395	2232	559
				4.6%	3.8%	5.9%	12.5%	26.2%	13.8%
1964	10572	6962	3610	724	345	379	1578	909	669
				6.4%	4.7%	9.5%	13.0%	11.5%	15.6%
1965	10101	6805	3296	663	351	312	1287	793	493
				6.2%	4.9%	8.6%	11.3%	10.4%	13.0%
1966	10936	7195	3742	821	414	407	1395	837	558
				7.0%	5.4%	9.8%	11.3%	10.4%	13.0%
1967	10867	7060	3807	909	391	518			
				7.7%	5.2%	12.0%			
1968	10834	7285	3549	900	462	439	2640	1433	1208
				7.7%	6.0%	11.0%	19.6%	16.4%	25.4%
1969	11235	7686	3548	812	403	409	1531	894	637
				6.7%	5.0%	10.3%	12.0%	10.4%	15.2%
1970	11775	8160	3615	525	211	314			
				4.3%	2.5%	8.0%			
1971	12228	8247	3981	699	409	289	1092	758	334
				5.4%	4.7%	6.8%	8.2%	8.4%	7.7%
1972	13217	9032	4185	983	567	416	439	245	195
				6.9%	5.9%	9.0%	3.2%	2.6%	4.5%
1973	13865	9282	4582	695	447	247	1290	920	371
				4.8%	4.6%	5.1%	8.5%	9.0%	7.5%
1974	14912	10082	4830	292	158	134	1048	727	318
				1.9%	1.5%	2.7%	6.6%	6.7%	6.2%
1975	12419	9375	3045	1007	505	502			
				7.5%	5.1%	14.2%			
1976	15840	10283	5557	404	226	178	1171	763	408
				2.5%	2.2%	3.1%	6.9%	6.9%	6.8%
1977	14323	10,010	4313	671	267	403	5773		
				4.5%	2.6%	8.5%	28.7%		
1978	17362	10939	6423	694	262	433	8734		
				4.0%	2.4%	6.7%	33.5%		
1979									
1980	14174	10902	3272	856	365	491	6914		
				4.0%	2.4%	6.7%	32.8%		

1981	18017	11584	6433	1008	418	590	7300			
				5.3%	3.5%	8.4%	28.8%			
1982	18614	11711	6904	1084	435	649	7459			
				5.5%	3.6%	8.6%	28.6%			
1983	19672	12004	7668	849	423	426	8321			
				4.1%	3.4%	5.3%	29.7%			
1984	19368	12289	7079	1465	675	790	9303			
				7.0%	5.2%	10.0%	32.4%			
1985	20327	12758	7569	1316	644	672	9134			
				6.1%	4.8%	8.2%	31.0%			
1986	20926	13186	7740	1438	686	752	9591			
				6.4%	4.9%	8.9%	31.4%			
1987	20795	13254	7541	2086	1163	922	6515	3708	2808	
				9.1%	8.1%	10.9%	23.9%	21.9%	27.1%	
1988	21497	13654	7843	1954	1131	823	7344	4270	3074	
				8.3%	7.6%	9.5%	25.5%	23.8%	28.2%	
1989	21849	13,922	7927	2010	1101	909	7297	4264	3033	
				8.4%	7.3%	10.3%	25.0%	23.4%	27.7%	
1990	22532	14347	8185	1993	1099	893	7208	4186	3021	
				8.1%	7.1%	9.8%	24.2%	22.6%	27.0%	
1991	22979	14642	8337	2267	1290	977	7531	4456	3075	
				9.0%	8.1%	10.5%	24.7%	23.3%	26.9%	
1992	23917	15147	8770	2263	1303	959	7978	4625	3353	
				8.6%	7.9%	9.9%	25.0%	23.4%	27.7%	
1993	24443	15468	8975	2379	1384	995	8822	5107	3716	
				8.9%	8.2%	10.0%	26.5%	24.8%	29.3%	
1994	25166	15985	9181	2317	1362	955	8777	5199	3578	
				8.4%	7.9%	9.4%	25.9%	24.5%	28.0%	
1995	25697	16193	9505	2342	1354	988	8954	5171	3783	
				8.4%	7.7%	9.4%	25.8%	24.2%	28.5%	
1996	27442	17308	10134	2195	1293	902	9524	5560	3964	
				7.4%	7.0%	8.2%	25.8%	24.3%	28.1%	
1997	27888	17437	10451	2377	1411	966	9795	5667	4128	
				7.9%	7.5%	8.5%	26.0%	24.5%	28.3%	
1998	28262	17653	10608	3016	1857	1159	10486	6264	4221	
				9.6%	9.5%	9.8%	27.1%	26.2%	28.5%	
1999	29003	17924	11079	2997	1876	1121	10119	5907	4212	
				9.4%	9.5%	9.2%	25.9%	24.8%	27.5%	
2000	27775	17258	10516	3133	1978	1156	9708	5836	3871	
				10.1%	10.3%	9.9%	25.9%	25.3%	26.9%	
2001	30085	18334	11751	3269	1912	1356	11820	7074	4746	
				9.8%	9.4%	10.3%	28.2%	27.8%	28.8%	
2002	30251	18440	11811	3423	2076	1346	11628	7008	4620	
				10.2%	10.1%	10.2%	27.8%	27.5%	28.1%	
2003	31553	19498	12055	3567	2183	1384	11463	6938	4525	
				10.2%	10.1%	10.3%	26.6%	26.2%	27.3%	
2004	31741	19836	11905	3888	2312	1576	11792	7291	4500	
				10.9%	10.4%	11.7%	27.1%	26.9%	27.4%	
2005	32875	20205	12670	2619	1617	1002	12261	7389	4871	
				7.4%	7.4%	7.3%	27.2%	26.8%	27.8%	
2006	32886	20289	12596	2625	1685	940	12506	7660	4845	
				7.4%	7.7%	6.9%	27.6%	27.4%	27.8%	
2007	33672	20754	12918	2246	1424	821	12101	7354	4747	
				6.3%	6.4%	6.0%	26.4%	26.2%	26.9%	
2008	34533	21276	13257	2525	1596	930	12611	7696	4915	
				6.8%	7.0%	6.6%	26.7%	26.6%	27.0%	
2009	35478	21698	13780	2719	1736	984	13405	8247	5158	
				7.1%	7.4%	6.7%	27.4%	27.5%	27.2%	
2010	36488	22272	14216	2799	1772	1027	13212	8058	5154	
				7.1%	7.4%	6.7%	26.6%	26.6%	26.6%	

(1) In 1938 and 1948, the unemployment is defined to the persons who had not experienced the employment. Consequently, the unemployed population that had the experience of employment is added to the employed.

(2) The reference period is defined as the week preceding the survey in 1956-76, 1988-2010; three months prior to the survey based on the ILO criteria in 1977-87.

(3) underemployment referred to individuals working less than 40 hours in the week prior to the survey, but when adopting the ILO criteria, it referred to those working less than 65 or 70 days in the reference period.

(Sources) Philippines (Commonwealth), Commission of the Census [1943] Census of the Philippines, vol.2, pt.1, p.821/ Philippines (Republic), Bureau of the Census and Statistics [1954] Summary and General Report on the 1948 Census of Population and Agriculture, vol.3, pt.1, pp.398-9/ Philippines (Republic), Bureau of the Census and Statistics [1965-83] 1960-80 Census of Population/ *Philippine Statistical Survey of Households* [1956-1964] Nos.3-17/ *Bureau of the Census and Statistics Survey of Households* [1965-73] Nos.18-40/ *National Sample Survey of Households* [1974-76] Nos.44-47/ *Integrated Survey of Households Bulletin, Labor Force* [1977-2010] Nos.48-146.

Table 3 By-employment Population by Main Employment (Male and Female, 1938): the Number (thousands) and Share per All Employed Persons(%)

Main Employment	Subtotal (Primary Industry)		Primary Industry			Subtotal (Secondary Industry)		Secondary Industry		Tertiary Industry				Specialized in Main Employment		Persons Engaged in By-Employment		All Employment
	No.	(%)	Farm labor	Farm owners	Fishing	Gathering forest products	No.	(%)	Weaving	Road and street construction	Dealers, barbers, waiters and cooks	Skilled labor, clerical and professional work	Others	No.	(%)	No.	(%)	
Primary Industry	777	14.6%	526	9	178	64	156	2.9%	80	76	56	87	73	2,566	48.2%	1,149	21.6%	3,715
Agriculture	752	14.1%	507	6	177	62	150	2.8%	77	73	52	84	69	2,349	44.2%	1,107	20.8%	3,456
Fishing	20	0.4%	16	2	2	1	6	0.1%	3	2	3	3	3	146	2.7%	35	0.7%	181
Forestry and hunting	6	0.1%	3	0	2	1	1	0.0%	0	0	0	0	1	19	0.4%	7	0.1%	27
Secondary Industry	102	1.9%	78	6	16	2	16	0.3%	13	3	13	7	7	573	10.8%	90	1.7%	663
Mining and Quarrying	2	0.0%	1	0	0	0	0	0.0%	0	0	0	0	0	44	0.8%	3	0.1%	47
Manufacturing	41	0.8%	34	2	4	1	8	0.2%	7	1	7	3	3	382	7.2%	61	1.1%	442
Embroidery and dressmaking	8	0.1%	7	0	0	0	1	0.0%	1	0	1	0	0	103	1.9%	10	0.2%	114
Native textile manufacture	11	0.2%	10	0	0	0	3	0.0%	3	0	3	0	0	41	0.8%	15	0.3%	56
Mat manufacture	3	0.1%	3	0	0	0	1	0.0%	1	0	1	0	0	22	0.4%	5	0.1%	27
Electricity, Gas and Water	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0	0	8	0.2%	0	0.0%	9
Construction	19	0.4%	11	2	5	1	1	0.0%	1	1	2	2	2	139	2.6%	25	0.5%	165
Road, bridge, and street construction and repair	9	0.2%	6	1	2	0	0	0.0%	0	0	1	1	1	70	1.3%	12	0.2%	82
Carpenters	9	0.2%	5	1	3	0	1	0.0%	0	1	1	1	1	63	1.2%	13	0.2%	76
Tertiary Industry	65	1.2%	45	8	11	1	20	0.4%	17	3	13	9	8	876	16.5%	66	1.2%	941
Wholesale and Retail Trade and Restaurants and Hotels	13	0.3%	9	2	3	0	5	0.1%	4	1	3	2	2	270	5.1%	25	0.5%	295
Retail dealers	11	0.2%	7	2	2	0	3	0.1%	3	1	2	1	2	157	2.9%	20	0.4%	176
Sales employees, clerks in stores	1	0.0%	1	0	0	0	1	0.0%	1	0	0	0	0	66	1.2%	3	0.1%	69
Cooks	1	0.0%	1	0	0	0	0	0.0%	0	0	0	0	0	25	0.5%	2	0.0%	26
Transport, Storage and Communication	7	0.1%	4	1	2	0	0	0.0%	0	0	1	1	1	133	2.5%	11	0.2%	144
Water transportation	3	0.0%	1	0	1	0	0	0.0%	0	0	0	0	0	31	0.6%	4	0.1%	35
Cable, carttele, and cartton transportation	2	0.0%	2	0	0	0	0	0.0%	0	0	0	0	0	26	0.5%	3	0.1%	29
Chauffeurs	1	0.0%	0	0	0	0	0	0.0%	0	0	0	0	0	27	0.5%	1	0.0%	28
Financing, Insurance, Real Estate and Business Services	0	0.0%	0	0	0	0	1	0.0%	0	1	0	0	0	23	0.4%	1	0.0%	24
Community, Social and Personal Services	15	0.3%	12	2	1	0	5	0.1%	5	1	3	3	2	450	8.5%	28	0.5%	478
Servants(kind of work not stated)	1	0.0%	1	0	0	0	0	0.0%	0	0	0	0	0	138	2.6%	2	0.0%	140
Laundaras	7	0.1%	7	0	0	0	3	0.1%	3	0	1	0	0	54	1.0%	11	0.2%	65
Houseboys, maids, housegirls	2	0.0%	1	0	0	0	1	0.0%	1	0	0	0	0	44	0.8%	3	0.1%	47
Teachers	1	0.0%	0	0	0	0	0	0.0%	0	0	0	0	0	46	0.9%	1	0.0%	47
Clerks except in stores	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0	0	30	0.6%	1	0.0%	31
Total	1203	22.6%	881	26	198	98	484	9.1%	404	80	147	100	102	4,015	75.5%	1,305	24.5%	5,319

(1) In sub-classification of main employment, the industries which employed more than 25,000 are listed.

(2) Unpaid workers such as housewives were excluded from this table.

(Source) Philippines (Commonwealth), Commission of the Census [1943] Census of the Philippines, vol.2, pt.1, pp.776-811.

Table 4. By-employment Population by Main Employment (Male, 1938): the Number (thousands) and Share per All Employed Persons (%)

Main Employment	Subtotal (Primary Industry)		Primary Industry			Subtotal (Secondary Industry)		Secondary Industry		Subtotal (Tertiary Industry)			Tertiary Industry			Specialized in Main Employment		Persons Engaged in By-Employment		All Employment
	No.	(%)	Farm labor	Farm owners	Fishing	Gathering forest products	Weaving	Road and street construction	No.	(%)	No.	(%)	Dealers, barbers, writers and cooks	Skilled labor, clerical and professional work	Others	No.	(%)	No.	(%)	
Primary Industry	704	16.7%	457	8	176	62	45	76	203	4.8%	46	87	69	2,204	52.3%	1,027	24.3%	3,231		
Agriculture	680	16.1%	438	6	175	60	41	73	192	4.6%	43	84	65	2,522	59.8%	986	23.4%	3,508		
Fishing	19	0.5%	16	2		1	3	2	9	0.2%	3	3	3	147	3.5%	34	0.8%	181		
Forestry and hunting	5	0.1%	3	0	2	1	0	0	1	0.0%	0	0	0	20	0.5%	7	0.2%	27		
Secondary Industry	53	1.2%	31	5	14	2	2	3	17	0.4%	5	7	5	349	8.3%	49	1.2%	398		
Mining and Quarrying	2	0.1%	1	0	0	0	0	0	1	0.0%	0	0	0	44	1.0%	3	0.1%	47		
Manufacturing	13	0.3%	8	1	4	0	1	1	6	0.1%	2	2	1	422	10.0%	20	0.5%	442		
Embroidery and dressmaking	0	0.0%	0	0	0	0	0	0	0	0.0%	0	0	0	114	2.7%	0	0.0%	114		
Native textile manufacture	0	0.0%	0	0	0	0	0	0	0	0.0%	0	0	0	56	1.3%	0	0.0%	56		
Mat manufacture	0	0.0%	0	0	0	0	0	0	0	0.0%	0	0	0	27	0.6%	0	0.0%	27		
Electricity, Gas and Water	0	0.0%	0	0	0	0	0	0	0	0.0%	0	0	0	8	0.2%	0	0.0%	9		
Construction	19	0.4%	11	2	5	1	1	1	5	0.1%	2	2	2	139	3.3%	25	0.6%	165		
Road, bridge, and street construction and repair	9	0.2%	6	1	2	0	0	0	2	0.1%	1	1	1	70	1.7%	12	0.3%	82		
Carpenters	9	0.2%	5	1	3	0	0	1	3	0.1%	1	1	1	63	1.5%	13	0.3%	76		
Tertiary Industry	38	0.9%	20	7	10	1	2	3	21	0.5%	6	9	6	550	13.0%	39	0.9%	589		
Wholesale and Retail Trade and Restaurants and Hotels	8	0.2%	4	1	2	0	1	1	5	0.1%	2	2	2	281	6.7%	15	0.3%	295		
Retail dealers	7	0.2%	4	1	2	0	1	1	4	0.1%	1	1	1	164	3.9%	12	0.3%	176		
Sales employees, clerks in stores	1	0.0%	0	0	0	0	0	0	1	0.0%	0	0	0	68	1.6%	2	0.0%	69		
Cooks	0	0.0%	0	0	0	0	0	0	0	0.0%	0	0	0	26	0.6%	1	0.0%	26		
Transport, Storage and Communication	7	0.2%	4	1	2	0	0	0	3	0.1%	1	1	1	133	3.1%	11	0.3%	144		
Water transportation	3	0.1%	1	0	1	0	0	0	1	0.0%	0	0	0	31	0.7%	4	0.1%	35		
Cabesa, carreta, and carreta transportation	2	0.1%	2	0	0	0	0	0	1	0.0%	0	0	0	26	0.6%	3	0.1%	29		
Chauffeurs	1	0.0%	0	0	0	0	0	0	1	0.0%	0	0	0	27	0.6%	1	0.0%	28		
Financing, Insurance, Real Estate and Business Services	0	0.0%	0	0	0	0	0	1	1	0.0%	0	0	0	23	0.6%	1	0.0%	24		
Community, Social and Personal Services	7	0.2%	3	2	1	0	1	1	5	0.1%	1	3	1	465	11.0%	13	0.3%	478		
Servants(kind of work not stated)	1	0.0%	1	0	0	0	0	0	0	0.0%	0	0	0	139	3.3%	1	0.0%	140		
Laundresses	0	0.0%	0	0	0	0	0	0	0	0.0%	0	0	0	65	1.5%	0	0.0%	65		
Houseboys, maids, housegirls	0	0.0%	0	0	0	0	0	0	0	0.0%	0	0	0	47	1.1%	0	0.0%	47		
Teachers	1	0.0%	0	0	0	0	0	0	0	0.0%	0	0	0	46	1.1%	1	0.0%	47		
Clerks except in stores	0	0.0%	0	0	0	0	0	0	0	0.0%	0	0	0	30	0.7%	1	0.0%	31		
total	794	18.8%	508	21	201	65	50	81	241	5.7%	58	103	80	3,103	73.6%	1,115	26.4%	4,218		

(1) In sub-classification of main employment, the industries which employed more than 25,000 are listed.

(2) Unpaid workers such as housewives were excluded from this table.

(Source) Philippines (Commonwealth), Commission of the Census [1943] Census of the Philippines, vol.2, pt.1, pp.776-811.

Table 5 By-employment Population by Main Employment (Female, 1938): the Number (thousands) and Share per All Employed Persons (%)

Main Employment	Subtotal (Primary Industry)		Primary Industry			Subtotal (Secondary Industry)		Secondary Industry		Tertiary Industry			Specialized in Main Employment		Persons Engaged in By-Employment		All Employment			
	No.	(%)	Farm labor	Farm owners	Fishing	Gathering forest products	No.	(%)	Weaving	Road and street construction	(Tertiary Industry)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	
Primary Industry	73	6.7%	70	1	2	1	35	3.2%	35	0	13	1.2%	9	0	4	362	32.9%	123	11.1%	485
Agriculture	73	6.6%	69	0	2	1	34	3.1%	35	0	13	1.2%	9	0	4	353	32.1%	121	11.0%	475
Fishing	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	4	0.4%	1	0.1%	5
Forestry and hunting	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	1	0.1%	1	0.0%	2
Secondary Industry	49	4.5%	47	1	1	0	11	1.0%	11	0	10	0.9%	8	0	2	194	17.6%	71	6.4%	265
Mining and Quarrying	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	0	0.0%	0	0.0%	0
Manufacturing	28	2.5%	27	0	1	0	6	0.5%	6	0	6	0.5%	4	0	1	224	20.3%	40	3.7%	264
Embroidery and dressmaking	7	0.7%	7	0	0	0	1	0.1%	1	0	2	0.2%	1	0	0	104	9.4%	10	0.9%	114
Native textile manufacture	11	1.0%	10	0	0	0	3	0.2%	2	0	2	0.2%	1	0	0	41	3.7%	15	1.3%	56
Mat manufacture	3	0.3%	3	0	0	0	1	0.1%	1	0	1	0.1%	1	0	0	22	2.0%	5	0.5%	27
Electricity, Gas and Water	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	0	0.0%	0	0.0%	0
Construction	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	0	0.0%	0	0.0%	0
Road, bridge, and street construction and repair	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	0	0.0%	0	0.0%	0
Carpenters	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	0	0.0%	0	0.0%	0
Tertiary Industry	27	2.5%	25	2	0	0	14	1.3%	14	0	27	2.5%	6	0	21	301	27.3%	51	4.6%	352
Wholesale and Retail Trade and Restaurants and Hotels	5	0.5%	4	1	0	0	3	0.3%	3	0	2	0.2%	2	0	0	103	9.3%	10	0.9%	113
Retail dealers	4	0.4%	3	1	0	0	2	0.2%	2	0	1	0.1%	1	0	0	69	6.3%	8	0.7%	77
Sales employees, clerks in stores	0	0.0%	0	0	0	0	1	0.1%	1	0	0	0.0%	0	0	0	19	1.8%	1	0.1%	21
Cooks	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	10	0.9%	1	0.1%	11
Transport, Storage and Communication	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	3	0.2%	0	0.0%	3
Water transportation	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	0	0.0%	0	0.0%	0
Calesa, carabela, and carabon transportation	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	0	0.0%	0	0.0%	0
Chaufeurs	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	0	0.0%	0	0.0%	0
Financing, Insurance, Real Estate and Business Services	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	3	0.2%	0	0.0%	3
Community, Social and Personal Services	9	0.8%	8	0	0	0	4	0.4%	4	0	22	2.0%	2	0	20	218	19.8%	16	1.4%	234
Servants(kind of work not stated)	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	85	7.7%	1	0.1%	86
Lavanderas	7	0.6%	6	0	0	0	3	0.3%	3	0	1	0.1%	1	0	0	50	4.5%	10	0.9%	61
Houseboys, maids, housegirls	1	0.1%	1	0	0	0	1	0.1%	1	0	1	0.1%	0	0	0	37,680	3420.3%	3	0.3%	37683
Teachers	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	26	2.4%	0	0.0%	26
Clerks except in stores	0	0.0%	0	0	0	0	0	0.0%	0	0	0	0.0%	0	0	0	2	0.1%	0	0.0%	2
Total	150	13.6%	142	3	3	2	60	5.4%	60	0	50	4.6%	23	1	27	857	77.8%	244	22.2%	1102

(1) In sub-classification of main employment, the industries which employed more than 25,000 are listed.

(2) Unpaid workers such as housewives were excluded from this table.

(Source) Philippines (Commonwealth), Commission of the Census [1943] Census of the Philippines, vol.2, pt.1, pp.776-811.