Establishing Business Demography Statistics in Taiwan from Fiscal Data[1]

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I. Introduction

Business Demography Statistics are compiled by integrating data from business registration, taxation, and surveys, to construct statistics on business events such as births and deaths of enterprises. These statistics encompass critical information on entrepreneurship and business life cycles, and provide valuable insights into economic development and industrial trends. Since 2000, official statistical agencies in New Zealand, Australia, the United Kingdom, South Korea, and the European Union have regularly published such statistics. In Taiwan, although the Department of Commerce under the Ministry of Economic Affairs compiles statistics on company and business openings and closures, these statistics lack linkage with tax data. As a result, they do not effectively distinguish whether an enterprise is actually operating, and their coverage and definitions differ from international standards. To develop a new statistical framework with substantial industrial and economic implications and ensure alignment with international practices—while also enhancing the value-added use of fiscal data—this study attempts to construct Taiwan's Business Demography Statistics based on fiscal and tax records in accordance with international guidelines.

II. Definitions of Business Demography Indicators

According to the Eurostat-OECD Manual on Business Demography Statistics published by the EU and OECD in 2008 (hereafter referred to as the "Manual"), common units of measurement for economic activity include **enterprises** and **establishments**. Since most enterprises consist of a single establishment, and small and medium-sized enterprises (SMEs) are the primary focus of concern, it is recommended to adopt enterprises as the measurement unit. Furthermore, business demography statistics are mainly derived from compulsory administrative records, such as company or tax registrations. In practice, however, certain industries are exempt from mandatory registration.

(Contents on this site have been translated using artificial intelligence (AI) or machine translation technology)

[1] The complete research paper can be accessed at "Ministry of Finance Homepage > Public Finance and Trade Statistics > Analysis and Research > Research Paper."

Therefore, when calculating related indicators, it is suggested to exclude agriculture, forestry, fishing, and animal husbandry; public administration and defense; parts of education and health care; and religious or professional organizations. The main indicator definitions are as follows:

1. Active Enterprises

Active enterprises are those that have reported business revenue or employed staff during a given period (usually a year). They serve as the basis for calculating indicators such as enterprise births and deaths. The total number of active enterprises provides the denominator for further computations and also reflects changes in industrial activity trends.

2. Enterprise Births and Deaths

Enterprise births and deaths respectively refer to the number of active enterprises newly created or ceased during a year. Both must exclude enterprises that have temporarily ceased operations but later resumed (so-called *re-activations*), as well as changes caused by certain business demographic events.

These events involve restructuring of production factors, such as mergers, takeovers, break-ups, or split-offs. Although such events affect the number of business registrations, they do not actually create new production factors or eliminate existing ones. Therefore, such cases must be excluded from enterprise births and deaths statistics (see Figure 1).

Figure 1 Definitions of Business Demography Indicators

Source: Compiled by the Statistic Department, MOF.

3. Surviving Enterprises and High-Growth Enterprises

Enterprises that remain active for at least two consecutive years are considered survivors, and the observation period should cover at least five years.

High-growth enterprises are defined as enterprises that have reached a certain size (suggested threshold: 10 employees), and whose revenue or employment grows by more than 20% annually for three consecutive years. In practice, it is sufficient to verify whether the cumulative growth exceeds 72.8%, without requiring year-by-year checks.

III. Current International Practices

Since 2008, Eurostat has required all EU member states to provide business demography statistics. Other advanced countries also compile them. This section highlights practices in the U.S., the U.K., Australia, New Zealand, and South Korea, focusing on dissemination agencies and release schedules, measurement units and data sources, data processing, and special approaches (see Table 1).

1. Dissemination Agencies and Release Schedules

Given the importance of these statistics, the compiling agencies are all national statistical agencies—for example, the U.S. Census Bureau, the U.K. Office for National Statistics, and the statistical offices in New Zealand, Australia, and South Korea. Except for the U.S., which publishes irregularly, the others release reports annually in the latter half of the year (August, October, November, December) covering the previous year's statistics.

2. Statistical Units and Data Sources

All countries use enterprises as the statistical unit of measurement, though the U.S. and New Zealand also publish establishment-based results. Data sources primarily include business registrations and tax records[2], with the U.S. and New Zealand supplementing with survey data.

3. Data Processing

The Manual recommends excluding both re-activations and demographic events when compiling enterprise births and deaths. South Korea follows this guidance[3],

[2] Although all countries use tax records as their primary data source, differences in national circumstances and tax systems—such as the scope of goods and services subject to value-added tax and the registration thresholds—lead to variations in the range of industries covered.

[3] South Korea has also adjusted the methodology for compiling indicators based on national circumstances and timeliness, such as setting the observation period for business births and deaths to

while most other countries exclude only one of the two (e.g., re-activations in the U.K., Australia, and New Zealand; demographic events in the U.S.).

Regarding reference periods, most countries (except South Korea) adopt two-point-in-time comparisons for simplicity, whereas the Manual recommends using full-year observations.

4. Special Approaches

To balance data protection with openness, the U.S., Australia, and New Zealand implemented noise-infusion techniques when publishing detailed statistical tables. To provide more timely insights, the U.K. and Australia have also introduced experimental quarterly statistics on business births and deaths.

Table 1 International Compilation Practices of Business Demography Statistics

Country	Release Time	Statistical Unit	Data Sources	Indicator Refinement	Time Basis	Special Approaches
United States	Irregular	Enterprises, Establishments	Business registration, surveys, tax data	Excludes demographic events	Single point	Data protection (noise-infusion)
United Kingdom	Every November	Enterprises	Business registration, tax data	Excludes re-activations	Single point	Quarterly statistics
New Zealand	Every October	Enterprises, Establishments	Business registration, surveys, tax data	Excludes re-activations	Single point	Data protection
Australia	Every August	Enterprises	Business registration, tax data	Excludes re-activations	Single point	Data protection, quarterly statistics
South Korea	Every December	Enterprises	Business registration, tax data	Excludes re-activations & demographic events	Full year	–

Source: Compiled by the Statistic Department, MOF.

IV. Compilation Results and Main Findings in Taiwan

The compilation of business demography statistics in Taiwan follows the guidelines of the EU and OECD Manual. By utilizing information on sales of enterprises and number of employees, active enterprises are identified from the complete business registration database. Based on this, four statistical indicators—enterprise births, deaths, survivals, and high-growth enterprises—are calculated. The main findings are as follows:

1. Average Enterprise Birth and Death Rates of 6.7% and 5.5%

The annual enterprise birth rate between 2018 and 2022 ranges from 6.5% to 7.2%, while the death rate ranges from 5.4% to 5.7% (Figure 2). Changes are influenced by external economic events and industry dynamics. For example,

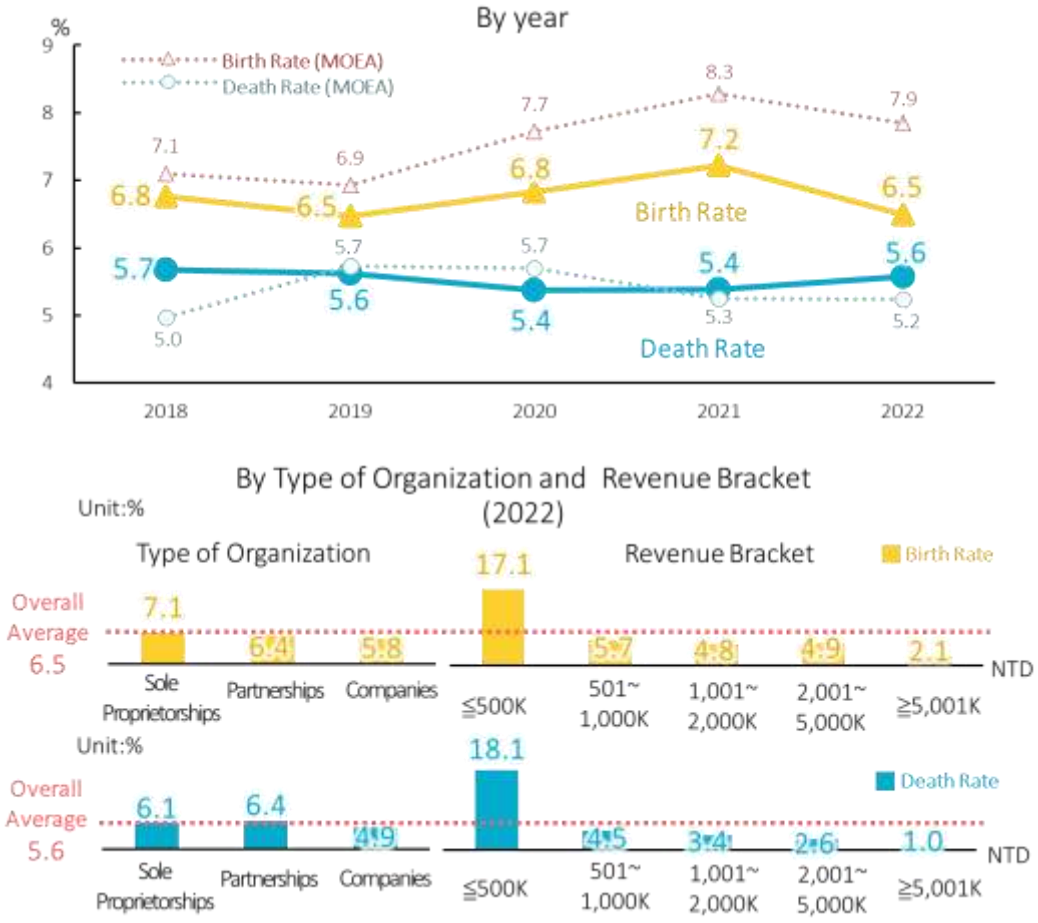
T±1 year, instead of the T±2 years recommended by the Manual.

during the pandemic, surging online retail businesses and popularity of claw machine arcades drove births up to 7.2% in 2021, before falling to 6.5% as trends cooled. Differences from the Ministry of Economic Affairs' (MOEA) company and business registration data are within 10%, which is acceptable given definitional differences.

2. Higher Birth and Death Rates among Small and Sole Proprietorships

In the early stages of establishment and before business closure, enterprises generally operate at smaller revenue scales. Moreover, many businesses adopt organizational forms (sole proprietorships) characterized by lower tax compliance costs and concentrated decision-making. Due to low entry barriers and sunk costs, enterprises with smaller revenue scales and sole proprietorships exhibit birth and death rates higher than the overall average. This is particularly evident among businesses with annual revenue below NT$500K, where the birth and death rates reach 17.1% and 18.1% in 2022, respectively—about three times the overall average. In addition, partnerships, due to the need to reconcile the

Figure 2 Enterprise Birth and Death Rates



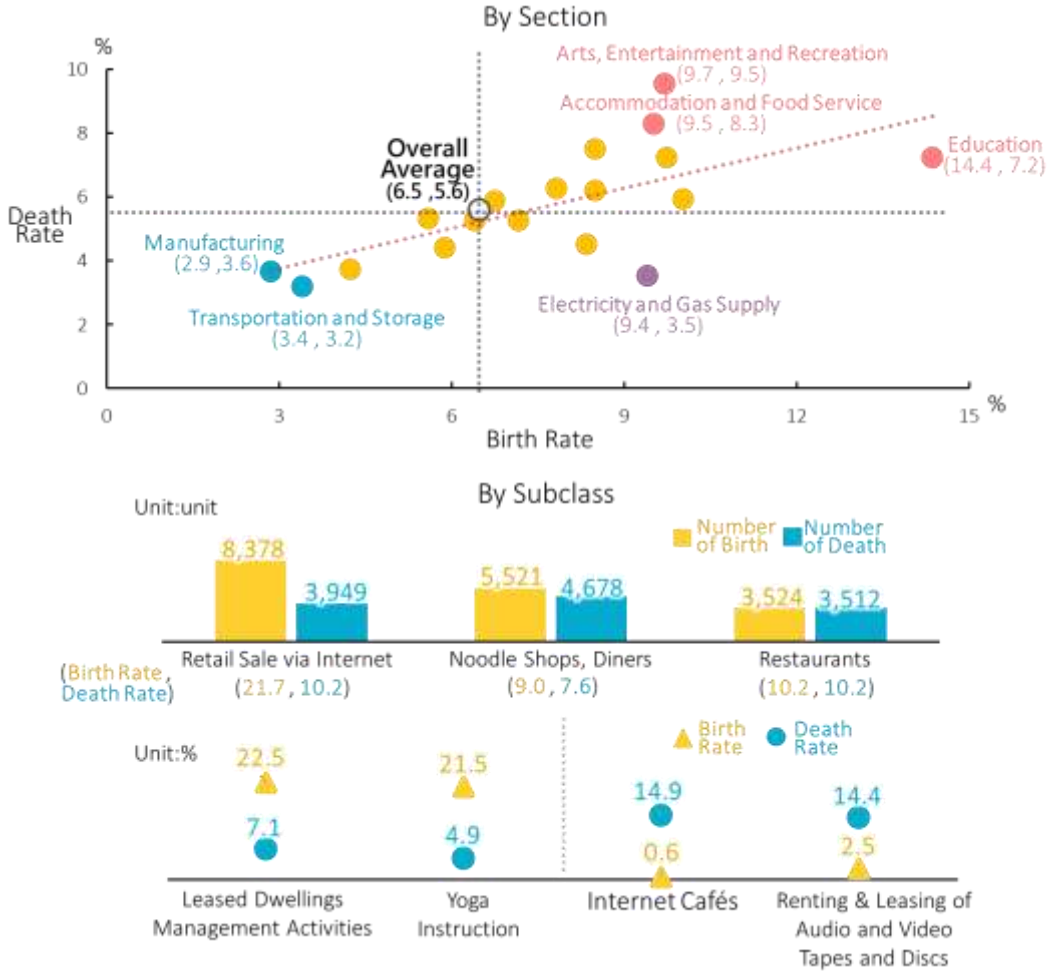
Source: Compiled by the Statistic Department, MOF.

opinions of multiple partners, show higher death rates compared to other organizational forms, exceeding the overall average.

3. Balanced Dynamics across Industries

Birth and death rates vary across industries, reflecting sectional features and market saturation. Manufacturing and transportation, requiring higher capital investment, show low birth and death rates, while electricity and gas supply—supported by energy policies—show high birth but low death rates (Figure 3). Subclasses like e-commerce and food services have the highest number of births and deaths. In addition, a few industries show substantial differences between the two rates, such as rental housing management and yoga instruction, which are influenced by housing policies and the rise of fitness trends, as well as internet cafés and DVD rental stores, which have declined due to the widespread use of mobile devices and streaming platforms.

Figure 3 Enterprise Birth and Death in 2022- By Industry Classification



Source: Compiled by the Statistic Department, MOF.

4. Only 60% of Enterprises Survive Five Years, Half Exit within Two Years

The year of enterprises establishment does not affect their survival performance. Across different birth years, the survival rates of enterprises from year 1 to year 5 are approximately 90%, 80%, 70%, 65%, and 60%, respectively (Figure 4). The elimination rate decreases each year and gradually converges, dropping from 10% in the first two years to 4.9% in the fifth year, reflecting the effect of market selection that weeds out weaker enterprises while retaining stronger ones. About 40% of enterprises are eliminated within five years of their establishment, with more than half of these exits occurring within the first two years, highlighting the first two years as a critical period for business viability.

5. Industry Differences in Survival

Enterprise survival is closely related to industry development trends. For example, in the electricity and gas supply industry, supported by energy policies, 80% of businesses survive to their fifth year (Figure 4). In contrast, the accommodation and food services industry faces intense market competition, while the arts, entertainment, and recreation industry is dragged down by claw machine shops (with only a 30% five-year survival rate), resulting in five-year survival rates of 55% and 41%, respectively—relatively low compared to other industries. In addition, due to some enterprises being established for tax avoidance or reduction purposes and subsequently closing once their objectives are met (e.g., securities investment, land development), the finance and insurance industry shows a first-year survival rate of only 77%, the lowest among all sections.

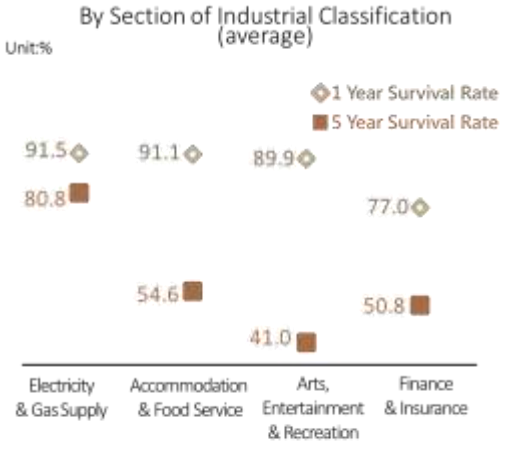
Figure 4 Enterprise Survival Status Since Establishment

By Year of Enterprise Establishment

Unit:%

Year of Enterprise Establishment	Percentage of Surviving Enterprises - By Survival Year				
	1yr.	2yr.	3yr.	4yr.	5yr.
2018	89.4	78.1	70.5	64.6	60.1
2019	89.0	78.9	71.3	65.4	-
2020	89.5	78.9	71.3	-	-
2021	89.9	79.3	-	-	-
2022	89.5	-	-	-	-
Average	89.5	78.8	71.0	65.0	60.1
Elimination Rate	10.5	10.7	7.8	6.0	4.9

53.1%=(10.5+10.7)/39.9



Source: Compiled by the Statistic Department, MOF.

6. High-Growth Enterprises Account for Only 1%, Mostly Large Companies

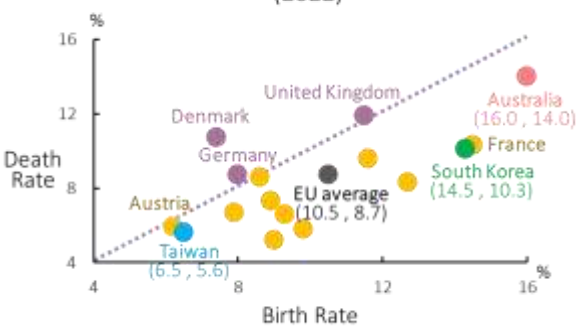
In 2023, about 1% of all active enterprises were high-growth enterprises, with 90% of them concentrated in corporations with annual revenue exceeding NT$10 million, which are subject to the standard VAT rate. The share of high-growth enterprises increases proportionally with revenue: those with annual revenue above NT$10 million but below NT$100 million accounted for 3.1%, three times the overall average, while those exceeding NT$100 million reached 13.4%, thirteen times the average. These high-growth enterprises are mainly found in industries affected by major external factors or short-term supply-demand imbalances, such as the shipping industry, which benefited from port congestion in 2021 and 2022, and the banking and travel-related service industries, which were boosted in 2023 by interest rate hikes and a surge in post-pandemic "revenge travel."

7. Taiwan's Enterprise Birth and Death Rates Only 60% of EU Averages

Compared with international data, Taiwan shows relatively lower enterprise birth and death rates, influenced by factors such as the coverage of tax data and industry structure. At only about 60% of the EU averages of 10.5% and 8.7%, respectively, the rates are also lower than those of neighboring South Korea (Figure 5). The share of high-growth enterprises is also below the EU average of 9.2%, though slightly higher than South Korea's 0.1%. As for survival, the first-year survival rate of newly born enterprises in Taiwan is similar to that of sample countries such as Australia, the United Kingdom, and New Zealand, all exceeding 80%, while the five-year survival rate is higher in Taiwan, reaching 60%.

Figure 5 Enterprise Birth, Death, and Survival Status Across Countries

Birth and Death Rate of Enterprises (2022)



Survival Rate of Enterprises (Born in 2018)

Unit:%

Country	Percentage of Surviving Enterprises - By Survival Year				
	1yr.	2yr.	3yr.	4yr.	5yr.
South Korea	64.1	-	-	-	34.3
New Zealand	83.0	69.0	58.0	51.0	45.0
Australia	87.0	77.5	71.0	65.0	-
United Kingdom	94.8	74.1	57.6	47.3	39.4
Taiwan	89.4	78.1	70.5	64.6	60.1

Source: Compiled by the Statistic Department, MOF.

V. Conclusion

Business demography statistics integrate business tax registration, filing (assessment), individual income tax, and labor insurance data to compile information on enterprise births, deaths and survival, as well as high-growth enterprises. These statistics provide valuable insights into entrepreneurship, business life cycles, and industry trends. Since existing statistics with enterprise-level characteristics largely rely on the Industry and Service Census conducted once every five years, business demography compiled from administrative data such as tax and labor records serves as a timely supplement for understanding real-time industry dynamics in a resource-constrained and fast-changing environment. Moreover, its focus on entrepreneurial activity helps assess the economic impact of industrial policies and their effectiveness in promoting employment. Given that the EU, the U.K., New Zealand, Australia, and South Korea already publish such data regularly, Taiwan may consider following suit to align with international practices.

While limitations remain—such as coverage of tax records and issues related to whether enterprises comply with payroll withholding or labor insurance registration—the groundwork laid here may still be regarded as a starting point. It can serve as a reference for future extensions of statistical compilation and help stimulate greater attention to this issue from both academia and government agencies.

VI. References

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