

**Research Unit for Statistical
and Empirical Analysis in Social Sciences (Hi-Stat)****Measuring Gross Domestic Expenditures (GDE) in the Philippines:
1902-1940**

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Preliminary; not for quotation

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Measuring Gross Domestic Expenditures (GDE) in the Philippines: 1902-1940

by
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Introduction

This concise note outlines a preliminary effort to estimate the Gross Domestic Expenditure (GDE) of the Philippine Islands spanning the years 1902 to 1940. The primary focus includes two sets of personal consumption estimates, government expenditure time-series, capital formation estimates, balance of trade statistics, and a comparative analysis with the Gross Domestic Product (GDP) as presented by Richard Hooley in 2005.¹

The forthcoming sections delve into:

1. **Personal Consumption:** Exploring two distinct sets of personal consumption estimates.
2. **Government Expenditures:** Analyzing the time-series data related to government spending.
3. **Private Capital Formation:** Estimating private capital formation to understand its contribution to economic activity.
4. **Balance of External Trade:** Investigating statistics related to the balance of trade.
5. **Estimated GDE as Compared with Hooley's GDP:** Addressing error margins between two GDE
- 6.
7. versions and GDP, calling for insights into the reliability of the estimations.
8. **Concluding Remarks:** Offering some comparative perspectives.

This note aims to contribute to the understanding of the economic landscape of the Philippines during the specified period, acknowledging the

¹ Richard Hooley, "American economic policy in the Philippines, 1902-1940: Exploring a dark age in colonial statistics," *Journal of Asian Economics*, 16, 2005, pp.464-488. Please see also K. Odaka, "Adjusting Hooley's Philippine GDP, 1902~40," Global COE Hi-Stat Discussion Paper No.300, Aug. 2023.

inherent challenges and provisional nature of the estimations.

1. Personal Consumption

Two conceptually independent estimates have been devised for personal consumption². Firstly, a simplified, pseudo commodity-flow approach has been employed. This approach utilizes statistical information from production records of consumption goods, primarily focusing on materials for meals, such as agricultural, fishery, and livestock products. This data has been expanded to encompass expenditures on other essential consumption goods and services integral to daily living, including tobacco, shelter, clothing, medical care, education, energy, fuels and water, transportation and communication, and miscellaneous items. This expansion is achieved by cross-referencing manufacturing output or importation records and, additionally, by utilizing information from the first post-World War II Family Income and Expenditure Survey (FIES) in 1957. This survey provides insight into the average ratio of expenditure on specific items concerning daily living compared to that on meals.

The second set of information pertaining to macro personal consumption is derived from the pre-World War II Family Expenditure Survey (FES) conducted by the Bureau of Labor of the Department of Labor of the central, Insular (or later, Commonwealth) government. The records of the City of Manila have undergone meticulous examination, expanded to capture the year-to-year movements of personal consumption for the entire households of the Islands³. Further details are explained in Odaka (2023a).⁴

The following diagram (Fig. 1) illustrates the current states of two macro personal consumption estimates in nominal pesos, juxtaposed with the adjusted GDP time series by Richard Hooley (2005).

2. Private Capital Formation

Capital formation, in this context, refers to the aggregate monetary

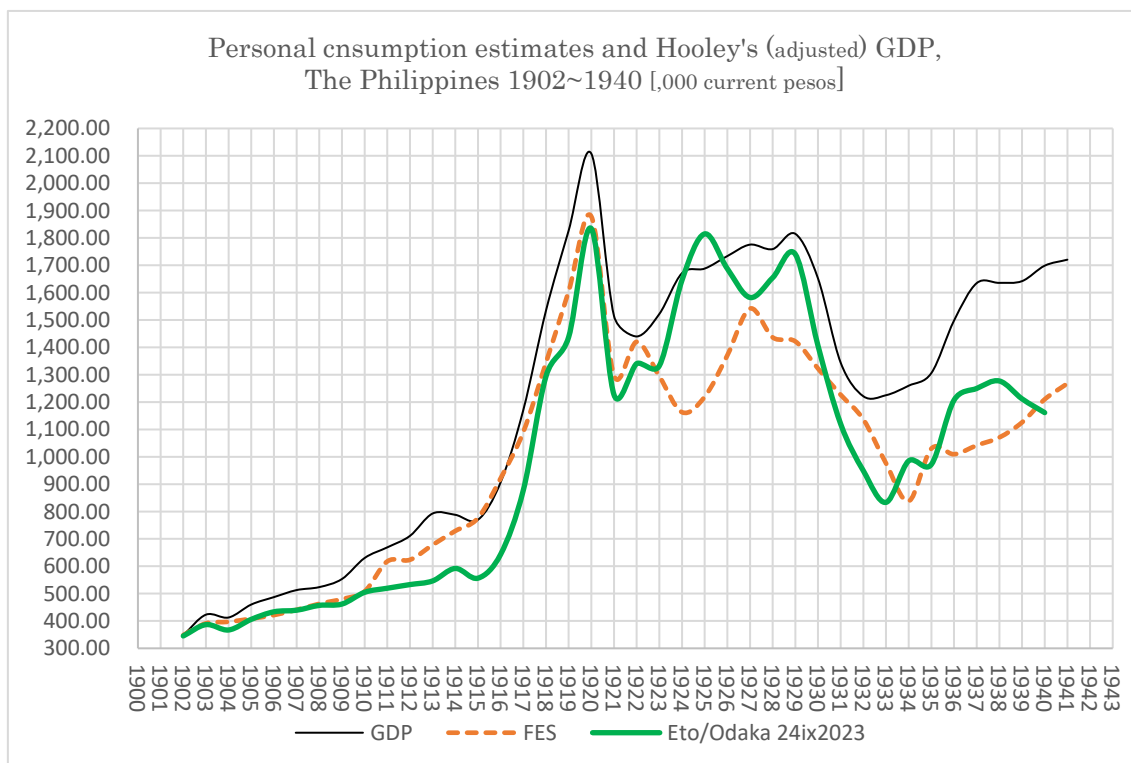
² The first approach is deemed preferable from a methodological standpoint as it directly engages with the national population, whereas the second approach does so only indirectly.

³ Covering the years 1909, 1910, 1918, 1920, 1921, 1925, 1927, 1930, 1932, and 1934~41.

⁴ Cf. K. Odaka, "Exploring Enel's Law and Personal Consumption in the Philippines, 1902~1940," Global COE Hi-Stat D.P. No. 299, Aug. 2023.

values spent on acquiring annual additions to physical production facilities and equipment. It is conceptually equivalent to annual monetary expenditures on newly added physical capital goods, including production equipment, but excludes monetary values expended on the purchase of financial papers of all kind, such as stocks and bonds, whether private or public. The term "capital formation" is employed to avoid possible confusion with the concept.

Figure 1. Two personal consumption estimates and Hooley's GDP



Data source) MacroCnsmptn.iv2023; Cnsmptn estII 2023 BN 36.

Notes) Eto/Odaka consumption series have been calculated by the following three steps.

First, the items considered for computation include: (1) domestic food products—shelled corn, rice, sugar, coffee, cacao or cocoa, coconuts, minor food crops, fishery, livestock, and liquor; (2) domestically made matches; (3) imported food items—meat and meat products, dairy products and eggs, fish and fish products, spices, beverages, spirits, wines and liquors, wheat flour, starch, tea, refined sugar, fruits and nuts, vegetables, confectionery, and breadstuff; and (4) imported non-food items—cloths and cloth products (manufactured silk, cotton, fiber, and wool products), and miscellaneous products (manufactured leather products, hats and caps, matches, paper products, and perfumes and costumes).

Second, the cash expenditures for the aforementioned items were adjusted upwardly using itemized ratios based on the average consumers' total (both cash and in-kind) expenditure to cash expenditures, as observed in the 1957 Family Income and Expenditure Survey (FIES) in the entire Philippines. The respective adjustment ratios were: 2.075 for food items, 1.819 for tobacco, 1.944 for cloth products, and 1.0 for miscellaneous products.

Third, the 1957 FIES includes items such as shelter, fuel, light and water, medical care, transportation and communication, recreation, and education in its list of household expenditure items. Unfortunately, statistical information for these items is missing in our pre-World War II FES data. Assuming that these items in pre-World War II households accounted for the same proportions of total expenditures as in the 1957 households, namely 23.4%, we have blown up the final total figures obtained at the second stage, as explained above, by a factor of 1.234.

Capital formation, or physical investment, stands as the most crucial component for economic growth. It includes (a) newly acquired animals, trees, machinery, and equipment required for the production of the primary industry, and (b) annual additions to physical facilities (i.e., buildings, machinery, and equipment) used for production in the secondary and tertiary industries. While one could argue, with merit, that the increase in human capital is another essential source of economic growth, this aspect is not covered in the present investigation.

For items included in (a) above, annual net increases in the quantities and values of animals and fowls used for agricultural and dairy production⁵ are sourced from the records of national censuses and the Ministry of Agriculture. Concerning items in (b), however, expenditures on physical facilities and equipment for the secondary and tertiary industries are drawn exclusively from statistics of importation from foreign countries⁶. This is

⁵ Included here are: water buffaloes, cattle, hogs, hens, and ducks.

⁶ Included in the list of physical equipment imported for capital formation are: (1) automobiles and motors, trucks and parts thereof (including rubber tires), (2) cement, (3) manufactured goods of earth and clays, (4) electrical machinery, apparatus, and appliances, (5) machinery and engines, (6) road-making machines and parts thereof, (7) sewing machines, (8) locomotives and parts thereof, and steam and other power engines and parts thereof, (9) motors, except electric, and parts thereof, and engines and parts thereof, (10) stationary machines and parts thereof, and steam and other power engines and parts thereof, (11) traction machines and parts thereof, and steam and other

because the production activities of the secondary and tertiary industries during the first half of the twentieth century were conducted predominantly by household (backyard) or small-and-medium-scale enterprises, which seldom maintained production and/or accounting records.

Note, however, that the current estimation of private capital formation does not encompass expenditures on the depreciation of production facilities and equipment due to the difficulty of obtaining the necessary information. As such, it deviates from the standard practices of the contemporary System of National Economic Accounting (SNA).

The time series data for capital formation was initially constructed on a nominal basis and later converted to real values, expressed in 1939 pesos. This conversion was achieved by using unit prices estimated through the division of respective current total values by their corresponding physical quantities.⁷

In any case, it is evident that several challenges persist in this realm of historical investigation, given the characteristic scarcity of statistical records for manufacturing production in the Philippines.⁸ Acknowledging the limitations of our current estimation, the following diagram (Figure 2) endeavors to illustrate the overtime developments of capital formation in the country during the first forty years of the twentieth century.

power engines and parts thereof, (12) typesetting machines and parts thereof, (13) adding machines and cash registers, (14) structural iron and steel (angles and channels, beams, and all others), (15) pig iron, (16) iron scraps, (17) bar iron, (18) bars or rods of steel, and (19) pipes and fittings (made of cast iron, wrought iron, and steel). (Coal, erroneously included in the above computation, will be excluded.)

Depreciation of capital goods has not been accounted for in the present series due to a lack of adequate information. On the other hand, it should be noted that a substantial portion of the total values of the imported capital goods likely supported the construction efforts of social capital by the central and local authorities. These two factors, hopefully, cancel each other to some extent, mitigating the potential issues of double counting or underestimation of private capital formation.

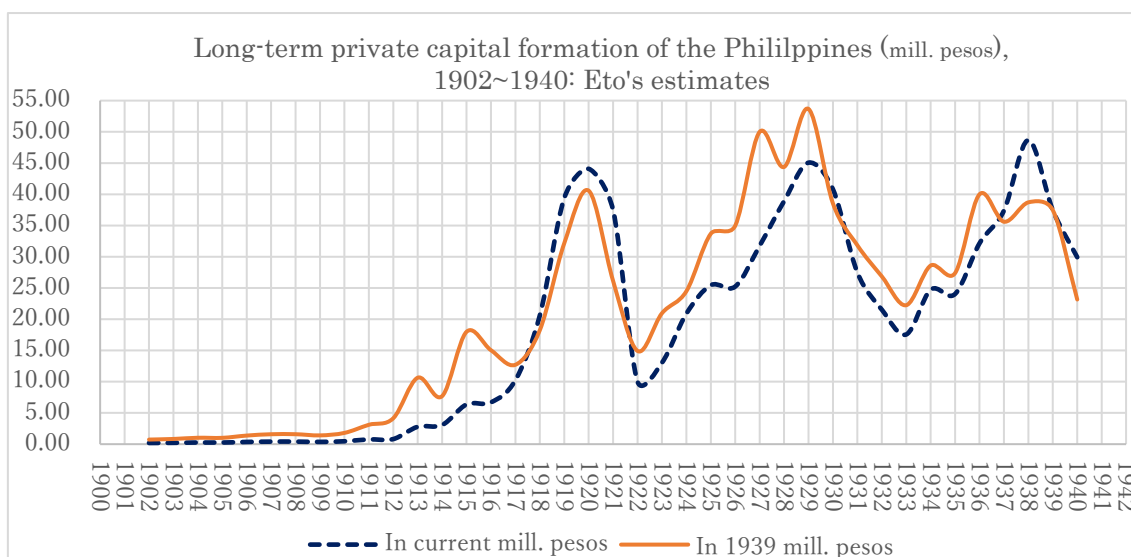
⁷ In cases where the derivation of unit product prices is not possible, as is often the case with imported commodities, we have utilized the weighted averages of the unit prices of goods whose prices have been estimated. The weights are the respective proportions of price-derivable products in the total imported values of goods for which prices were estimated.

⁸ Micro records of industrial development, such as detailed data encompassing quantitative historical documents from both private and public corporations, should be earnestly pursued and compiled in the near future. This effort aims to enhance the accounting capacity of economic historians. Professor Hooley has mentioned assembling some data on capital stocks of private enterprises, although the present writer has not yet come across such documentary records.

3. Government Expenditures

The official records detailing government revenues and expenditures are sourced from the *Report of the Auditor of the Philippine Islands (RAP)*,⁹ a highly reliable repository of financial information crucial for understanding the quantitative economic history of the Philippines. Published annually from 1900 to 1939, this report is considered a cornerstone in economic accounting, given the meticulous oversight of American authorities in charge of accounting offices and auditing throughout the first half of the twentieth century. The consistent presence of American experts in auditing roles underscores the unparalleled importance the U.S. government placed on the economic accounting of government financing.

Figure 2. Private capital formation (in mill. pesos), 1902~1940 §



Data source) PreWWIIrealGDEest.iii2023; file GDE5AZ56.

Note) § Estimation has been conducted by Keiya Eto.

The comprehensive contents of the RAP reports can be categorized into three main components: (1) balance sheets, (2) operational statements,

⁹ Later re-titled as *Annual Report of the Auditor General to the President of the Philippines and the National Assembly*. The present writer expresses gratitude and deep appreciation to the librarians of the Rizal Library at the Ateneo de Manila University for providing recurrent opportunities for the scrutiny and perusal of its RAP collection. Special acknowledgment is owed to Professor Yoshihiro Chiba for directing the writer's attention to the almost perfect collection of RAP at the Rizal Library.

and (3) budgets and expenditures. Of these, the most crucial from the auditor's perspective is (1).

The primary focus of the RAP is evidently the financial condition of the government, as it serves as an indicator of the overall health of the government's finances. In this context, the RAP places high significance on item (1): the consolidated balance sheet of the nation, detailing total assets versus total liabilities. The surplus of the former over the latter constitutes the government's capital, comprised of the current surplus (general fund + social fund + bond fund) and investment surplus.

On the other hand, the concern of item (2), the 'consolidated operation statement,' delineates how the government actually allocated its financial resources and the outcomes derived. It essentially serves as a profit and loss statement, revealing the sources of income, the costs incurred, and the amounts utilized or expended in the economic operation or conduct of public welfare services¹⁰.

The present investigation diverges from the stated aims of RAP as it primarily focuses on the year-to-year records of government expenditures to scrutinize and evaluate the government's policy stance and the economic philosophies guiding them. Consequently, item (3), the budget and expenditures¹¹, assumes a central role in the exercise of macro, national accounting, primarily concerned with the year-to-year financial flows of government expenditures.

To achieve the objectives of this study, the annual expenditures of all domestic governments (central, city, provincial, and municipal) need to be 'consolidated' by aggregating the revenues and expenses of all domestic governments. This process avoids double counting of revenues and expenditures between governments through inter-governmental financial subsidies, assistance, and transfer payments¹². The appropriately organized

¹⁰ *Report of the Auditor for the Philippine Islands*, fiscal year ended Dec. 31, 1925, Manila 1926, p.13.

¹¹ In the words of RAP, the budget statement is "... a comprehensive compilation of data designed to clearly set forth ... the gross accruals to, and withdrawals from, the current surplus during the fiscal year" (*ibid.*, p.14)

¹² The consolidating process of the budgets and the expenditures is illustrated in *Report of Auditing of the Philippine islands, fiscal year ended June 30, 1909*, Part I, pertaining to the fiscal affairs of the Insular Government and the City of Manila, Manila, 1910, pp.9-15.

expenditure data will be tabulated into two statistical time-series: government consumption and government capital formation.

Beginning in the calendar year 1915, the consolidating computations were executed by RAP itself. However, prior to 1915, the task had to be undertaken by the present writer. A slight technical complication existed here, involving shifts in the definitions of 'fiscal years' between:

(a) the U.S. style:

fiscal year $t = 1$ July year $t - 1 \sim 30$ June year t , and

(b) calendar-year based:

fiscal year $t = 1$ January $t \sim 31$ December year t .

The shifts between the definitions (a) and (b) were executed in a somewhat complicated manner, as shown in the table below¹³:

Period	Central gnt		City gnts		Provincial gnts		Municipal gnts	
	Def. (a)	Def. (b)	Def. (a)	Def. (b)	Def. (a)	Def. (b)	Def. (a)	Def. (b)
1906	○		○	○	○	○	○	
1907 1912	○		○	○	○	○		○
1913 1935		○	○	○	○	○		○
1936	○		○		○		○	

Notes) The 'city government' referred only to Manila up to the calendar year 1908; it expanded to include Baguio starting in September 1909, and was extended further to cover other cities (such as Cavite) beginning in the calendar year 1935. In the same year the Manila water district and the provincial government hospitals came to constitute independent items of government fiscal budgets, while their fiscal year definitions matching those of other domestic governments.

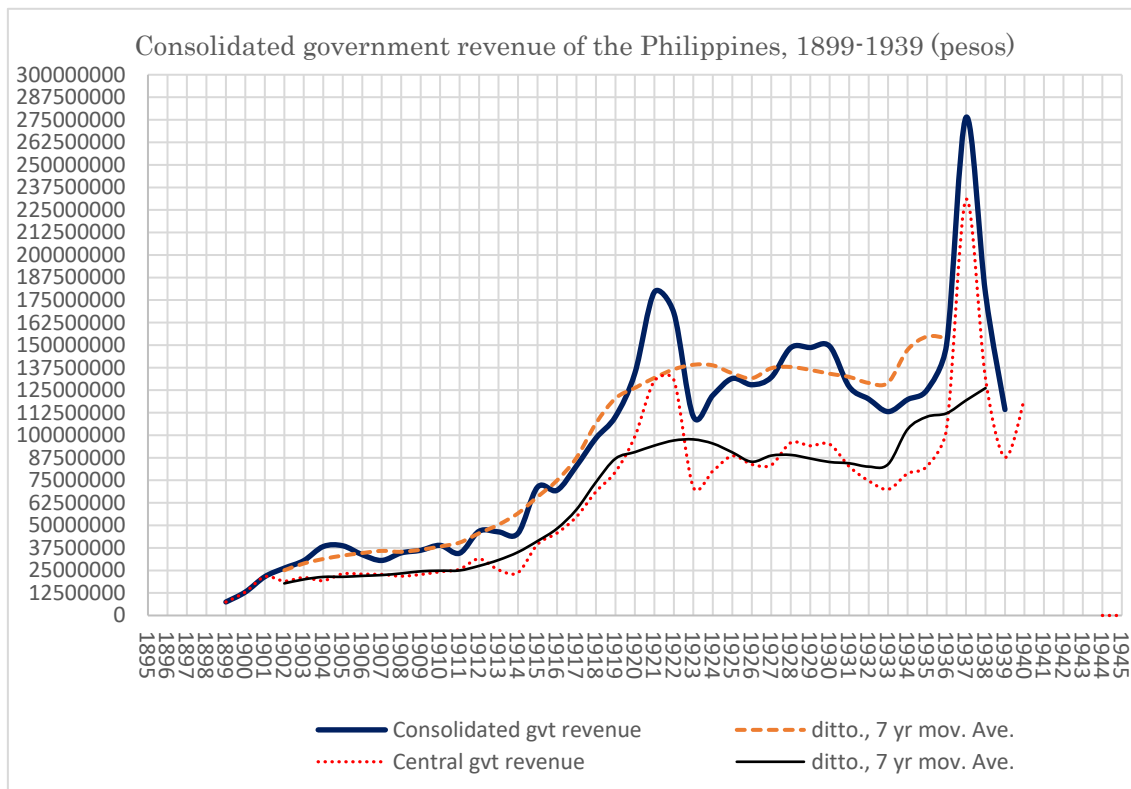
The following figures (Fig. 3 and 4) illustrate the overall conditions and movements of the consolidated government finances of the Philippine Islands for the years 1899~1939. Figure 4 also depicts the locus of consolidated government expenditures on social capital.¹⁴

¹³ RAP 1914 is the first RAP that reported government finances on calendar year basis, beginning from the records of fiscal 1913, which ended on 31 December 1913. In preparation for the change, RAP1913 was issued in three volumes, i.e., two separate volumes of 1913 PartI-1 and one volume of 1913 PartI-2, where the second Part I-1 volume attempts at presenting calendar-based data for fiscal 1913, which differ slightly from the calendar-based data reported in RAP1914. The present study has opted to adopt the 1913 figures reported by RAP1914.

Some changes in the compilation principle must have taken place in the year 1913 or 1914. Most importantly for us, RAP's consolidated accounting both central and local government finances started in the calendar year 1913.

¹⁴ Expenditures on land purchases have not yet been deducted from the present

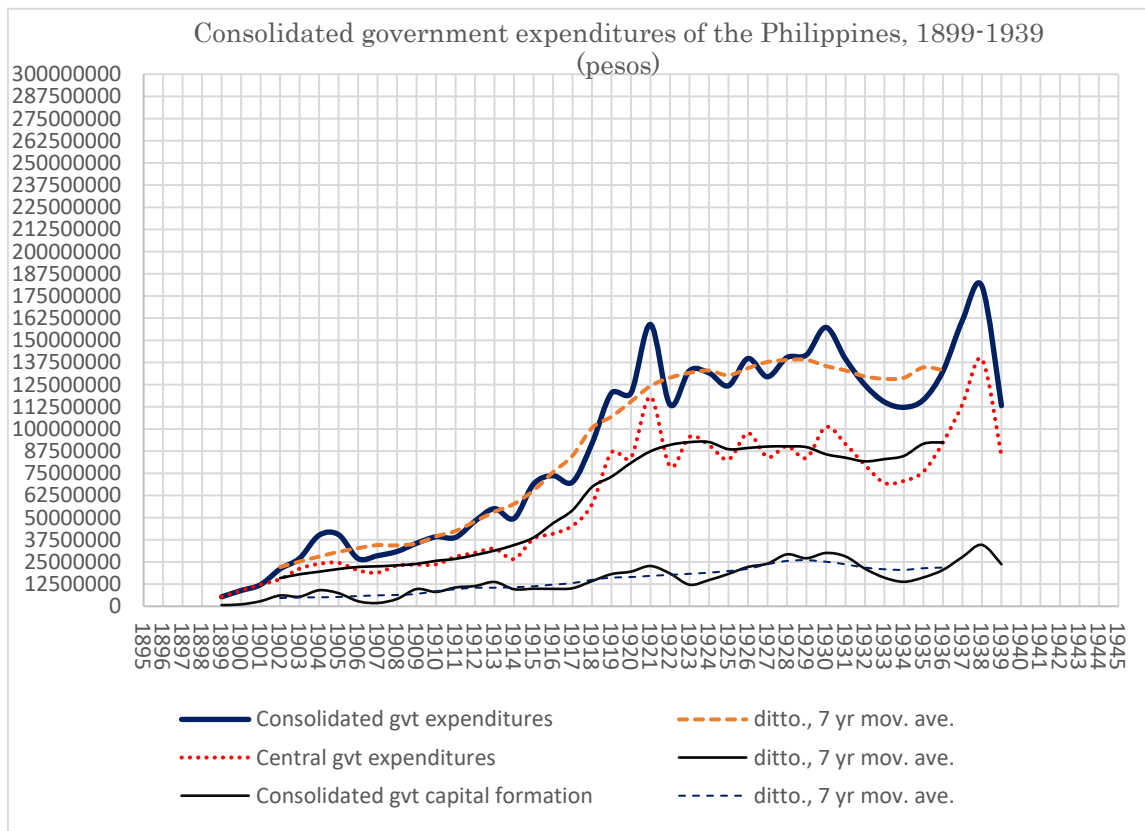
Figure 3. Consolidated government revenue (in current pesos)



Data source) RAP 統合版.iii2021.12iii2023; 時系列試算 12iii2023 EE66.

estimates of the governments' capital formation, as the library acquisition of several supplementary volumes of RAP in the 1930s, which contain needed information of investment expenditures by some cities including the City of Manila, has so far not been ascertained.

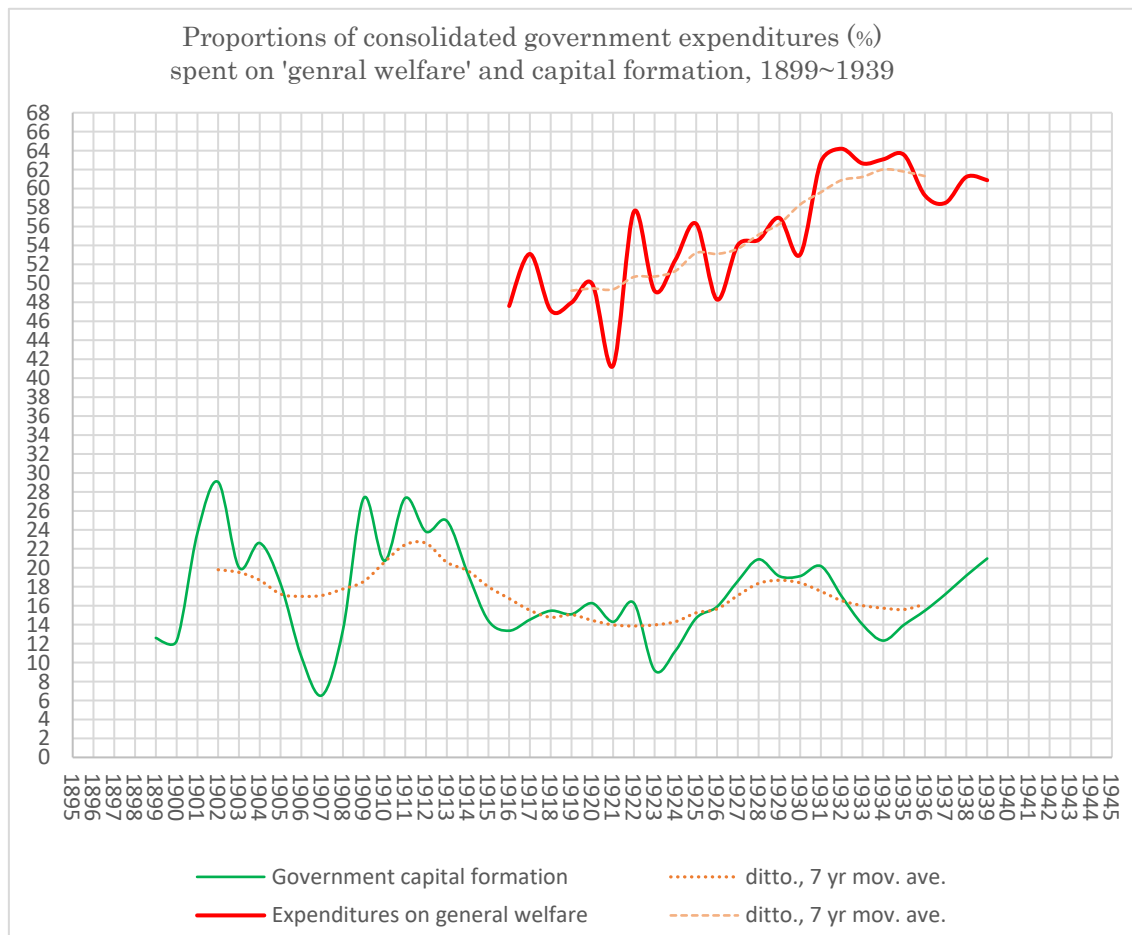
Figure 4. Consolidated government expenditures (in current peso)



Data source) RAP 統合版.iii2021.12iii2023;時系列試算 12iii2023 EL66.

Note) The revenues and expenditures of the central government reported on *the Statistical Bulletin of the Philippines* sometimes differ slightly from those of the RAP, which have been adopted by the present study.

Figure 5. Government spending on 'general welfare' and capital formation



Data source) RAP 統合版.iii2021.12iii2023 FT62.

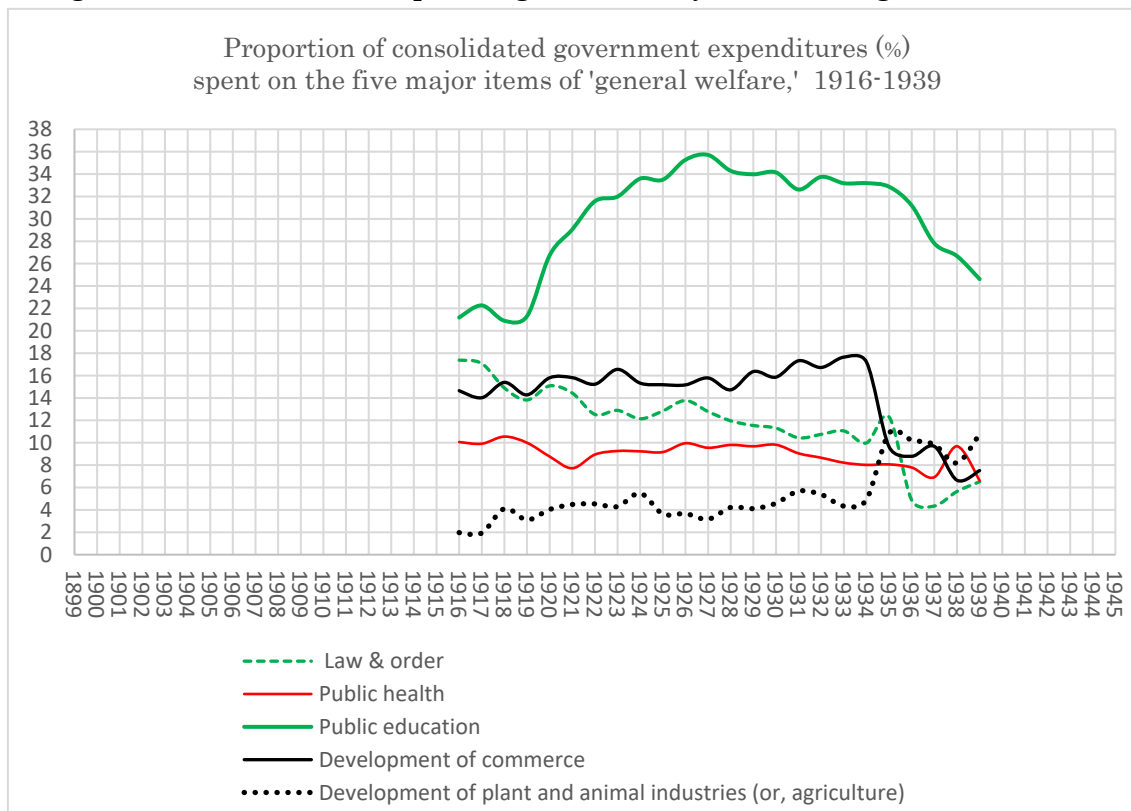
Beginning in the year 1916, RAP initiated a review of the civil welfare components within consolidated government expenditures, classifying them into five major categories: law and order, public health, public education, development of commerce, and development of agriculture¹⁵. Figure 5 examines the relative proportions of the consolidated government expenditures spent on what RAP termed 'general welfare' and social capital. Figure 6 aims to delineate the 'general welfare' across five distinct items.

It appears highly characteristic of the colonial government that, after its initial emphasis on the formation of social capital in the early

¹⁵ It is desirable to backwardly extend these 'general welfare' components up to 1899 if possible. This would require looking into finely classified expenditure records, which has not been attempted yet.

decades of the twentieth century, it shifted its focus to generously allocate funds to what RAP terms 'general welfare,' particularly in the realm of public education.

Figure 6. Government spending on five major items of 'general welfare'



Data source) RAP 統合版.iii2021.12iii2023 EX66.

However, one cannot overlook a pronounced transformation in public spending philosophy following the Great Depression. During this period, expenditures on education and commerce underwent a significant reduction, while spending on agriculture and 'law and order' experienced a notable increase. This shift is likely associated with the inauguration of the Commonwealth government in 1935.

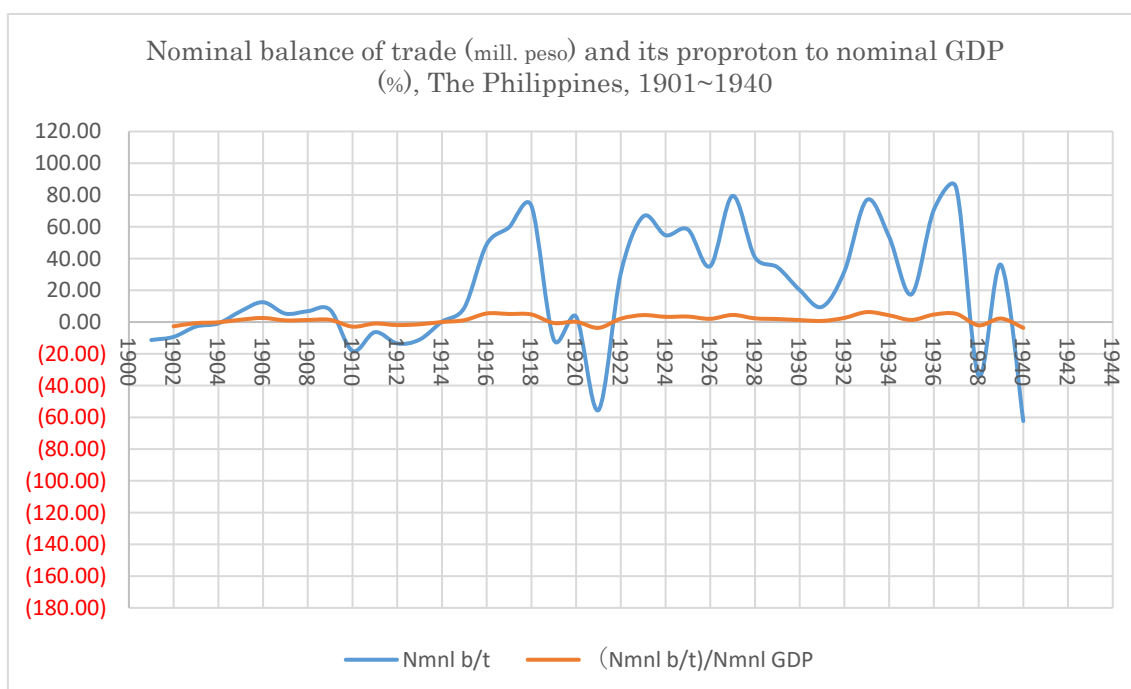
4. Balance of External Trade

The record of the net trade balance holds fundamental importance, serving not only as an indispensable source of information for GDE but also as a key indicator of economic performance. This is particularly crucial for a country like the Philippines, which heavily relies on exporting products from

the primary industry to earn foreign exchanges necessary for importing capital goods.

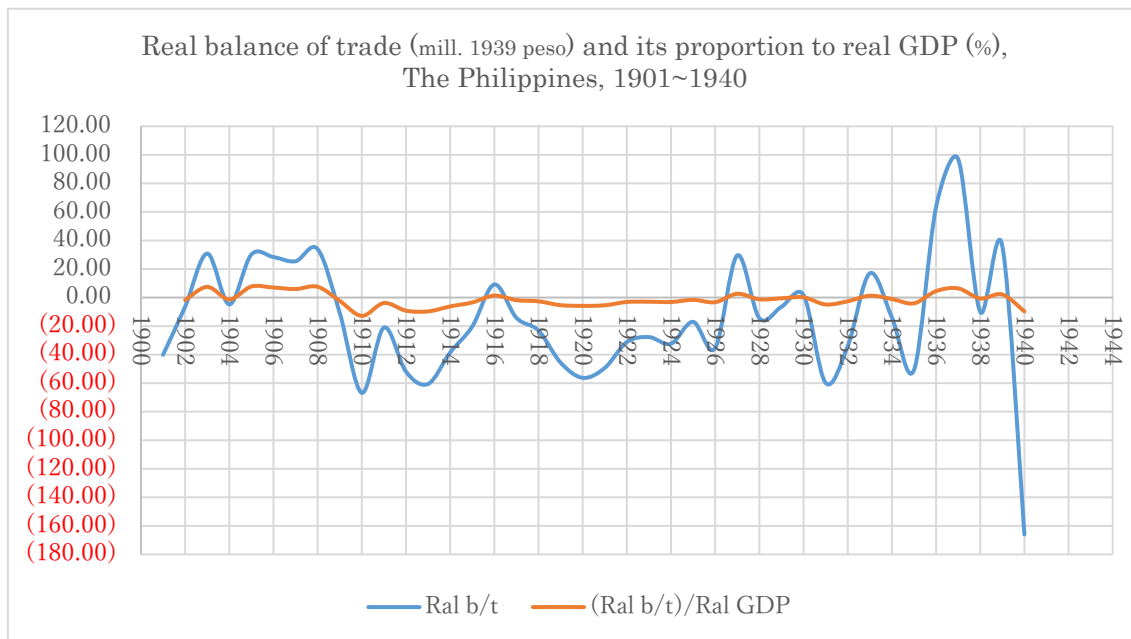
However, it is noteworthy, as depicted in Figures 7 and 8 below, that while the long-run trend of the nominal balance of trade was predominantly positive, its real counterpart overwhelmingly lies in the negative zone. This discrepancy is attributed to the movements of export-price ratios. Consequently, the contributions of the balance of trade to GDE in real terms during the observed decades were not only small but mostly in the negative values

Figure 7. Nominal balance of trade and its proportion to real GDP



Data source) PreWWIIrealGDEEst.ix2023; file GDE5 BJ 55.

Figure 8. Real balance of trade and its proportion to real GDP



Data source) PreWWIIrealGDEEst.ix2023; file GDE5 BS 55.

5. Estimated GDE as Compared with Hooley’s GDP

We have now advanced to a stage where we amalgamate all the expenditure components elucidated thus far in this paper to derive the annual values of gross domestic expenditures (GDE) for the Philippines from 1902 to 1940. This is achieved through the following calculation:

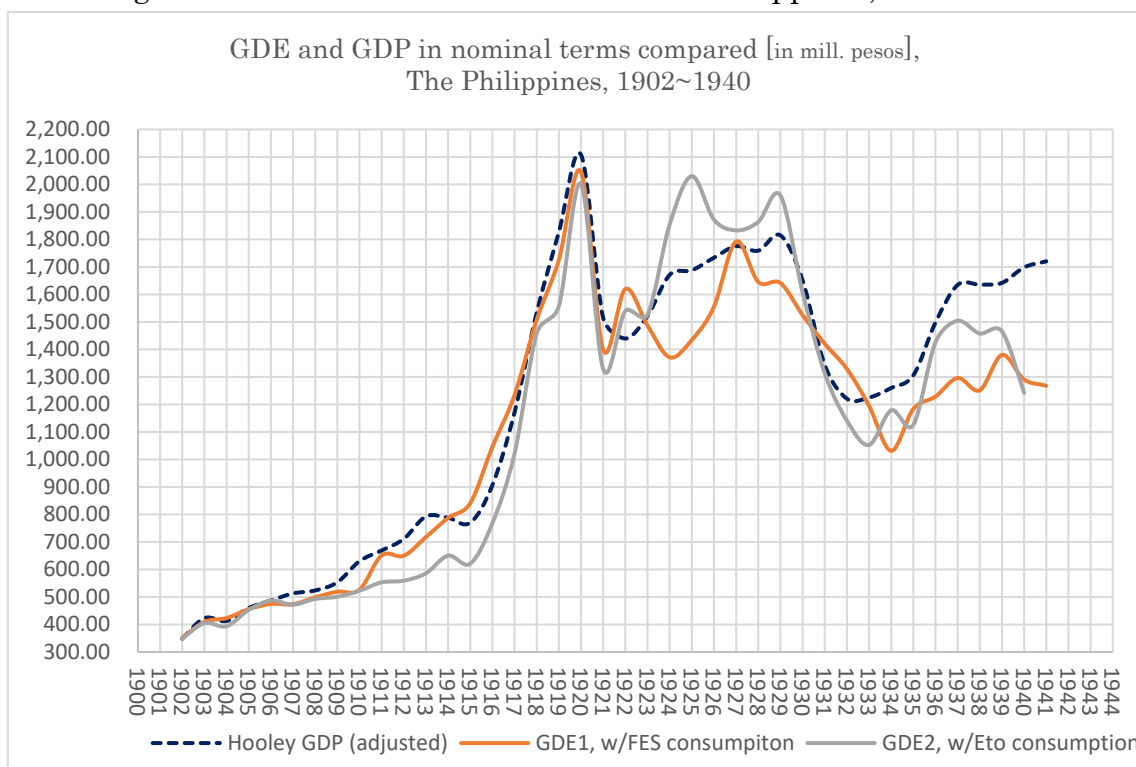
Private (or personal) consumption + private gross capital formation + government consumption + government gross capital formation + export – import.

Figures 9 and 10 present the results of the computation in both nominal terms (Figure 9) and real terms (Figure 10). The diagrams include two slightly different versions of GDE, corresponding to two independent personal consumption estimates—one by Eto/Odaka’s (constituting GDE₁) and the other by FES’s (constituting GDE₂)¹⁶. For comparison, the (slightly adjusted) GDP series estimated by Richard Hooley is also depicted in the diagrams. Ideally, the two versions of GDE would completely match in their

¹⁶ The Eto/Odaka version has been constructed by summing up the commodity values produced annually for personal consumption, while the FES’s version is the duly adjusted collection of household expenditure records in the City of Manila.

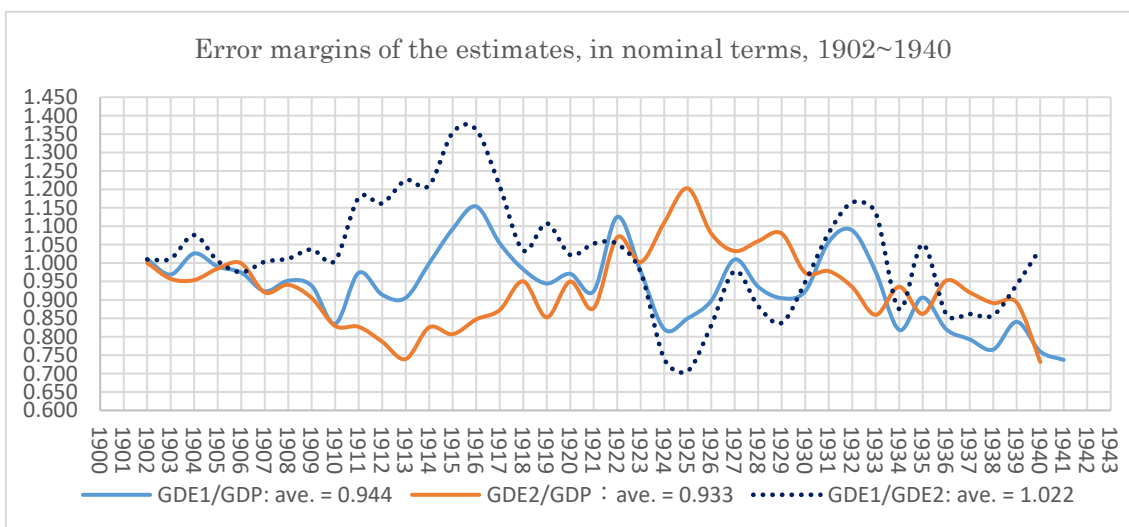
values, and those values would correspond exactly to those of GDP. However, this is not the case. On the contrary, as the accompanying diagrams in Figures 9A and 10A show, while the averages of the three differentials (GDE1/GDE2, GDE1/GDP, and GDE2/GDP) are less than seven percent, year-to-year differentials are often of quite substantial size. This calls for further examination and scrutiny of the source data and the estimation methodology.

Figure 9. Nominal GDE and GDP of the Philippines, 1902~1940



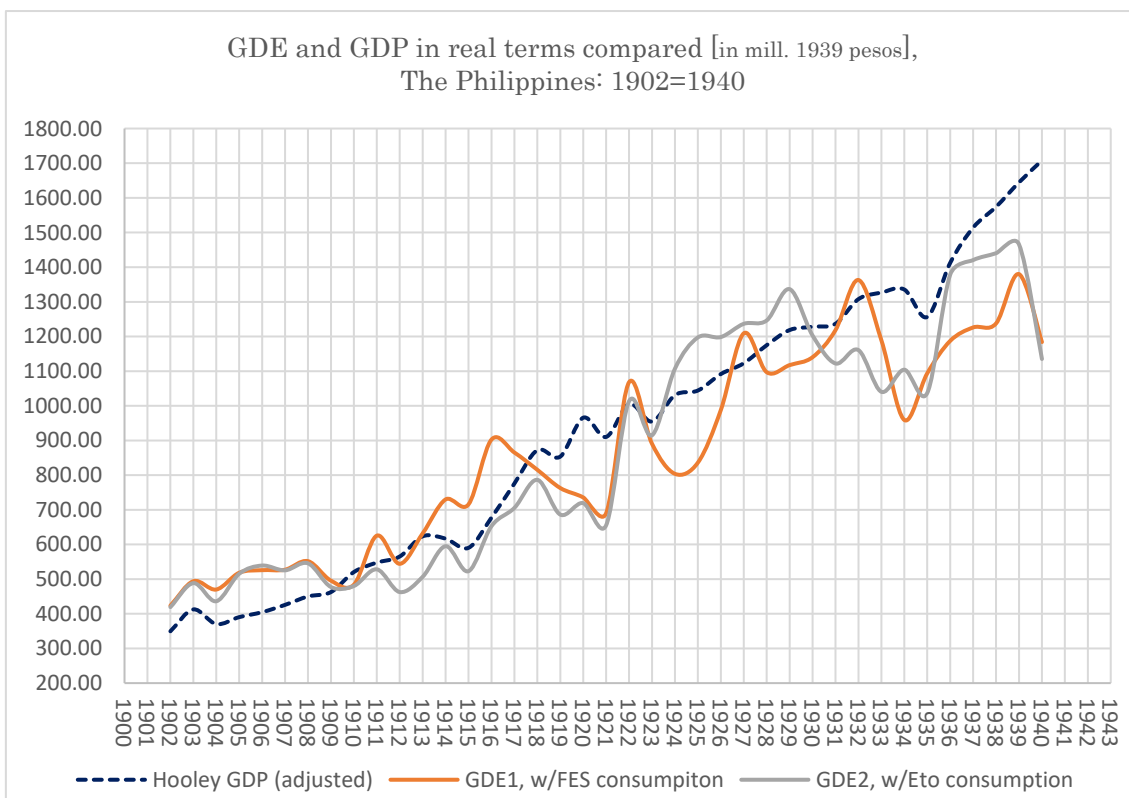
Data source) PreWWIIrealGDEest.iii2023; file GDE5 O56.

Figure 9A. Error margins of GDE and GDP estimates in nominal terms



Data source) PreWWIIrealGDEest.iii2023; file GDE5 O74.

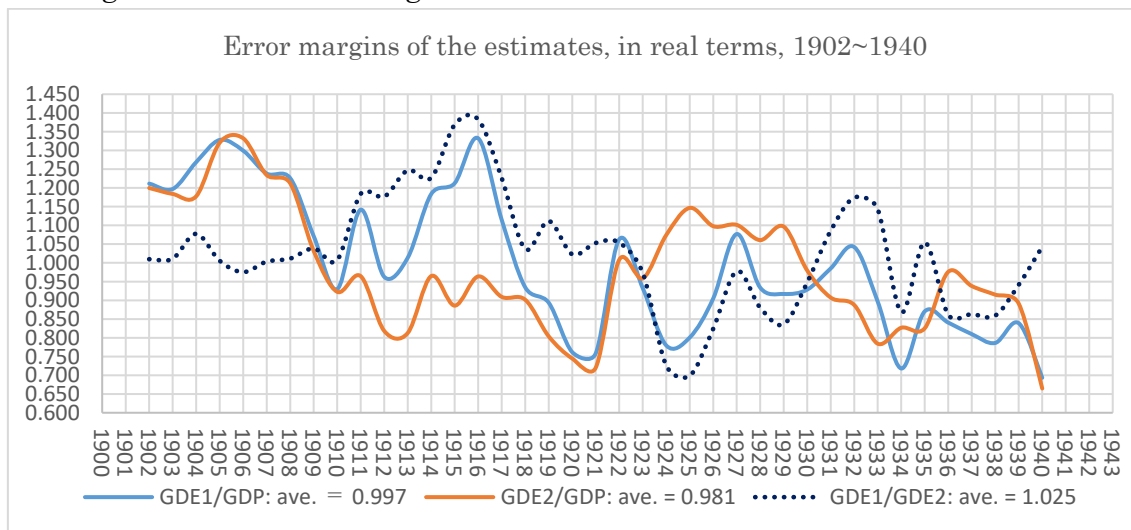
Figure 10. Real GDE and GDP of the Philippines, 1902~1940



Data source) PreWWIIrealGDEest.iii2023; file GDE5 AA56.

Note) The major components of the GDE were first converted to their real values before they were summed up to yield GDE values, by using appropriate respective deflators. The government expenditures, as one of such series, were deflated by (adjusted) Hooley's GDP implicit deflators.

Figure 10A. Error margins of GDE and GDP estimates in real terms



Data source) PreWWIIrealGDEest.iii2023; file GDE5 AA74.

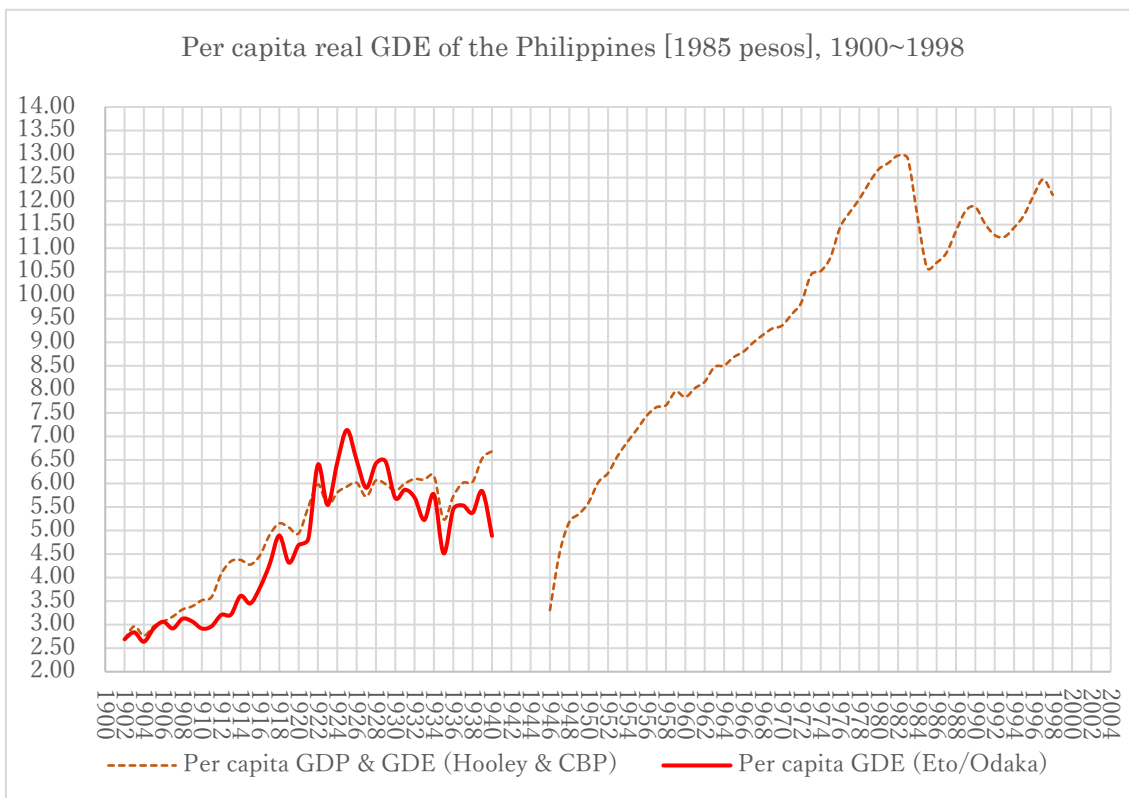
6. Concluding Remarks

It would be of some interest to trace the long-term development of per-capita real GDE of the nation. Figure 11 attempts at responding to this question. Here again, one is impressed by the fast growth tempo of the economy in the 1910s, which were matched just as well by the economy's performance in the years (say) 1960~1980.

Finally, Figure 12 below compares the composition of nominal GDE of the Philippines with that of Taiwan during the years 1902 through 1940. It is noteworthy that Taiwan, in clear contrast to the Philippines, tended to derive significant earnings from exports while simultaneously allocating more towards capital formation, both in private and public activities. The resources for the latter have, in part, been squeezed out by spending relatively less on personal consumption.

The contrasting economic decision making perhaps explains part of the differences of these two regions in their economic performances during the period.

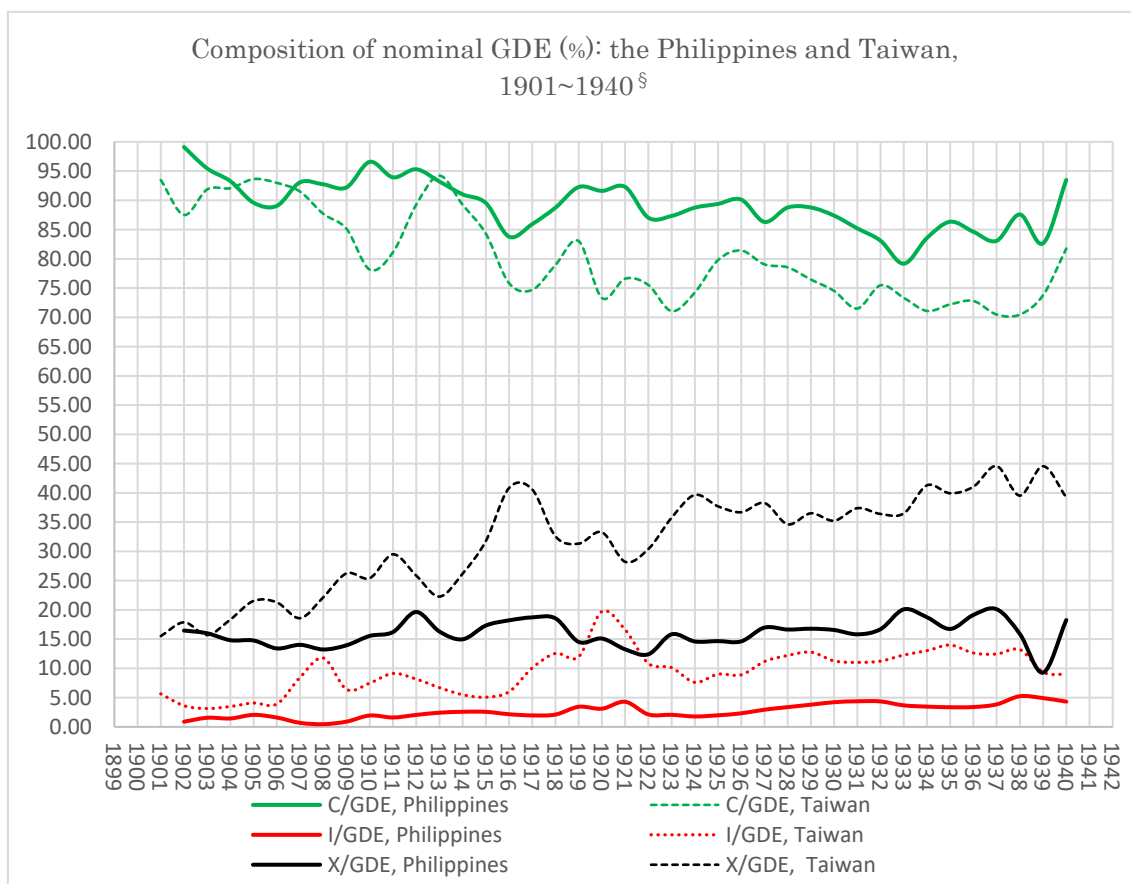
Figure 11. Long-run trends of the per-capita real GDE of the Philippines



Data source) PreWWIIrealGDEest.iii2023;file GDE6 W124.

Note) Pre-W.W.II GDE in 1939 pesos have been converted to 1985 pesos basis by using the conversion rates of 1939 price-based Hooley GDP to its corresponding series in 1985 pesos. The post-W.W.II GDE-GDP data come from the public documents, and the population figures from Takahama's worksheet.

Figure 12. Compositions of nominal GDE compared:
The Philippines and Tawian, 1901~1940



Data source) PreWWIIrealGDE.iii2023; fail GDE7 AR14.

Notes) § *C* stands for personal consumption, *I* for capital formation, and *X* for exportation. Data for Taiwan come from T. Mizoguchi (ed.), *Asian historical statistics: Taiwan*, Long-term economic statistics of Asia series, vol. 1 (in Japanese with English abstracts), Tokyo: Toyo Keizai Shimposha, 2008, p.369.

Statistical Appendix

Hooley's GDP and Estimated GDE and its Components (million current pesos)									
									(mill. pesos)
Calendar year	Adjusted Hooley GDP	GDE 1	GDE 2	FES consumption	Eto/Odaka Consumption	Private capital formation	Government consumption	Government capital formation	Export—Import
1901									-11.32
1902	348.02	351.52	348.11	348.47	345.06	0.19	9.31	2.89	-9.34
1903	423.03	409.73	404.91	391.32	386.50	0.21	14.92	6.11	-2.83
1904	412.64	423.34	393.55	396.87	367.08	0.26	21.64	5.42	-0.86
1905	460.09	455.65	453.08	408.53	405.96	0.26	31.00	9.06	6.81
1906	487.18	474.63	486.76	421.41	433.54	0.35	32.99	7.40	12.48
1907	512.88	473.50	471.91	440.89	439.31	0.41	24.05	2.86	5.29
1908	523.72	498.55	492.73	462.77	456.95	0.41	26.67	1.87	6.83
1909	553.32	519.14	500.76	480.18	461.80	0.36	26.77	4.14	7.68
1910	630.09	526.06	522.51	508.22	504.67	0.46	25.83	9.72	-18.18
1911	669.03	651.26	553.15	617.70	519.59	0.76	31.05	8.12	-6.37
1912	711.04	649.70	559.17	623.52	532.99	0.81	28.23	10.63	-13.49
1913	792.68	717.75	586.08	678.00	546.34	2.78	36.61	11.44	-11.08
1914	787.88	787.29	650.35	728.96	592.02	3.07	41.32	13.74	0.20
1915	769.94	841.00	621.22	776.12	556.34	6.36	39.88	9.63	9.00
1916	906.83	1,046.00	768.05	921.52	643.57	6.69	58.97	9.93	48.88
1917	1,171.21	1,234.23	1,021.55	1,090.72	878.05	10.25	63.81	9.84	59.61
1918	1,534.18	1,507.73	1,457.95	1,343.87	1,294.09	20.60	59.89	10.18	73.19
1919	1,826.66	1,725.14	1,557.52	1,604.97	1,437.35	39.38	77.63	14.20	-11.04
1920	2,107.78	2,045.87	2,001.68	1,878.17	1,833.99	44.08	102.09	18.16	3.37
1921	1,514.82	1,399.19	1,329.01	1,296.88	1,226.70	37.45	100.75	19.56	-55.45
1922	1,439.68	1,619.79	1,540.07	1,420.09	1,340.38	10.03	136.18	22.71	30.77
1923	1,521.97	1,487.37	1,525.85	1,294.15	1,332.63	13.04	95.17	18.51	66.51
1924	1,671.08	1,371.32	1,854.04	1,162.89	1,645.61	20.90	120.68	12.18	54.67
1925	1,687.86	1,434.46	2,029.92	1,219.13	1,814.58	25.44	116.81	14.80	58.29
1926	1,733.54	1,555.57	1,872.29	1,370.79	1,687.51	25.23	106.10	18.28	35.17
1927	1,775.44	1,792.51	1,833.08	1,541.59	1,582.16	31.76	117.52	22.20	79.45
1928	1,759.10	1,645.48	1,863.64	1,436.38	1,654.54	38.91	105.34	24.06	40.80
1929	1,814.78	1,641.62	1,959.99	1,421.70	1,740.08	45.06	110.98	29.30	34.57
1930	1,651.49	1,525.11	1,608.06	1,322.40	1,405.36	40.80	114.67	27.09	20.15
1931	1,343.67	1,420.92	1,314.01	1,226.59	1,119.68	27.49	127.19	30.07	9.59
1932	1,221.13	1,329.38	1,141.57	1,136.49	948.68	21.54	111.33	28.13	31.89
1933	1,224.98	1,195.27	1,052.64	976.08	833.45	17.56	103.62	21.19	76.82
1934	1,259.85	1,031.23	1,178.61	837.72	985.10	24.71	99.06	16.15	53.59
1935	1,306.06	1,183.53	1,125.78	1,029.85	972.10	24.04	98.37	13.82	17.44
1936	1,497.96	1,228.61	1,426.26	1,009.39	1,207.04	32.15	100.14	16.29	70.64
1937	1,634.69	1,296.15	1,504.19	1,041.72	1,249.76	37.39	112.05	20.51	84.48
1938	1,635.65	1,251.61	1,457.82	1,070.78	1,277.00	48.67	137.98	27.79	-33.62
1939	1,642.02	1,379.95	1,465.82	1,125.84	1,211.71	37.47	145.92	34.64	36.08
1940	1,698.44	1,290.73	1,242.06	1,210.02	1,161.35	29.93	89.40	23.73	-62.35

Measuring GDE of the Philippines, Odaka x2023

Hooley's GDP and Estimated GDE and its Components (million 1939 pesos)									
(mill. 1939 pesos)									
Calendar year	Adjusted Hooley GDP	GDE 1	GDE 2	FES consumption	Eto/Odaka Consumption	Private capital formation	Government consumption	Government capital formation	Export – Import
1902	349.53	423.43	419.35	417.09	413.01	0.73	9.18	2.85	-6.41
1903	412.58	493.89	488.44	442.13	436.68	0.83	14.28	5.84	30.81
1904	370.40	469.96	436.19	449.92	416.14	1.03	19.06	4.77	-4.81
1905	390.35	518.35	515.50	453.85	450.99	1.01	25.81	7.54	30.15
1906	404.66	525.82	539.16	463.16	476.50	1.37	26.89	6.03	28.37
1907	425.69	527.14	525.43	478.22	476.50	1.59	19.58	2.33	25.42
1908	450.01	551.76	545.58	492.22	486.03	1.59	22.48	1.58	33.89
1909	462.60	495.65	477.29	479.63	461.28	1.40	21.96	3.40	-10.75
1910	520.38	483.81	480.17	519.97	516.34	1.80	20.93	7.88	-66.77
1911	547.67	625.41	528.22	611.93	514.74	3.10	24.94	6.52	-21.07
1912	565.27	544.21	462.66	561.68	480.13	4.15	22.01	8.29	-51.92
1913	623.56	631.91	506.70	644.74	519.54	10.64	28.25	8.83	-60.55
1914	616.72	729.91	594.95	718.43	583.47	7.69	31.73	10.55	-38.48
1915	590.32	715.76	522.97	680.84	488.04	17.99	30.00	7.24	-20.30
1916	677.40	902.56	652.85	827.89	578.18	15.04	43.22	7.28	9.13
1917	775.96	865.23	705.56	818.87	659.20	12.71	41.47	6.40	-14.22
1918	872.20	815.32	786.39	781.16	752.22	18.24	33.40	5.68	-23.17
1919	853.51	762.85	686.17	734.17	657.49	32.16	35.58	6.51	-45.58
1920	965.71	735.68	719.28	697.33	680.92	40.58	45.89	8.16	-56.27
1921	910.29	690.24	655.47	642.52	607.75	26.12	59.40	11.53	-49.34
1922	1005.46	1,068.30	1,013.53	975.72	920.94	14.92	93.30	15.56	-31.21
1923	954.66	890.41	915.00	827.22	851.81	20.96	58.57	11.39	-27.72
1924	1030.94	803.76	1,107.30	731.23	1,034.77	24.49	73.04	7.37	-32.37
1925	1044.20	836.09	1,197.32	739.56	1,100.79	33.69	70.89	8.98	-17.03
1926	1091.63	987.86	1,198.45	911.48	1,122.07	34.98	65.55	11.29	-35.44
1927	1122.80	1,209.11	1,236.55	1,042.88	1,070.33	50.00	72.91	13.77	29.54
1928	1174.93	1,097.08	1,246.29	982.39	1,131.59	44.38	69.02	15.77	-14.48
1929	1218.69	1,117.54	1,336.54	977.94	1,196.94	53.67	73.12	19.30	-6.49
1930	1227.99	1,140.33	1,202.85	996.64	1,059.16	38.54	83.65	19.76	1.74
1931	1236.82	1,218.45	1,122.19	1,104.39	1,008.13	31.83	114.86	27.16	-59.78
1932	1307.80	1,363.00	1,160.77	1,223.73	1,021.50	26.86	116.98	29.56	-34.12
1933	1326.56	1,189.09	1,040.44	1,017.29	868.64	22.25	110.09	22.51	16.95
1934	1335.50	959.14	1,104.21	824.62	969.69	28.59	103.02	16.79	-13.88
1935	1256.45	1,093.74	1,037.03	1,011.31	954.60	27.39	92.84	13.05	-50.84
1936	1412.41	1,187.29	1,378.45	976.23	1,167.39	40.00	92.63	15.07	63.36
1937	1514.05	1,226.16	1,420.47	972.99	1,167.30	35.61	101.82	18.64	97.11
1938	1574.07	1,237.67	1,440.36	1,052.46	1,255.15	38.71	130.27	26.24	-10.01
1939	1644.64	1,379.95	1,465.82	1,125.84	1,211.71	37.47	145.92	34.64	36.08
1940	1707.73	1,183.96	1,135.08	1,215.22	1,166.34	23.15	88.19	23.41	-166.01

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