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Philippine inequality across the twentieth century: slim evidence, but fat questions

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In spite of persistent debates about income inequality and pro-poor policy in the Philippines, its history over the past century has been ignored, at least by economists. This is surprising given that the Philippines already had its first census in 1903, long before its neighbors, augmented by other relevant evidence embedded in official documents generated by the American insular government. It is also surprising given that we know that income distributions change only very slowly and must be examined over the long run to identify its drivers. This essay reviews the thin historical evidence and proposes explanations. There is no Kuznets Curve, and no Marxian, Pikettian, or other grand endogenous inequality theory at work, but there are dramatic episodes of change. It appears that there was an inequality rise up to World War 1, a fall between the World Wars, a rise to high levels by the 1950s, and an almost certain rise up to the end of the century which, due to mismeasurement, looks instead like stasis. We need to collect better evidence to confirm these narratives and to assess competing hypotheses.

JEL classification: D30, N15, N35, O15, O53
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1. Introduction

In spite of persistent debates about income inequality and pro-poor policy in the Philippines, its history over the past century or so has been ignored, at least by economic historians and economists. This is surprising given that the Philippines had its first census in 1903, long before its Southeast Asian neighbors, with mounds of other relevant evidence embedded in official documents generated by the American "insular" government. It is also surprising given what we have learned from the experience of other countries, namely that income distributions change only very slowly and must be examined over the long run.

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Having said as much, I need to confess at the start that this paper does little to fill the gap. What it does, instead, is to use limited information and proxies to raise questions and to pose hypotheses about the evolution of Philippine inequality as it has passed through so many global epochs and political regimes. There are six sections wedged between this introduction and the conclusion.

2. 1898-1918: a terms of trade boom and rising inequality

Four forces created the first global century up to World War 1 which had never happened before and would not happen again until two or three decades after World War 2. First, the richest and fastest-growing European economies went open, moving towards free trade. Their colonies did the same,[1] and many of the others were forced to follow suit in response to gunboat diplomacy. In addition, much of the world integrated their currencies by going on the gold standard and other currency unions, lowering exchange risk. Second, led by new steam engine technologies, the world underwent a pro-trade transport revolution. As transportation costs fell, global trade was stimulated. Southeast Asia was very much a part of this, and the ports of Rangoon, Penang, Singapore, Bangkok, Cholon, Danang, Haiphong, Makassar, Banjarmasin, and Manila boomed [van der Eng 2004a: p. 1344]. The revolution was given added impetus by the appearance of the telegraph, another pro-trade technology that lowered uncertainty about prices in distant markets. Third, economic growth rose steeply in Europe and its offshoots to rates many times faster than what had been common over the previous millennium. As a consequence, the demand for everything soared, especially imports of manufacturing intermediates (tin, rubber, copra, abaca, or Manila hemp) and fuel (coal, petroleum). Fourth, *pax Britannica* reigned, and a trade-stimulating peace prevailed.

Thus, commodity exports had four reasons to boom during this first global century, and the Philippines took good advantage of it. As one of the most active participants in the region's great commodity export boom, the Philippine share in Southeast Asian population rose from 5.8 to 11.6 percent.[2] Growth in export values per capita from the 1870s to the 1920s also document the boom [van der Eng 2004a: Table 1]: the Philippine figures almost quadrupled from US$3 to US$11. According to this index, the Philippines was one of the most export-intensive in the region.

Falling trade costs accounted for more than half of the trade boom between 1870 and 1914 [Jacks et al. 2008: 529], and it also raised every commodity exporter's external terms of trade. But other forces were also raising relative commodity

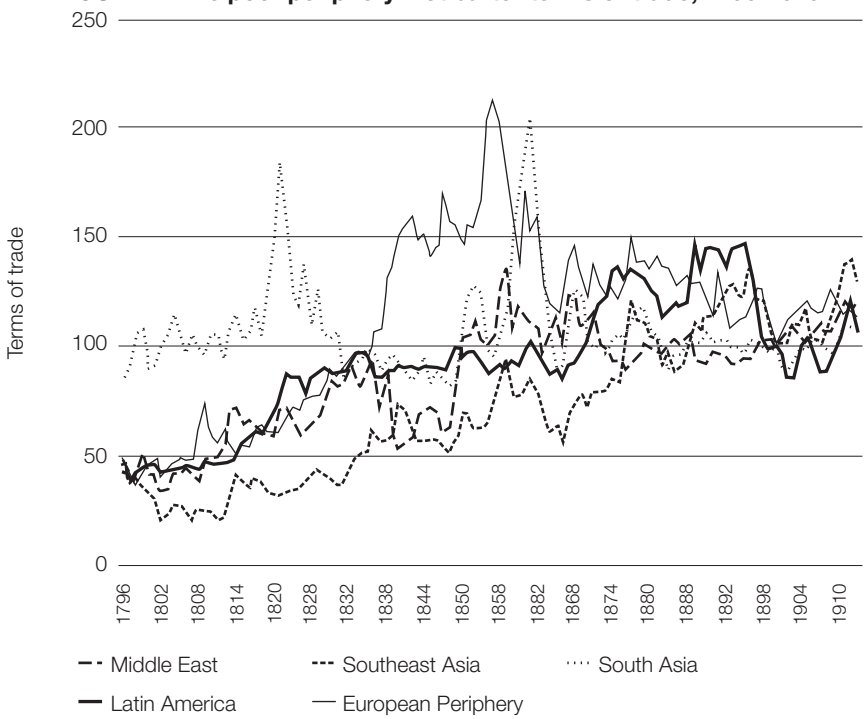
[1] That is, their colonies were forced to adopt free trade with their European imperialist colonizers, but not with others.

[2] Maddison horizontal-file_02-2010.

prices. The accelerating growth of manufacturing, led by industrializing Europe and its offshoots, drove up the derived demand for industrial intermediates while rapid manufacturing productivity growth lowered output prices and thus commodity exporters' import prices, adding even more upward push to the commodity exporter's terms of trade. This was reinforced by accelerating GDP per capita growth in the West and a high income elasticity of demand for luxury consumption goods (sugar, tea, coffee, tobacco).

All of these forces produced a powerful and sustained terms of trade boom in the commodity exporting periphery. Figure 1 documents the boom. Excluding labor-abundant and resource-scarce East Asia, the terms of trade in the poor periphery soared across the century to a high plateau reached between the late 1880s and World War 1, after which it started an interwar collapse. The secular relative price boom was huge and in Southeast Asia it was double the periphery average. Between 1892 and 1915, the Philippine terms of trade rose about 56 percent.[3]

FIGURE 1. The poor periphery: net barter terms of trade, 1796-1913



[3] The Philippine terms of trade estimates are taken from the data base underlying Figure 1.

What was the distributional impact of that commodity export-led growth? Who gained and who lost from globalization in Southeast Asia during this first global century? What happened to income distribution in these pre-industrial commodity exporters when they were exposed to those global forces? In the absence of comprehensive inequality information,[4] these questions can be answered best by focusing on the returns to labor relative to land and mineral resources or the wage-rental ratio. Where agriculture and mining were big in pre-industrial economies, like the Philippines,[5] the changing wage-rental ratio should be an effective proxy for trends in inequality (Williamson [1997]; Williamson [2002]; Williamson [2011]; Lindert and Williamson [2003]). The denominator "rental" in the wage-rental ratio does *not* refer to the returns to capital. Indeed, a well-integrated world capital market insured that risk-adjusted financial capital costs were pretty much equated the world around by 1913 [Obstfeld and Taylor 2004]. Thus, while terms of trade shocks should have influenced the returns to internationally immobile land, mineral resources, and labor, they should not have influenced returns to internationally mobile capital. Furthermore, the distribution of income in early twentieth century Southeast Asia was determined just as the classical economists modeled it, namely, by the relative shares of rents and wages in national income. Thus, to assess the distributional impact of the commodity price boom on Southeast Asian incomes, we might begin by looking at trends in the wage-rental ratio.

Ever since Eli Heckscher, Bertil Ohlin, Wolfgang Stolper, and Paul Samuelson wrote about the problem [Flam and Flanders 1991], world trade booms have been associated with relative factor price changes. With a commodity price boom, the wage-rental ratio should fall and the rent-wage ratio rise in the poor resource-abundant commodity exporter (since the export boom raises the relative demand for land and mineral resources). Since land and other natural resources were held by the foreign and local elite at the top of the distribution pyramid, the pre-World War 1 trade boom implied a rise in resource rents and an even greater fall in the wage-rental ratio, implying greater inequality, especially where the ownership of land and mines dictated the ownership of wealth.[6]

This theoretical narrative might well be weakened in any Southeast Asian country with a frontier, that is, where land was still in elastic supply and available to small holders, like Burma and Malaya and the Philippines.[7] But even in those

[4] The comparative pre-industrial inequality evidence in Milanovic et al. [2011] exploits what are called social tables to estimate inequality in pre-World War 2 years where income surveys are usually absent.

[5] In 1902, agriculture and mining value added was 39.9 percent of GDP and was 76.7 percent of commodity GDP [Hooley 2005: Table 3, p. 469].

[6] Where wage-rental ratios and full inequality data are both available in the nineteenth and early twentieth centuries, their trends are highly correlated [Williamson 2002].

[7] We are not sure whether the release of friar lands under the Americans warrants the frontier label, at least before 1918 [Iyer and Maurer 2009]. However, pushed by the commodity price boom during the late 19th and early 20th centuries , the Philippine frontier experienced an impressive filling up [Larkin 1982].

countries of small holdings, globalization appears to have helped to increase land concentration, thus adding to inequality trends. Small holders moving into cash crops accumulated debt to finance the increased use of purchased inputs, more extensive irrigation systems, and better transportation, all of which was essential to supply booming world markets.[8] It also exposed them to greater price volatility. Thus, default during slumps converted many of these small holders into tenants or wage labor on large estates. Cash tenancy on rice-producing land rose in Burma from 25 to 58 percent between the 1900s and the 1930s, and similar trends took place in Indochina, Assam, and Tonkin [Steinberg 1987]. The move to large sugar plantations in the Philippines had the same impact on land concentration in the country [Corpuz 1997].

So much for theory. What about the facts? Export prices boomed in the labor-scarce and resource-abundant commodity exporting countries up to World War 1,[9] while they collapsed in the interwar years. Thus, the relative rewards to land versus labor—and overall income inequality—should have risen up to World War 1 and fallen thereafter. The facts in Table 1 confirm theory. In contrast with land-scarce and labor-abundant East Asia (not shown in Table 1), the Punjab region was relatively land-abundant, a characterization that is confirmed by the fact that agricultural exports from the region to Europe boomed after the early 1870s, while irrigation investment, immigration, and new settlement made it behave like a frontier region. Globalization should have had the opposite effect on the wage-rental ratio in land-abundant Punjab compared with land-scarce East Asia: it should have fallen in the former, and increased in the latter. And so it did.[10] Between 1875-1879 and 1910-1914, the wage-rental ratio in the region fell by 60 percent. The Punjab wage-rental ratio experience was not so different from that of other land-abundant parts of the poor periphery. Between 1880-1884 and 1910-1914, the wage-rental ratio fell by 85 percent in the combined pair of meat-exporting Argentina and Uruguay. Riding a cotton boom, the Egyptian wage-rental ratio fell by 85 percent from the late 1880s to World War 1.

[8] By 1918, 41 percent of Philippine farms were irrigated and farm credit per cultivated hectare was 35 pesos [Iyer and Maurer 2009: 46, Table A.1].

[9] In 1900, the Philippines had a very low population density compared with East Asia and even the American Midwest. The figures follow: the Philippines, 0.66; Indiana, 0.75; Japan, 3.12; Korea, 4.53; and Taiwan, 8.88 [Iyer and Maurer 2009: 38, Table 1].

[10] Japan, Korea and Taiwan are not reported in Table 1. For those figures, see Williamson [2011: 161, Table 9.4].

TABLE 1. Wage/rental trends in the Third World, 1870-1939 (1911=100)

	Argentina	Uruguay	Burma	Siam	Egypt	Punjab
1870-1874		1112.5		4699.1		196.7
1875-1879		891.3		3908.7	174.3	198.5
1880-1884	580.4	728.3		3108.1	276.6	147.2
1885-1889	337.1	400.2		2331.6	541.8	150.8
1890-1894	364.7	377.2	190.9	1350.8	407.5	108.7
1895-1899	311.1	303.6	189.9	301.3	160.1	92.0
1900-1904	289.8	233.0	186.8	173.0	166.7	99.8
1905-1909	135.2	167.8	139.4	57.2	64.4	92.4
1910-1914	84.0	117.9	106.9	109.8	79.8	80.1
1915-1919	53.6	120.8	164.7	202.1	83.5	82.5
1920-1924	53.1	150.3	113.6	157.9	124.3	81.1
1925-1929	51.0	150.2		114.9	120.8	72.6
1930-1934	58.4	174.3		113.1	116.2	50.4
1935-1939	59.5	213.5		121.6	91.0	33.2

Source: Williamson [2011: 161, Table 9.4]]

The recorded decline in wage-rental ratios in the land-abundant Southern Cone, the Punjab region, and Egypt prior to World War 1 is simply enormous. But it was even bigger in land-abundant and labor-scarce Southeast Asia: in Siam, it fell by 98 percent between 1870-1874 and 1910-1914, and in Burma it fell by 44 percent in half the time between 1890-1894 and 1910-1914. These trends had obvious inequality implications in resource abundant regions as the landed elite gained dramatically relative to labor. As noted above, globalization also served to increase the concentration of land holdings due to rising small holder indebtedness as they shifted to commercial export crops and exposed themselves to greater price volatility associated with many of those crops, resulting in subsequent default for the poorly insured. Small holders evolved into tenant or wage labor on large estates, inducing more land and wealth concentration,[11] and even more income inequality as a consequence.

In Southeast Asia, Indonesia's inequality trends are documented best for these years. Economy-wide labor productivity rose by 1.5 percent per annum between 1860 and 1914 in Java [van Zanden and Marks 2012: 16, Table 2.1], while real wages hardly changed at all [Allen et al. 2011: Figure 6.4]. This is, of course, consistent with soaring rent/wage ratios. But Java offers even better inequality evidence: between 1880 and 1925, the income Gini coefficient there rose from 0.39 to 0.48 [van Zanden and Marks 2012: 118, Table 6.3]. In short, Indonesian

[11] By 1918, and as measured by the Gini coefficient, land concentration was very high at 0.75 [Iyer and Maurer 2009: p. 2].

inequality soared during the commodity price boom. It seems unlikely that things were any different in the Philippines.[12] We do know that an anthropomorphic index of inequality does rise in the Philippines between 1890 and 1910.[13] But perhaps a better inequality index might be the ratio of average unskilled wages to GDP per worker or per capita, since it would measure trends in the economic distance between the bottom of the income distribution (unskilled labor) and the middle. Table 2 reports the results from 1902 (when Hooley's GDP estimates start) to World War 1.[14] Since there is great volatility in the data,[15] five-year averages are constructed from the annual data in Table 2 for 1902-1906 and 1910-1914, and the index falls from 129.7 to 101.9.

TABLE 2. Unskilled wage, GDP per capita, and their ratio, 1902-1941

Year	Real wage index (w) 1941=100	Real GDP per capita index (y) 1941=100	w/y 1941=100
1902	99.86	55.69	179.33
1903	58.16	66.21	87.85
1904	74.49	55.69	133.74
1905	72.13	57.88	124.62
1906	72.19	58.71	122.98
1907	68.18	60.43	112.83
1908	67.38	61.73	109.15
1909	85.46	62.83	136.01
1910	80.31	70.70	113.59
1911	68.01	72.59	93.70
1912	62.75	73.51	85.37
1913	79.00	79.46	99.42
1914	89.74	76.52	117.26
1915	102.88	67.58	152.24
1916	98.85	80.71	122.48
1917	98.44	92.49	106.44
1918	93.08	103.49	89.94

[12] The Philippine export price boom was reinforced by the 1913 Underwood-Singer Tariff Act which allowed Philippine sugar to enter the American market tariff free. "This arrangement … allowed landowners to … reap the profits to be derived from the U.S. sugar market" [A. G. Corpuz 1999: p. 174].

[13] Gini coefficients based on heights from data underlying the reports in van Zanden et al. [2014] rose from 0.38 to 0.40 and the same source reports a similar rise in Indonesia and Siam.

[14] Absent adequate labor force estimates for 1902-1941, especially pre-World War 1, Table 2 uses GDP per capita rather than per worker.

[15] In the present and the past, all commodity exporters exhibit great macro volatility [Williamson 2012] so it's no surprise to find it for the Philippines in these pre-World War 2 years.

Year	Real wage index (w) 1941=100	Real GDP per capita index (y) 1941=100	w/y 1941=100
1919	105.70	96.79	109.20
1920	130.56	101.80	128.25
1921	207.83	96.49	215.39
1922	172.71	104.85	164.73
1923	146.03	95.49	152.93
1924	123.66	101.17	122.23
1925	176.45	98.92	178.38
1926	104.85	100.80	104.02
1927	70.75	100.24	70.58
1928	103.23	101.04	102.17
1929	102.67	102.25	100.41
1930	82.15	99.40	82.64
1931	113.01	97.21	116.26
1932	138.72	98.56	140.75
1933	171.63	96.58	177.71
1934	132.65	94.61	140.22
1935	127.49	85.60	148.93
1936	127.95	94.54	135.34
1937	123.15	98.38	125.17
1938	130.25	98.64	132.05
1939	112.20	102.44	109.53
1940	105.10	101.24	103.81
1941	100.00	100.00	100.00

Sources: The GDP data are from Hooley [2005: Table A.1]. The wage and cost of living data are from Williamson [1998: Appendix 7].

Future research needs to document trends in wage-rental ratios in the Philippines during early years of the American occupation which will require a search for land values per hectare.[16] Like the rest of Southeast Asia, did it fall and inequality rise up to World War 1? We also need better wage data to confirm the fall in the wage-to-GDP per capita ratio and thus a rise in the gap between the bottom and middle. With data in the 1903 and 1918 censuses, it seems possible to construct social tables, at least to measure earnings inequality trends in those early years of American occupation.

[16] Land and mining rent per hectare are rarely reported in any archive. Instead, we must convert reported land values from their capitalized values to land rents per hectare.

3. 1918-1941: a terms of trade bust and falling inequality

The long run secular decline in the commodity exporters' terms of trade started well before the 1930s: in Southeast Asia, the secular bust began in the 1920s, deepened during the Great Depression, and continued up to the Korean War. For example, between 1896 and 1932, the terms of trade for Indonesia fell by 48 percent while that of the Philippines fell by 65 percent.[17] Experience like this persuaded many economists to advise newly independent post-World War 2 nations to adopt anti-global and pro-industrial policies (Prebisch [1950]; Singer [1950]).

Heckscher-Ohlin and Stolper-Samuelson thinking would predict a turnaround in Southeast Asian wage-rental ratio and inequality trends as resource-intensive export sectors contracted and labor-intensive and import-competing manufacturing expanded. And so they did. Mineral and land rents drifted downward throughout interwar Southeast Asia. Thus, wage/rental ratios in Southeast Asia followed the terms of trade collapse: they stopped falling in Burma and then rose after 1910-1914; in Siam, they fell to 1905-1909 and rose thereafter (Table 1).[18] Between 1890-1894 and 1920-1924, they fell by 40 percent in Burma and 88 percent in Siam. Up to 1935-1939, they fell by 91 percent in Siam. Once again, Indonesia offers the most comprehensive inequality information, but only for the top income shares [Leigh and van der Eng 2010: Figures 4.1 to 4.3]: from a peak in the 1920s, the top income shares fell into the 1930s.

Trends in Philippine wage-rental ratios during the interwar years need documentation. Like the rest of Southeast Asia, did they rise? More generally, it should be stressed that the years from World War 1 to the 1970s were ones that contained a "great leveling" of income inequality across the Organisation for Economic Co-operation and Development and even in a few Third World countries which have the data (Atkinson et al. [2011]; Piketty [2014]; Lindert and Williamson [2016: Chapter 8]). While the Philippines need not have obeyed the same laws of motion, the "great leveling" elsewhere does suggest additional support for the view that the same trends were likely to have taken place in the country.

4. 1918-1941: the impact of early industrialization

Recent research has now documented industrial output growth around the poor periphery since 1870, finding unconditional convergence on the leaders

[17] In addition, O. D. Corpuz [1997: chapter 10] writes a description of unfavorable American trade policy towards the Philippines in the 1930s, which had been previously favourable. For example, in 1934 the United States placed a quota on Philippine sugar imports, and in 1956, that quota was reduced by 26 percent.
[18] Although not in Southeast Asia, commodity-exporting Punjab appears to be an exception to the rule, for reasons that are unclear to this writer.

[Bénétrix, O'Rourke, and Williamson 2017]. Industrial growth accelerated in the poor periphery between the 1870s and the 1970s, especially during the 1920s and 1930s, as well as during import-substitution-industrialization (ISI) during the 1950s, 1960s, and early 1970s when the precocious poor periphery early industrializers underwent a surge and more poor countries joined the modern industrial growth club. Furthermore, by the 1920s and 1930s the majority were even catching up with the three core industrial leaders—Germany, the United States, and the United Kingdom—a process that accelerated during 1950-1972. In short, there was unconditional industrial convergence long before the modern BRICS and even before the Asian Tigers.

The Philippines was very much part of that industrial catching up [de Dios and Williamson 2014]. After decades of nineteenth century de-industrialization in the face of American and European competition (Legarda [1999]; Williamson [2011: Ch 5]), Philippine industrial growth quickened in the early twentieth century. Like every other emerging industrial nation, it was led by small-scale, labor-intensive manufacturing that first specialized in commodity processing. Still, in the decade or so up to 1913, Philippine industrial output grew at 6.3 percent per annum, way above that of the three leaders, thus starting to catch up. Indeed, the Philippines was a regional leader, since it was the third East Asian country to enter the five percent industrial growth club.[19] The East Asian leaders were Japan in 1899, China in 1900, the Philippines in 1913, Taiwan in 1914, and Korea in 1921.[20] The Philippines continued its industrial catching up growth during the interwar years 1920-1938.

Was the industrial sector big enough to have had an impact on the country's distribution of income? It appears so: as a share in GDP, industrial value added was already 20.6 percent in 1920, and 32.5 percent of commodity GDP, that is, total GDP less services [Hooley 2005: Table 3, p. 469]. Apart from the wage-rental ratio in agriculture, how might those distribution forces have worked? The empirical trade literature—to be used at length below in section 6 on the ISI years—is huge and concludes that the impact on earnings inequality is unclear. Certainly, the shift of lower-wage farm labor to higher-wage industrial employment implies poverty reduction, but, as Kuznets pointed out long ago, it also implies more inequality as a few workers move from lower to higher income deciles. But if farm labor's move to higher wage urban jobs pulls up the wage of those staying on the farm, all unskilled and semi-skilled workers' incomes would rise, yielding less inequality. It also implies that the average wage (a weighted average of farm and non-farm wages) should have risen relative to GDP per worker or per capita,

[19] Membership in the club requires a real industrial output annual growth rate of at least five percent over a decade or longer.

[20] As implied by the previous footnote, the dates refer to the end of the first decade of five or more percent per annum growth. No other Asian nation joined the industrial growth club until after the ISI period.

yielding less inequality. The latter follows given our expectation that relative land rents fell (section 3) and that therefore the rental share in GDP did too. In addition, capital's share is unlikely to have risen since the return to capital fell around the world in the interwar years [Piketty 2014]. Finally, at this time the Philippines was relatively labor-scarce, so a boom in labor-intensive manufacturing should have favored the lower and middle deciles.

So, did inequality fall in the interwar Philippines as theory seems to suggest? Evidence is slim, but what we have is consistent with theory. As Table 2 reports, the wage-to-GDP per capita rose between 1910-1914 and 1936-1941 from 101.9 to 114.1.[21]

Future research needs to make far better use of the interwar censuses since they report an impressive amount of information on employment and wages by occupation from which trends in skill premiums, urban-rural wage gaps, and non-farm earnings distributions could be estimated. So far, these sources have been under-exploited.

5. 1918-1941: American colonial policy towards human capital

The American occupying authorities implemented an island-wide education and health commitment (with American teachers, nurses, and doctors) very early in the twentieth century. Consider the subsequent literacy revolution first. Table 3 reports that primary school enrollment rates in schools controlled by colonial administrations were very low in Southeast Asia in the 1920s—with the important exception of the Philippines [Gomez and Pedro 1993].[22] This was especially true of French colonial primary school enrollment rates in 1920 (Indochina 2.8), but also Dutch colonial rates (Indonesia 7.0), and British colonial rates (Burma and Malaya 8.9). However, the Philippine rates were 19.3 in 1900 and doubled to 35.8 in 1920, continuing that rise to 44.8 in 1935-1940, matching Japanese colonial policy in Korea and Taiwan. By 1950-1952, the Philippine enrollment rate was 70.6, even higher than Japan's 61.5 [Bassino and Williamson 2017: 272, Table 11.2]. With a lag of a decade or two behind primary school enrollment rates, secondary school enrollment rates rose steeply after 1940. By 1970 and in the middle of the ISI years, secondary school enrollment rates in the Philippines were almost 48 percent of Japan.

[21] However, the ratio is very volatile and may be spuriously driven by an inadequate wage deflator, the latter based on rice and sugar prices. Better CPI data for all the pre-1941 years should also be added to the research agenda.

[22] It should be noted, however, that enrolment rates were not insignificant in late nineteenth century Philippines. In 1866, the number of children attending primary school was 542 per 10,000 inhabitants, implying an enrolment rate of about 5 or 6, and the ratio of girl to boy students was a surprisingly high 0.72 [Census of the Philippine Islands 1903, volume 2: p. 591]. The same source reports that 20.2 percent of the population above 10 was able to read and write (ibid.: 81-82). The American pro-school colonial policy could to some extent be viewed as a continuation of Spanish colonial policy.

TABLE 3. Primary school enrollment rates in Southeast Asia, 1900-1960

Country	1900	1910	1920	1930	1935-1940	1950-1952	1960-1961
Burma	11.5	11.8	10.3	13.4	13.3		
Indochina	0.5	1.0	2.8	6.9	10.8		
Indonesia	2.5	7.0	7.0	12.2	13.3		38.1
Malaysia		7.5	8.9	19.4	24.6		69.2
Philippines	19.3	28.4	35.8	32.4	44.8	70.6	53.8

Source: Bassino and Williamson [2017: 272, Table 7]

While it takes some time for the schooling rates of children to convert an adult labor force from illiterate to literate, the process was certainly well underway in the interwar years. And by 1960, there is enough demographic and schooling data to say something about the average years of schooling by adults (a stock), not just the enrollment rates of children (a flow). Taking the Asian industrial leader, Japan, as our standard, the average years of schooling of Philippine adults aged 25-64 had reached 43.5 percent of Japan's 8.6 years in 1960 [Bassino and Williamson 2017: 274, Table 11.8].

Schooling and literacy certainly played a major role in the nation-building agenda of both American and Filipino authorities, but we also expect such policies to have levelled out the distribution of human capital thus contributing to a leveling of incomes. Did it? While the early censuses may not report income, they do report school enrollment, literacy, infant mortality, and other indications of living standards. And while the published census does not report such data by individuals or household heads, it does report it by political units. Using this evidence by province,[23] we have constructed Human Development Indicators using population density, schooling = [school enrollment rate + literacy rate]/2, and the inverse of the infant mortality rate.[24] Luzon consisted of 26 provinces in 1918 and 31 provinces in 1960, Visayas of 10 provinces in 1918 and 11 provinces in 1960, and the Southern Islands of 9 provinces in both years. As a measure of distribution, Table 4 reports the mean Human Development Indicators by region where the Philippines equals 100, and the spatial convergence is quite striking: the South rises from 74 to 91, Luzon drops from 370 to 149, and Manila from 5,494 to 749. Alternatively, an unweighted coefficient of variation for all of the Philippine provinces falls from 314 to 82, while a weighted (by population)

[23] Ongoing research with J. C. Punongbayan at the University of the Philippines School of Economics will explore this evidence at the municipal level within provinces to better assess inequality trends from 1903 to the present.

[24] The schooling and infant mortality variables are similar to those used to account for provincial poverty 1991-2006 in Fuwa et al. [2015: p. 214]. The urban density variable is used for the Human Development Indicators analysis since income per capita and urbanization correlate very well in the literature.

coefficient of variation falls from 70 to 52.[25] It seems reasonable to assume that this powerful spatial convergence contributed to a leveling of incomes in the Philippines before the ISI years, but it may, of course, have been offset by rising inequality *within* provinces. Still, section 3 suggests the contrary, and instead that within *and* between inequality trends moved in the same direction—downwards.

TABLE 4. Living standard Human Development Indicators, 1918-1960 (Philippines=100)

Region	1918	1960
Manila	5494	749
Luzon	370	149
Visayas	123	107
South	74	91

Sources and notes: See text for Human Development Indicators definition. Data taken from 1918 and 1960 censuses.

6. 1952-1972: labor market puzzles during the ISI years

The first Family Income and Expenditure Survey (FIES) for the Philippines became available in 1956. While it is well appreciated that surveys like the FIES understate incomes at the top, and thus total inequality, they are also very likely to understate the rise in inequality if incomes are growing relatively fast at the top. I will have more to say about hidden rich incomes in the next section. Meanwhile, we explore the implications of the FIES evidence reported in Table 5 for the ISI years.

TABLE 5. Inequality indicators for the Philippines 1956-1957 to 1970-1971

	Total	Rural	Urban
Top 10% share			
1956	39.40	30.10	39.60
1961	41.00	31.10	40.90
1965	40.00	30.00	41.70
1970-1971	36.90	34.40	33.40
Gini coefficient			
1956	0.48	0.38	0.49
1961	0.50	0.40	0.52
1965	0.51	0.42	0.53
1970-1971	0.49	0.46	0.45

Source: Berry [1978: Table 2, p. 316]

[25] Presumably, the less steep fall in the weighted coefficient is due to higher child survival rates, larger families, and immigration in the richer provinces.

First, an income Gini coefficient of 0.48 for the Philippines in 1956 is very high compared with its Southeast Asian neighbors, compared with most pre-industrial and early-industrial societies [Milanovic et al. 2011], and even compared with the Philippines a half century later. That is, income Gini coefficients in the 2000s were the following: Vietnam, 0.36; Indonesia, 0.39; Thailand, 0.40; the Philippines, 0.43; and Malaysia, 0.46 [Kanbur et al. 2014: Table 2.2, pp. 24-45]. Since it seems very unlikely that inequality was that high in pre-industrial Philippines during the interwar years, what could have caused a big jump to these high postwar levels even before the ISI industrial surge?[26] It seems surprising the observers writing at that time did not explore this issue. Can this apparent big jump in inequality between 1941 and 1956 be documented more firmly by using census data reporting labor incomes? It seems high priority to me.

Second, there was no inequality rise over the two decades of post-war policy-led industrialization 1956-1971:[27] the Gini coefficients are 0.48, 0.50, 0.51, and 0.49 while the top 10 percent shares are 39.4, 41.0, 40.1, and 36.9. In short, there is no evidence supporting the upside of some Kuznets curve for the Philippines during its modern growth era. Even more striking, while there is a modest rise in rural inequality over those two decades, there is no rise in urban inequality at all. The latter is especially surprising given what we know about other industrializing countries past and present. To add to our list of questions, while between 1956 and 1971 the Philippines repeats the common finding that urban inequality is almost always greater than rural inequality, that gap disappears by 1971. One wonders why that was so and why there has been so little attention paid to the fact. Finally, total inequality exceeded both urban and rural inequality in 1961 and 1971, a fact that can be explained, of course, by a gap in mean incomes between the two. But this result does not appear for 1956 or 1965. What conflicting fundamentals were at work to account for this behavior, or can it be explained by mismeasurement?

Third, inequality trends *within* urban and rural regions clearly dominated any trend in urban-rural mean income gaps.[28] Yet, Table 6 documents a dramatic rise in the non-farm versus farm mean earnings gap between 1952 and 1972: it rises by 82 percent between 1952-1954 and 1970-1972. How can we reconcile the modest impact of urban-rural income gaps on overall inequality, implied by Table 5, with the surge in mean non-farm/farm earnings gaps, reported in Table 6? One explanation might be this: the migration of farm labor to better and growing non-farm jobs during the ISI years was too modest to suppress the rise in the

[26] The explanation will be especially hard to find given that the greatest wartime damage was to Manila, the richest region.

[27] The policy-led industrial development during those ISI years is well documented (Power and Sicat [1971]; Baldwin [1975]; Bautista et al. [1979]; Senga [1983]; de Dios and Williamson [2014]).

[28] The same result is found in modern studies of the Philippines (Estudillo [1997]; Balisacan and Fuwa [2004]; Chua et al. [2015]).

gap driven by urban labor demands[29] and to influence overall inequality. As noted above, a huge international trade literature offers support for this view (Goldberg and Pavcnik [2007]; Chiquiar [2008]; Dix-Carneiro [2014]; Dix-Carneiro and Kovac [2017]; Pavcnik [2017]); finding that regional wage and earnings inequality is the main result of big domestic policy shocks or globally-induced trade shocks and that they can persist for as long as two decades.[30] It appears to me that this inequality-industrialization issue has not been explored adequately for the Philippines.

TABLE 6. Farm and non-farm earnings, 1952-1972

	Salaried workers	Wage workers	Skill premium	Non-farm/farm wage
1952	87.5	89.8	0.97	69.24
1953	93.8	95.2	0.99	64.64
1954	99	101.6	0.97	65.40
1955	103.3	105.6	0.98	67.52
1956	102	104.2	0.98	77.00
1957	102.4	106	0.97	78.55
1958	104.4	103.5	1.01	77.55
1959	110.2	108.9	1.01	82.75
1960	111.9	110.7	1.01	88.63
1961	112.6	109.3	1.03	90.19
1962	109.8	104.9	1.05	86.82
1963	107.4	100.3	1.07	94.34
1964	101.4	96.8	1.05	93.67
1965	100	100	1.00	100.00
1966	99.7	104.7	0.95	103.01
1967	95.4	104.2	0.92	98.87
1968	97.9	102.4	0.96	98.76
1969	100.5	104.6	0.96	111.52
1970	91.9	98.3	0.93	118.12
1971	86.3	92.7	0.93	120.79
1972	83.8	92.8	0.90	125.38

Sources: Non-farm earnings from Berry [1978: Table 9, p. 326] and farm [Table 8, p. 32]

[29] Rising urban-rural wage gaps are certainly common in early stages of modern economic growth and they were part of Simon Kuznet's curve [Kuznets 1955]. There have been many explanations offered for the modest migrations that allow rising gaps, like poor language skills and culture, but poor households' resource constraints on investing in family member moves is certainly one that also explains why modern Philippine emigration overseas is by middle class, not poor, households. See below.

[30] We did not find this result in the interwar decades reported in section 4, and probably for two reasons. First, early industrialization in the Philippines was led by commodity processing (e.g. rice mills, sugar centrals, hemp factories) which was spread among many commodity-producing provinces. Second, the American insular government pursued their activist human capital policy yielding the provincial convergence documented in section 5.

The ISI years raise another issue that also has gotten too little attention. Table 6 reports an index of the urban skill premium, here estimated as the ratio of average earnings received by salaried workers (white collar) and wage workers (non-farm unskilled and semi-skilled). This urban skill premium index did not rise at all; indeed, it underwent a modest fall between 1952 and 1972. In the race between schooling supply and skilled labor demands [Goldin and Katz 2008], were skills and schooling supplies running faster than demand? Does the pre-World War 2 American colonial investment in schooling (section 5) explain ISI white collar labor supply?

7. Inequality stasis or more hidden rich incomes?

The FIES, the censuses, and other sources document Philippine inequality in much greater detail over the last three or four decades of the twentieth century and analysts have used them at length. The key finding seems to be that inequality has remained stable at high levels. This is what Jonna Estudillo [1997: Table 1, p. 70] found for 1971-1991, and this is what Arsenio Balisacan and his collaborators found for 1985-2000 (Balisacan and Piza [2003: Table 2, p. 11]; Balisacan and Fuwa [2004: Table 1, p. 4]).[31] Does this reflect inequality stasis given current institutions, or does it reflect serious mismeasurement? To repeat an earlier qualification, to the extent that the FIES surveys understate incomes in the top one, five, and probably even 10 percent, then any rising inequality due to relatively fast income growth at the top would be missed.[32] Until this measurement issue is resolved, I view the evidence covering 1975-2000 as more consistent with increasing inequality than with some steady state stasis.

The "current institutions" that get the most attention in the literature are the strength and persistence of family dynasties (Hollnsteiner [1963]; Lande [1964]; McCoy [1994]; Sidel [1997]; Coronel [1998]; Querubín [2010]; Mendoza et al. [2015]; Cruz et al. [2017]). But note that the many citations just listed are dominated by political scientists, or by economists doing political science, not by economists assessing distributional impact. An economist might well argue that family dynasties probably had an impact on income inequality at both the top and bottom. Their business dominance implies monopolies and other advantages over their competition, as well as political insider power and knowledge, and thus a rise in wealth concentration among those at the top. Where are the empirical

[31] An excellent summary of poverty experience in the Philippines 1991-2006, relying on FIES data, can be found in Fuwa et al. [2015]. While it does not deal with inequality, it does report a very low growth elasticity of poverty reduction in provinces with powerful family dynasties (p. 208) which is consistent with no fall in inequality over those fifteen years.

[32] This issue of surveys understating incomes at the top has been raised for many other countries. A country survey would be useful to help gauge whether the suspected FIES mismeasurement has been unusually large, large enough to explain a "false" stasis.

studies, like those by Piketty [2014], that measure Philippine wealth and income concentration among those at the top confirming the family dynastic influence both on concentration *within* the top *and* the top share? And what about their influence over time in raising both? While family dynasties in the Philippines rarely last longer than three generations, dynastic power may persist even longer if it is passed from family to family. In any case, has that influence weakened since the 1970s in the face of foreign competition in an increasingly global world or due to family rivalry? As for their impact on incomes at the bottom, family dynasties have strong provincial bases, and if their political motives are to strengthen and enrich the family, the province will underinvest in education, health, and infrastructure, all of which would have favored low-income families (as did the pro-poor policies under American occupation). There appears to be more evidence that confirms the impact of dynastic rule on inequality by disfavoring the bottom than by that favoring the top. One recent study [Mendoza et al. 2016] has reported that in provinces outside Luzon where dynasties are powerful poverty is worse.[33] Another reports that the growth elasticity of poverty is very low in provinces dominated by family dynasties [Fuwa et al. 2015:208]. And yet another finds that municipalities dominated by powerful families use vote-buying (funeral expenses, fiestas, business permits) to win elections rather than making public goods available to poor households (access to PhilHealth, day care, skill training, microcredit) [Cruz et al. 2017:3028]. In short, family dynasties appear to make for greater inequality. However, what we don't know is how much and whether their impact on income inequality has strengthened or weakened since independence. It seems likely to me that it has strengthened given that government resources have grown so much since independence thus producing more political pork to be distributed by elected officials.

What about other forces? I will focus on three in what follows: the "race between education and technology" under conditions of slow industrialization; temporary and permanent emigration; and conditions in the financial sector.

As was mentioned above, Claudia Goldin and Lawrence Katz [2008] analyzed American twentieth century experience with earnings inequality by isolating the impact of skilled labor demand and supply on the skill premium and earnings distribution.[34] As far as I know, this has not been attempted for the Philippines. Indeed, none of the papers using FIES data that I have read have reported *earnings* distributions and analyzed their movements over time. We know that the Philippines underwent an industrial growth slowdown after the ISI years thus lagging far behind her neighbors who underwent manufacturing-led "growth miracles" in the late twentieth century [de Dios and Williamson 2014]. Did this

[33] Of course, correlation does not ensure causation, and family dynasties may find poor environments easier to exploit politically than rich ones.

[34] For a comprehensive assessment of their work, see Acemoglu and Autor [2012].

slow growth put a lid on the skill premium, on wage-stretching between skilled and unskilled, and thus putting downward pressure on earnings inequality, as it did in the 1950s and 1960s (Table 6)? While analysts often note that in recent decades Philippine education has lagged behind that of its neighbors, it may still have grown faster than did demand for the educated.

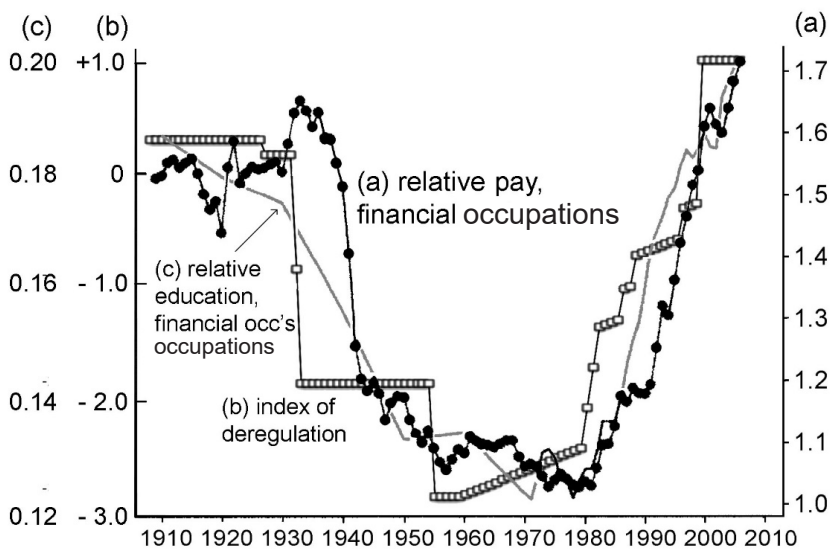
The number of Filipinos working abroad has risen steeply since the 1970s. By 2005, they remitted incomes amounting to almost 14 percent of GDP, their numbers amounted to some 10 percent of the Philippine domestic labor force,[35] and seven percent of all domestic households had at least one worker abroad [Ducanes 2011: p. 1]. Figures of this magnitude should indeed attract our attention in any search for sources of inequality changes over the last three decades of the twentieth century, and so they have (Rodriguez [1998]; Ravanilla and Robleza [2005]; Yang and Martinez [2005]; Ducanes and Abella [2008]; Ducanes [2011]). All of these studies conclude that emigration by overseas Filipino workers (OFWs) and permanent emigrants has increased inequality (and, presumably, increasingly) at home, but the impact has been small in magnitude. This empirical finding is hardly surprising given that emigration has selected workers from the upper third or perhaps even the upper quarter of the earnings distribution. The share of those aged 25-64 that were high school or college graduates was 54 percent of the OFWs but only 19.5 percent of the domestic labor force in 1989, and 62.2 and 26.8 percent in 2007 [Ducanes 2011: Table 1.1, p. 5]. These differences are huge, and they clearly imply that out-migration hollowed out the upper middle class at home, thus reducing inequality there. However, it increased inequality among *all* Filipinos, whether at home or abroad, since the OFWs raised their incomes by moving. But a complete assessment of the impact at home requires a look at the impact on the incomes of the skilled workers left behind who have become scarcer. The studies I have read do not explore the impact of these massive emigrations on domestic labor markets. Did they raise skill premiums at home? Did they encourage students to stay in school longer? In contrast, the impact of remittances has been explored extensively, and since the OFWs remit to their families, it serves to augment incomes of the upper half or even upper quarter of the middle class, thus augmenting earnings and, presumably, total inequality. These two forces—the out-migration and then the remittances—are offsetting, so their net effect on inequality is modest though positive. But, and to repeat, what about the impact on the incomes of the stayers? Surely that force served to raise inequality over time.

I turn now to the third influence, one that has gained a lot of attention in the United States but very little in the Philippines: the role of the financial sector. High rewards in the financial sector explain much of the high inequality in the

[35] The estimates vary widely, and I have taken an upper bound [Ducanes 2011: Table 2.1, p. 19], and even that would be even higher as a share of urban semi-skilled and skilled labor.

United States today, but it was not always that way. There is abundant evidence documenting occupational pay ratios across the twentieth century for the United States and other countries in the Organisation for Economic Co-operation and Development [Lindert and Williamson 2016: pp. 200-202]. Figure 2 reports pay history for the whole bundle of job categories in the highly paid finance sector between 1909 and 2006.[36] What happened to these skilled occupations is remarkable. They shared the tremendous drop in relative incomes experienced by other skilled groups between 1910 and mid-century. They also enjoyed the recent surge in relative incomes since the 1970s. Indeed, their fortunes followed those of the top one percent exactly. Note also that their relative fortunes seem to have followed the degree to which the government left them unregulated until the crashes of 1929 and 2008 brought tighter financial regulations. When it was deregulated and opened up to world markets after the 1970s, the personnel employed in the financial sector, with exceptionally high education, were highly rewarded. What does the evidence show for the Philippines since the 1950s? How do trends in financial sector earnings correlate with trends in overall inequality, and do they correlate well with regulatory conditions in the financial sector and its integration or dis-integration with world financial markets?

FIGURE 2. Relative salaries of financial occupations, with some correlates, 1909-2006



[36] Figure 2 is Figure 8-3 in Lindert and Williamson [2016: p. 201] and the original source is Philippon and Reshef [2012].

8. Conclusion: epochal shocks versus grand theories

There is no Kuznets curve sweeping across twentieth century Philippines: indeed, there was no increase in income inequality during the interwar years of catching up industrial growth or even during the ISI years of most dramatic industrial growth from the early 1950s to the mid-1970s. And there is no evidence supporting a Marxian or Pikettian theory driving inequality forever upwards. Instead, there have been epochs of rise, fall, rise, and (apparent) stasis, all driven by politically-determined global and domestic trade forces, American colonial policy followed by a different policy of an independent nation. And it has been driven by the waxing and waning of family dynastic power. It seems to me that the literature might be advised to give less attention to statistical decompositions of inequality with the appearance of every FIES and give more attention to identifying the fundamentals driving inequality changes during the five Philippine inequality epochs since 1903.[37]

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[37] While inequality across twentieth century Latin America is also poorly documented, what we have for Argentina [Alvaredo 2010] and Brazil [Ferreira de Souza 2017], two major commodity exporters in the first half of the century, also exhibit volatility correlated with changing political regimes and global price shocks.

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