Inequality in Indonesia: What can we learn from top incomes? ☆

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A R T I C L E   I N F O

A B S T R A C T

Using taxation and household survey data, this paper estimates top income shares for Indonesia during 1920–2004. Our results suggest that top income shares grew during the 1920s and 1930s, but fell in the post-war era. We observe a sharp rise in top income shares during the late-1990s, coinciding with the 1997–98 economic crisis. Where comparable data are available, top income shares in Indonesia are generally higher than in other countries, a finding that is at odds with the view that Indonesia is a relatively egalitarian society. This suggests that top income shares may provide a more complete picture of developing country inequality in comparative perspective.

1. Introduction

Academic literature on income distribution in Indonesia often indicated that income inequality has been relatively low as a consequence of the 'pro poor' policies pursued by its government. For example, a two-page discussion of Indonesia's economic performance over recent decades in the *World Development Report 2006* used the phrase 'pro-poor' 12 times (World Bank, 2005b: 126–127; see also Ragayah, 2005; Timmer, 2004, 2005; World Bank, 2005a). Yet it has been argued that this may be a misconception, arising from significant difficulties in interpreting the available income and expenditure survey data for Indonesia (Cameron, 2002).

Here, we approach the issue through the lens of top income shares. Building on recent studies for other countries, analysing newfound historical data, and comparing our results with similar data for other countries, we estimate top income shares for the world's fourth most populous nation, and one of Asia's largest economies. We offer an assessment of changes in the share of top

income earners in Indonesia on the basis of income tax data for 1920–39 and 1990–2003, augmented by household income data from the country's national socio-economic survey for 1982–2004.

2. Estimating top income shares

The general methodological issues surrounding the use of taxation data to estimate top income shares have been well canvassed by Atkinson (2007). In essence, our approach involves using external control totals for both the adult population and total personal income, and interpolating top income shares using tabulated income taxation data. In Indonesia, as in other countries, those with incomes below a certain threshold were not liable for income tax. Our control totals are the total population that would have paid income tax if such thresholds did not apply, and the total personal income that would have been declared if such thresholds did not apply. For all years in our sample, the income unit in Indonesia is the household.

Our estimates of top income shares in Indonesia are based on three sources. The first are income taxation data compiled at the Ministry of Finance of colonial Indonesia for 1920–1939, and published annually in the statistical yearbooks. During this period, all

Table 1
Top Income Shares in Indonesia, 1920-39 and 1982-2004

Year	Top 10%	Top 5%	Top 1%	Top 0.5%	Top 0.1%	Top 0.05%	Top 0.01%
Using income taxation data							
1920				6.92	3.70	2.73	1.39
1921			11.82	10.08	5.54	4.15	2.21
1922			14.28	11.53	5.35	3.72	1.69
1923			14.81	11.99	5.69	4.04	1.93
1924			14.42	11.62	5.67	4.06	1.97
1925			14.19	11.42	5.65	4.01	1.91
1926			15.00	12.08	5.97	4.30	2.04
1927			15.52	12.41	5.98	4.24	1.94
1928			16.38	13.04	6.14	4.30	1.93
1929			16.71	13.31	6.32	4.45	1.92
1930			16.64	13.08	5.87	4.02	1.67
1931		30.57	20.03	15.65	6.77	4.53	1.78
1932		32.62	21.13	16.57	7.02	4.62	1.74
1933		32.83	21.55	17.01	7.18	4.68	1.72
1934		31.82	21.51	17.02	7.22	4.69	1.68
1935				15.82	6.81	4.45	1.60
1936				15.99	6.93	4.52	1.63
1937				14.64	6.56	4.38	1.69
1938			19.80	15.84	7.24	4.90	2.00
1939			19.87	15.83	7.03	4.68	1.83
Using household survey data							
1982	32.64	20.85	7.17	4.60	1.80	1.21	0.58
1987	36.48	24.12	7.99	4.68	1.23	0.61	0.28
1990	36.11	23.16	8.05	5.28	1.61	0.95	0.35
1993	39.94	26.07	9.10	5.85	2.04	1.33	0.38
1996	39.37	25.30	9.69	6.59	2.06	1.38	0.37
1998	36.22	24.92	12.42	9.87	5.93	4.93	2.17
1999	37.47	26.39	13.65	10.86	6.20	4.68	1.87
2000	38.45	27.25	13.82	11.11	6.94	5.29	2.25
2001	39.53	28.42	15.52	12.63	5.26	3.20	1.35
2002	36.38	23.40	10.47	7.93	4.05	3.21	1.58
2003	34.58	24.36	9.76	7.26	3.59	2.54	0.91
2004	34.76	22.03	8.46	5.89	2.12	1.29	0.47
Using income taxation data							
1990						1.01	0.69
1991						0.90	0.58
1992						1.04	0.69
1993						1.02	0.66
1994						1.02	0.67
1995						0.89	0.55
1996						0.91	0.56
1997						0.94	0.59
1998						0.80	0.54
1999						0.84	0.58
2000						1.05	0.78
2001						1.20	0.81
2002					1.47	1.26	0.75
2003					1.34	1.10	0.61

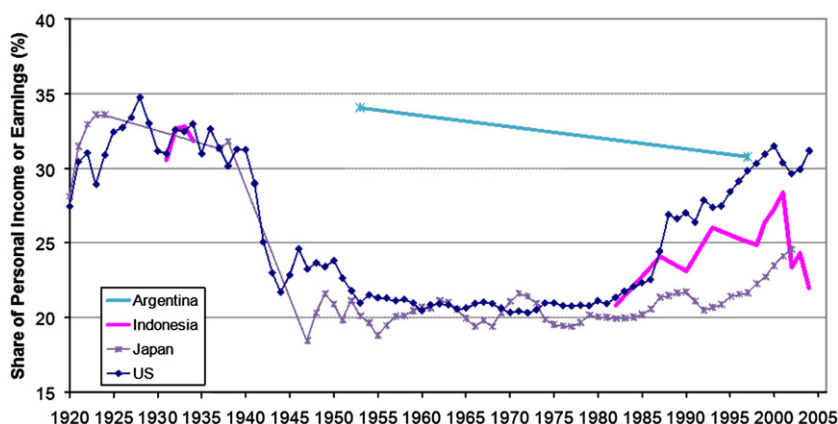Note: Survey data are not available annually before 1998.

Fig. 1. Income Share of the Top 5% in Argentina, Indonesia, Japan, and the United States.
Sources: Argentina, Alvaredo (2007); Indonesia, authors' calculations; Japan, Moriguchi and Saez (2008); the United States, Piketty and Saez (2003, 2006).

individual income earners with incomes above the tax threshold (initially ƒ120) were required to pay tax.[1]However, farmers in Indonesia's main island of Java who were liable for land tax (*landrente*) were exempted from income tax. This was also the case in some other parts of the country, where the land tax was introduced during the 1920s–30s. Consequently, many ethnic Indonesians in Java were exempted from income tax, because they had income from land. We adjust our control totals accordingly.

Our second set of personal income taxation data cover the period 1990-2003, and were especially extracted for us in 2005 at the Directorate General of Taxation of the Ministry of Finance in Jakarta. So far as we are aware, we are the first to use these particular data. An advantage of 1990–2003 taxation data is that they are highly disaggregated. However, a disadvantage of these data is that we are only able to identify the very top taxpayers. In addition, since taxpayers with only salary income are not required to file a return, our results assume that all those with incomes in the top 0.5% of the distribution filed a return; either because they wished to seek deductions, or because they had non-salary income.

The third data source is the Susenas household survey. This has been frequently used for estimating expenditure inequality, but only rarely for analysing the distribution of income. We were able to obtain a relatively consistent income definition for 12 years between 1982 and 2004. The sample size is around 30,000 households for 1982–96, and around 80,000 households thereafter. It should be noted that the income definition in the Susenas differs from that in the taxation data, being total household employee earnings. We assumed that the household samples were representative of the population, so that it was not necessary to use external control totals.

Our estimated top income shares are presented in Table 1. In 1921, the richest percentile group held 12% of total income. We observe sharp increases in the share of the richest 1% during 1921–23 and 1930–32. In both cases, the increases may have been caused by significant reductions in the incomes of farm households relative to those of non-farm households, caused by drastic falls in the price of farm-produced export commodities, such as copra and rubber, in both the early 1920s and early 1930s. Most export commodities were produced by farmers outside Java who were not exempted from income tax. In the early 1920s, the price fall was in part a correction from a situation of very high commodity prices during and immediately after World War I. The price fall in the early 1930s was a consequence of oversupply in and reduced access to commodity export markets, combined with increased competition from imported commodities, particularly rice. While high income salary earners were to a degree shielded from the effects of these commodity price falls, small-scale farmers had few choices to evade them, apart from returning to subsistence production. In 1933–34, the richest 1% held 22% of total income. By 1938–39, their share had fallen slightly to 20% of total income.

We then have a four-decade break in our series. When we resume with the 1982 survey data, we find the income share of the richest 1% to be lower — around 7% (note that our income measure also differs, now being employee earnings). Over the next two decades, the top 1% share fluctuated between 7% and 16%. From 1996 to 1998, the top percentile group's share rose from 10% to 12%, suggesting that the sharp 1997–98 economic crisis increased the concentration of income at the top of the distribution. For the years in which we have both taxation and survey estimates of top income shares, the former tend to be lower.

How do these estimates compare with those from other countries? For this purpose, we chose India (Banerjee and Piketty, 2005) and Japan (Moriguchi and Saez, 2008), the two other Asian countries for which top income shares are available over a long time span; Argentina (Alvaredo, 2007), being the only Latin American country for which we were able to obtain long-run top income estimates; and the United States (Piketty and Saez, 2003, 2006), since it provides a familiar benchmark for many readers. In the case of Argentina and the United States, the estimates are based on households, while the estimates for India and Japan are based on individuals. The estimates for India, Japan, and the United States are derived from taxation data, while those for Argentina are based upon both taxation and survey data.

Fig. 1 compares the top 5% share in Indonesia with that in Argentina, Japan, and the United States (the top 5% share is unavailable for India). During the early-1930s, the top 5% share was very similar in all three countries. In the 1980s and 1990s, the top vingtile share in Indonesia rose more rapidly than in Japan, though less rapidly than in the United States. In the early-2000s, the Indonesian

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[1] The currency unit in colonial Indonesia was the guilder (ƒ), which was renamed rupiah (Rp) after Indonesia's independence.
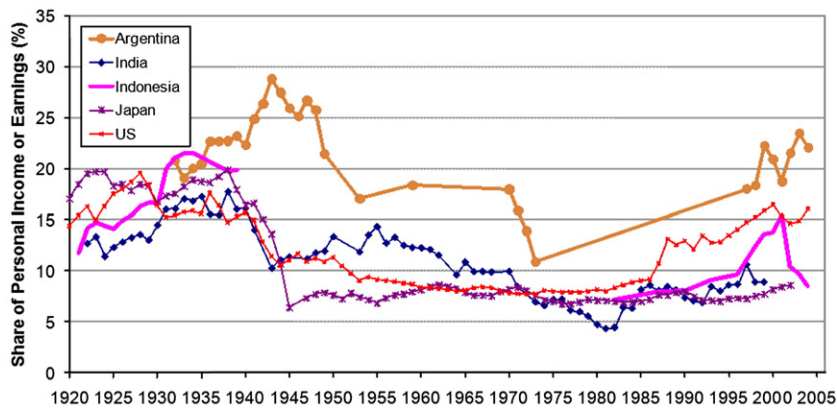
Fig. 2. Income Share of the Top 1% in Argentina, India, Indonesia, Japan, and the United States.
Sources: Argentina, Alvaredo (2007); India, Banerjee and Piketty (2005); Indonesia, authors' calculations; Japan, Moriguchi and Saez (2008); the United States, Piketty and Saez (2003, 2006).

top 5% share fell; leaving it closer to the Japanese estimate than the United States estimate at the very end of the period. There are only two observations of the top 5% share for Argentina, both significantly higher than for other countries in the same years.

Fig. 2 charts the top 1% share. In Indonesia, India, and the United States, the series follows a similar trajectory, peaking in the 1920s or 1930s, falling in the middle decades of the twentieth century, and rising in the 1980s and 1990s (though not to the heights of the early decades). A similar pattern holds for Argentina, though the peak is in the 1940s. In the 1980s and 1990s, the share of the top percentile group was slightly higher in Indonesia than in India and Japan (and much higher during the 1997–98 crisis). The share of the richest 1% in Indonesia was lower than in Argentina and the United States during most of the twentieth century, although the level of top income inequality in Indonesia exceeded the level in both Argentina and the United States in the 1930s. As noted above, the high level of inequality in Indonesia in the 1930s is possibly caused by the fact that agricultural producers suffered from the downturn in the terms of trade of agricultural commodities *vis-à-vis* non-agricultural producers. In the United States, economic regulation and protection may to a degree have prevented a similarly sharp drop in agricultural incomes relative to non-agricultural incomes.

3. Conclusion

Although estimates from taxation and survey data have their limitations, both suggest that top income shares in Indonesia have been relatively high over the course of the twentieth century. This finding may surprise some readers, as it contradicts the common 'growth with equity' understanding of Indonesia's growth experience since the 1960s. Yet our results are also bolstered by evidence from other sources. For example, top wealth shares appear to be larger in Indonesia than in many other countries, whether one uses data from wealth surveys (Davies et al., 2008), or the *Forbes* rich lists (Leigh and van der Eng, in press). This suggests that there is much to be learned from studying top incomes in order to better understand inequality in developing nations.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.jpubeco.2008.09.005.

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