4 J. Pen

A Parade of Dwarfs (and a Few Giants)

Excerpt from J. Pen, *Income Distribution*, Allen Lane the Penguin Press, 1971, pp. 48–59.

Before we embark on theoretical reflections we must have a survey of the facts of distribution. The aim of this chapter is to give a provisional and rough impression of these facts. It brings us up against the problem of presentation. Suppose that we know exactly how much each individual of the mass of income recipients earns. In reality that is not so, but thanks to the work of pioneers like S. Kuznets in the United States and A. L. Bowley in the United Kingdom, and through the availability of tax data, quite a lot of figures are nevertheless known. The question is how to marshal this enormous quantity of material. This should preferably be done in such a way that the presentation really tells us something. A chaotic mountain of detached figures or a tiring series of tables must be transformed into a coherent, manageable whole. That can be done in a variety of ways.

In this section we are concerned with a first impression. For this purpose we shall organize a parade in which everyone takes part who gets money. We could give all the marchers a sign to hold stating his or her pay, but it is more spectacular if we make everyone's size proportionate to his income. To achieve that we call in Procrustes, a cruel host whose custom it was to adapt the height of his guests to the size of the bed in the guest room. We shall ask him to stretch or to contract every income recipient in such a way that his height corresponds to his income. The average income recipient gets the average height. Anyone who earns more than average becomes taller; anyone who earns less than average shrinks (let's hope that the proportions of the victims, and their health, remain intact). The average income is computed by adding all incomes together and dividing by the number of income recipients. Taxes are not deducted, but social benefit, family allowances, pensions, etc., are thrown in. We can therefore see by looking at people what they earn.

It is worth mentioning that in this procedure we consider individual incomes. We ignore wealth, and we concern ourselves with *individual* remuneration. This is not the most decisive criterion of prosperity; usually family incomes are more important. We shall presently come across tiny women, but before we pity them we must bear in mind that perhaps they have a husband who is also earning, so that the wife merely supplements the family income. And young girls are as a rule reduced to pygmies without being bowed down by that; they live with their parents and earn plenty of pocket-money. (Unfortunately, other young girls must live on their wages and rent expensive rooms, and some women have to support families and really ought to earn more and not less than the men.) Old people are sometimes small without this troubling them overly; but fathers of large families who have been stretched to more than average height by Procrustes may be financially pinched to a considerable degree. The smallest of all are schoolchildren and students, who work for money for a few months a year; on an annual basis that income is minuscule, but that does not affect their enjoyment of life. These restrictions disappear from sight in our approach. We observe only tall and short human beings. Before passing judgement on their prosperity we ought to know more about them, but we are not attempting that.

The procession is now forming up; just as when a school marches in from the playground, the smallest ones are in the van. The parade moves on at uniform speed in such a way that it is past in one hour, which means that the marchers are going to have to move in double-quick time. They *flash* past. You and I, two persons of average height,[1] watch the strange spectacle. What do we see?

In the first seconds a remarkable thing already happens. If we have superhuman powers of observation (and why shouldn't we confer them upon ourselves?) we see a number of people of negative height passing. On closer inspection they prove to be businessmen who have suffered losses and whose capital is reduced. They are not necessarily short people. In fact, right in the front we spot a few very tall men, with their feet on the ground and their heads deep in the earth. The first one may be as tall as ten yards – he must be rich to indulge in that kind of thing. It's an unhealthy way of carrying on, and most of them don't keep it up long. This vanguard is not so small in number either; we live in a rough world, where many are attracted by the successes of private enterprise which, however, pass them by. A third to half of all retail businesses close down within two years of their start[2] – and all this mortality is not without losses.

After this tragi-comic opening we see tiny gnomes pass by, the size of a matchstick, a cigarette. We think we see among them housewives who have worked a short time for some money and so have not got anything like an annual income, schoolboys with a paper round and once again a few entrepreneurs who didn't make it (though without their having applied for National Assistance). It takes perhaps five minutes for them to pass. We should bear in mind that those who have no income and don't want one either – children, non-working housewives – are not taking part in the parade at all.

Suddenly we see an increase by leaps and bounds. The people passing by are still very small ones – about three feet – but they are noticeably taller than their predecessors. They form a heterogeneous group; they include some young people, especially girls who work regularly in factories, but above all people who are not in paid employment: very many old-age pensioners without other means of support, some divorced women without alimony, people with a physical handicap. Among them are owners of shops doing poor trade. They supply the smooth transitions. And we see artists – they may include geniuses, but the public does not understand their work and the market does not reward their capacities. Unemployed persons also belong to this heterogeneous company, but only in so far as they received a low wage, while they were working (otherwise they would be coming later). Some members of this group receive National Assistance. It takes them at least five or six minutes to pass by.

After them – the parade has been going on for about ten minutes – come the ordinary workers about whom there is nothing out of the ordinary except that they are in the lowest-paid jobs. Dustmen, Underground ticket collectors, some miners. The unskilled clerks march in front of the unskilled manual workers. Precisely among these lower-paid categories each group applies the principle of ladies first – particularly in Britain equal pay is far from being a reality. We now also see large numbers of coloured persons. These groups take their time to pass; we have ample opportunity to observe them at our leisure. It takes almost fifteen minutes before the passing marchers reach a height of substantially more than four feet. For you and me this is a disturbing sight; fifteen minutes is a long time to keep seeing small people pass by who barely reach to our midriff. More than a third of them are women, dwarf-like human beings. In embarrassment we avert our gaze and look in the direction of the approaching parade to catch sight at long last of normal people.

But a new surprise awaits us here. *We keep on seeing dwarfs.* Of course they gradually become a little taller, but it's a slow process. They include masses of workers, just ordinary people with not inconsiderable technical knowledge, but shorties. After we have waited another ten minutes small people approach who reach to our collar-bones. We see skilled industrial workers, people with considerable training. Office workers, respectable persons so to see. We know that the parade will last an hour, and perhaps we expected that after half-an-hour we would be able to look the marchers straight in the eye, but that is not so. We are still looking down on the tops

1. I'm just assuming. I can hardly know your income; mine is far above the Dutch average.

2. The figure applied to the United States. See Samuelson (1964, p. 78).

of their heads, and even in the distance we do not yet see any obvious improvement. The height is growing with tantalizing slowness, and forty-five minutes have gone by before we see people of our own size arriving. To be somewhat more exact: about twelve minutes before the end the average income recipients pass by.

We are of course interested as to who they are. Now, they prove to include teachers, executive-class civil servants, clerical workers, older NCOs, grown grey in the services. Of course we also encounter shopkeepers, together with sales representatives and insurance agents (a number of *them* do not come along until later). This group also includes people in overalls and rubber boots and with callouses on their hands; they are a number of foremen, superintendents and technicians, and a few farmers.

After the average income recipients have passed, the scene changes rather quickly. The marchers' height grows; six minutes later we see the arrival of the top 10 per cent, a group that will turn up again repeatedly in the following pages. The first to arrive are around six feet six inches, but to our surprise we see that they are still people with modest jobs. Headmasters, Assistant Principals and Principals. (Our parade is being held in Britain; in other countries the exact order is sometimes a little different, but the picture is the same.) University graduates, but most of them are very young. Small contractors who lend a hand themselves. Seamen too. And once again farmers; in Britain their income is higher than the national average (in this respect this country differs from the United States and from all countries of Continental Europe!). Again office staff, department heads, but certainly not yet genuine top executives. They are people who had never thought that they belonged to the top 10 per cent.

In the last few minutes giants suddenly loom up. A lawyer, not exceptionally successful: eighteen feet tall. A colonel, also of much the same height. Engineers who work for nationalized industries. The first doctors come into sight, seven to eight yards, the first accountants. There is still one minute to go, and now we see towering fellows. University professors, nine yards, senior officers of large concerns, ten yards, a Permanent Secretary thirteen yards tall, and an even taller High Court judge; a few accountants, eye surgeons and surgeons of twenty yards or more. This category also includes managers of nationalized concerns; the Chairman of the National Coal Board is likewise a good twenty yards.

During the last seconds the scene is dominated by colossal figures: people like tower flats. Most of them prove to be businessmen, managers of large firms and holders of many directorships, and also film stars and a few members of the Royal Family. There prove to be towers and towers, and we cannot describe them all. To mention a few examples of persons whose salaries have been published: we note, with due respect, Prince Philip,

sixty yards (too short to play polo), and the senior managing director of Shell, David Barran, who measures more than twice as much.

Now these giants are still people with salaries (the interest on their wealth makes them still taller – how much so we do not know), and the yard is still a practical measure of their height. But the rear of the parade is brought up by a few participants who are measured in miles. Indeed, they are figures whose height we cannot even estimate: their heads disappear into the clouds and probably they themselves do not even know how tall they are. Most of them are men of venerable age, but they also include women; these are as a rule younger, and we even think that we can see a few babies and adolescents. (Their ranks include Tom Jones; nearly a mile high.) These super-rich people are almost all heirs, and the tallest of them have managed to multiply their inheritance. The last man, whose back we can still see long after the parade has passed by, is John Paul Getty (though as a rule we have not invited American guests, Getty lives for much of his time in Britain and is an Oxford B.A.) At the time of writing he is almost 80 years old and made his money in oil. Few know what he earns (perhaps nobody does); his fortune is estimated at 1000 to 1500 million dollars. His height is inconceivable: at least ten miles, and perhaps twice as much.

Suddenly the parade is gone – the income recipients disappear from sight and leave the spectators behind them with mixed feelings. We have watched a dramatic spectacle, full of unexpected scenes.[3] It is worth while summarizing a few of our impressions.

1. A striking fact is that we have to wait so long for the average income recipient. The reason lies in the fact that a number of colossal people are bringing up the rear. Not only do they attract the attention of the spectator so much, but they also raise the average; it shifts to well above the great mass of income recipients. For that reason by far the greater part of the parade consists of small men and women, not to say dwarfs. If we were to exclude from the parade those who bring up the rear, say during the last minute, the average height – that is to say your height and mine – would drop considerably. Those remaining in the parade would not become any taller as a result, but the impression would be removed that we have organized a parade of dwarfs. After just over half-an-hour we would

3. Honesty compels me to admit that I have intensified the effect because spectators usually pay attention not only to height but also to width of shoulders, size of chest and volume. In our case they should not do so, because a person's volume increases with the third power of his height. You and I must therefore consider only the distance between soles and crown, and ignore the frightening effect of volume. If you think that we are asking too much of our capacity for abstraction, we ought to ask Procrustes *not* to leave the proportions intact; a thirteen-yard general then acquires a very weedy figure, and the gnomes look like soup plates. Getty becomes as thin as gossamer, relatively speaking.

already be able to look the marchers in the eye. People desirous of assessing income distribution should bear such things in mind.

Incidentally, we could also have brought the height of the participants closer to the average if we had considered family income instead of individual incomes. That would have removed many women and young people from the procession; their husbands and fathers would have grown taller and many dwarfs would have risen to almost average height. The marchers of the first five minutes would almost all have remained at home. The parade would have been less colourful and less dramatic. A few giants might have grown still taller: wealthy people who have set fortunes aside for their wives and children.

2. The end of the parade makes a shattering impression. The marchers' height increases with incredible speed in the last minutes, and above all *within* the last minute. It therefore makes a great deal of difference whether we watch the marchers of the last minute (the top 1·7 per cent) or whether we consider those of the last seconds. There is not just a great difference in height: the last minute starts with six yards or so, and the last second we see people of five to ten miles; but there is also difference in the nature of income. A member of the top 1·7 per cent need not necessarily be fabulously rich. He may be wealthy, but this fortune is not essential. His top income may consist in a salary: a senior civil servant, a professor, a manager. It may also be a professional income, earned with the hands: the surgeon. These people have such generous incomes that they can save. This of course breeds wealth, and we consequently see that the top 1 per cent almost always have some wealth in reserve. But this is not a *sine qua non* for their high incomes – the interest is nice to have, but this 'private income' is not essential to their position in the parade.

That is where they differ from the participants of the last seconds. They may also have salaries, but at the same time they are immensely rich. In their case the salary is often subordinate. Their main income consists of interest and profit (these two components of personal income cannot always be sharply distinguished from one another. Their source is different, and consequently we shall at all times keep profit and interest apart in this book. But when the dividend reaches the income recipient it sometimes begins to look like interest). The top fortunes are not only a welcome supplementation to income from work – the capital is the essential basis of the economic position of the financial giants. Their wealth is not always invested in a wide portfolio of shares – it is often deliberately invested in their own firms, in which they have a say.[4] Considerable misunderstanding occurs through confusion of these two groups – the last minute and the last seconds – though it is of course true that there are smooth transitions between them. The top 1 per cent (and even the top 10 per cent!) are too often identified with the very wealthy capitalists. The latter group is tiny.[5]

The question is how these enormous fortunes are accumulated. The answer is a straightforward one: the source is always formed by profits. You can save a modest little capital from a salary, and so become well-to-do, but if you really want to build up a huge fortune you cannot leave it at that. (It is of course easier to inherit the money, but that passes over the manner in which the testator came by the money.) Savings from wage and salary may form a springboard, but ultimately the aspiring Croesus will have to rely on the rewards of entrepreneurship. The best thing is to have the disposal of a good, brand-new product (with the necessary patents) and to start producing it with drive. You might come a financial cropper, but you might bring it off. The survivors cross a threshold after which their profits accumulate, and so the lucky ones join the rear ranks of our parade.

The process of getting rich sometimes goes faster than you might think. It does not always take generations; the list of the enormously wealth is growing. The theory that it is impossible to become colossally wealthy nowadays and that the big fortunes are at least a generation old is unrealistic. A well-known example in support of the contrary is that of Dr Edwin H. Land, who invented the sixty-second camera in the Forties. At first the public did not see much in it, but took a second look and found this way of photography attractive after all. Incidentally, Dr Land has many other optical inventions to his name. In 1968 he was number 4 on *Fortune*'s list of the Super-Rich, that is to say behind J. Paul Getty (oil), Howard Hughes (aircraft, among other things) and H. L. Hunt (oil), but ahead of the old families like the Duponts, the Fords, the Mellons and the Rockefellers. Land's fortune is estimated at $500 to 1000 million. Chester Carlson is another example of an inventor (Xerography; he started as a lawyer!); he is said to be worth $150 to 200 million. According to *Fortune* there were 153 people in the United States with a net worth of above $100 million in 1968 (including wealth held by spouses, minor children, trusts and foundations). A third of these 153 were not yet really wealthy ten years

4. Needless to say, considerable attention has been drawn to the significance of wealth to inequality. This was done with great emphasis by Dalton (1920). Incidentally, it is not so easy to state exactly which part of the inequality is caused by wealth distribution. That requires sophisticated quantitative methods.

5. Anyone desirous of getting to know this group's American counterpart should read the informative book by Lundberg (1968). He tells us who the rich are, how they acquired their money, how they spend it, how they solve their tax problems, their relations with politics, arts and science and with each other. No such book exists for Britain. Although I have some criticism of Lundberg's view, I can strongly recommend the reading of his 1000-page paperback.

before. Of course the big heirs with the familiar names are still to be found on the list of 153. They have been displaced from top position by the *nouveaux riches*, but they're keeping their end up very nicely (*Fortune*, 1968).

3. The head of the procession naturally also deserves closer attention. We must make a distinction between the part-time workers and casual earners on the side on the one hand and the shocking social emergency cases on the other. Recently more has become known about the latter group: the cumulative processes operating at the bottom end of income distribution have been brought to light in particular by M. Harrington in his book on the American poor. This group is of importance to social policy (minimum wages, social security, tax exemption limit, negative income tax). Some are inclined to make this very group the principal objective of distribution policy, and I heartily agree. In my opinion they form a more urgent problem than the very rich.

4. Also of interest is the great difference in predictability and determinateness of the incomes. People are marching in our parade whose earnings we know within narrow limits. That applies to all wage-earners whose incomes are laid down in collective agreements, to civil servants, to many other salary-earners: a good 80 per cent of the population. But the fact that someone is called a rentier or capitalist (depending on the observer's preference) tells us nothing at all about his place in income structure. He may scrape together a small income from interest, just enough to supplement his pension slightly; he may also belong at the end of the procession. We already know much more about him if he tells us how great his wealth is – then his income can be predicted within certain limits.

But this predictability does not apply to profits. The man who lives on profit may pop up anywhere in the procession. Even further information on the size of a person's business is no criterion of his income. Firstly because there are flourishing and highly profitable small businesses that place their owners in the last minute of the parade, and there are large firms that make a loss. In the second place because the distribution of a firm's profit may differ so greatly. Three brothers may each pocket one third of the profit made by the family business, but that may also be arranged quite differently. The very large firm has again a wider variation in its arrangements: shareholders, top executives and staff may share in the profit in accordance with different criteria. And then there are profits whose volume it is difficult to estimate. If a wealthy shipowner wants to know how much he earns and how that income is made up, he has to ask his accountant. We, as inquisitive outsiders, certainly cannot find out. It is profit that often escapes our understanding and at the same time creates the tremendous inequality.

5. Our procession has the attractive property that we can see and recognize the participants. We saw men with boots on and dirty hands, respectable gentlemen with briefcases, striking figures and ordinary ones. We saw with our own eyes the richest man in the world. We saw great numbers of very small women, an appalling sight. The other side to this dramatic effect is that our procession is an imaginary one. It is not the custom to organize such shows, and they would in any case meet with opposition from the participants, if only because of the preliminary treatment by Procrustes.[6]

In a highly watered-down form we can achieve something similar by a graph that hurts no one. (Incidentally, this graph is about as rare as the parade – I've never yet seen it in a book or an article.) On the horizontal axis of this graph (Figure 1) minutes are plotted, and on the vertical the

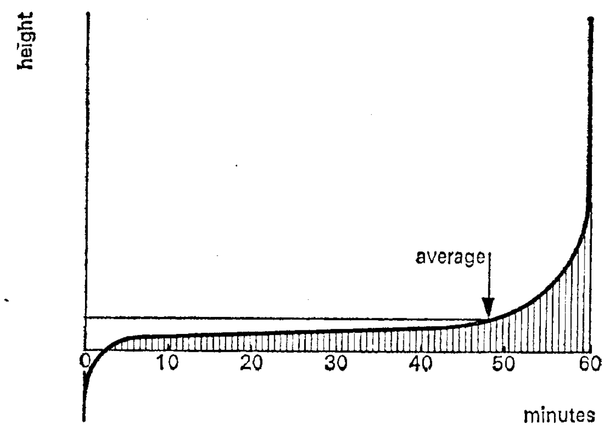

Figure 1 A parade

height of the income recipients. The curve illustrates the dwarf-like nature of most people; the average is indicated by the arrow. The recognizability of the individuals has now disappeared. Nor does the graph lend itself to accurate reading-off, because the right-hand part rises so steeply that small inequalities in the drawing lead to great differences in income. The last millimetre comprises, on a reduced scale, a top manager of a good 100 yards and the super-rich capitalist of ten miles. The vertical axis ought in fact to be well over 200 yards long. Is this perhaps why the graph does not appear in the books?

And yet this drawing suggests one of the most striking properties of income structure: the huge inequality illustrated by the right-hand part of the

6. On paper the operation is painless but it is not performed either. The transformation of incomes into heights is not to be found in the books, with, as far as I know, only one exception: a casual remark by Mrs Barbara Wootton (1955, p. 18). I have never come across the parade in economic literature.

curve. Other drawings conceal this property. In the next section we shall encounter the frequency distribution, a curve that is very usual in statistics; the income classes are plotted horizontally and the number of income recipients in every bracket vertically. As we shall see, this presentation is useful and stimulating, but it spirits away the very rich. All the same, the frequency distribution also shows reality. The Lorenz curve, yet another technique, shows us the same facts through yet other eyes, so that yet other properties strike us. This illustrates my argument that income distribution (and even the narrower subject of *personal* income distribution) has many different faces. It depends on the temperament, the intellectual structure and the political preference of the reader which face he recognizes best. If I may speak for myself, I am rather struck by the presentation in this section. The inequality that emerges from it colours my view of the problem.

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5 L. Soltow

Long-Run Changes in British Income Inequality

L. Soltow, 'Long-run Changes in British Income Inequality', *Economic History Review*, vol. 21, 1968, pp. 17–29.

It is difficult to measure the extent of improvement of various social and economic groups during the Industrial Revolution. There seems to be a growing body of evidence showing that lower-income segments shared in economic growth.[1] However, the idea still prevails that a dynamic industrial group developed in the eighteenth and nineteenth centuries which made the rich richer even if the poor did not become poorer. The consequence of such a movement would mean that relative inequality among all income groups would increase. This belief is often accepted in the United States because of the large body of literature dealing with the era of the robber baron. It is accepted by economists as being true for Germany mainly because of the study of annual income distributions available for the years from 1873 to 1913 and the one year 1854 (Procopovitch, 1926; Kuznets, 1963).

There is a degree of silence about the British experience, even though income-tax distributions exist for various income years since 1801. (See, Parliamentary Accounts and Records, 1801–2, vol. 4, pp. 152–5, also 1852 vol. 9, p. 463; Josiah Stamp 1916, 1922; Inland Revenue reports beginning in 1857). This stems from the fact that from 1803 to 1910 there were no comprehensive definitions of income. Distributions were available only for Schedule D income, that is, income from trade or business, the professions and some miscellaneous items including small interest payments. The large amounts of property income, including interest and rents, were subject to separate flat rates so that any exact statements about income were difficult to make. It is the purpose of this paper to bring together available distributions before and after the Industrial Revolution in an attempt to make those data that are available more meaningful within the context of a long period of economic growth. This will involve the use of distributions for 1962–3, 1801, 1688, and, brazenly, for 1436.

1. See Taylor (1960), which lists four major works supporting this thesis. The list is headed by the remarkable work of George (1966).