

CHAPTER 9

DISTRIBUTION AND INHERITANCE OF WEALTH

9.1 Wealth in the Real World

The identical, immortal individuals of Part I simply start with different endowments of land and proceed from there, with or without transactions costs.

In the real world, people go through life cycles. They differ in ability and sex. Moreover, their wealth, at birth or later in life, includes more than land.

For convenience, I distinguish three kinds of wealth:

1. Material wealth.
2. Economic status: a set of opportunities and expectations,-- which may differ for men and women of the same background.
3. Human capital: education and, as will appear, intelligence.

What are the real life facts of distribution? In brief:

1. The distribution of material wealth in most non-primitive societies is quite unequal, and highly skewed -- the upper tail is far too large for a normal distribution. It is considerably more unequal and skewed than the distribution of income. The distributions of wealth and income appear very stable over long periods of time.

2. Wealth appears to be substantially inherited, enough, I believe, to justify treating it as exogenous in predicting behavior over a person's lifetime. (There is some controversy over the degree of inheritance in the United States.)

9.2 Some Statistics on Wealth Distribution:

How unequal is the distribution of wealth? Here is some evidence on distribution of material wealth in the United States and Great Britain. (Such poor data as exists suggests greater wealth inequality in more traditional societies).

In the United States, the distribution of material wealth is strikingly unequal, much more unequal than the distribution of income.

Lampman estimated the share of wealth held by the richest 1% of adults from 1922-56. He found swings from 32% in 1922 up to 36% in 1929, down to 21% in 1949, and up to 26% in 1956. He considered the fall in concentration partly genuine, and partly just a reflection of greater wealth-splitting between husbands and wives. [Lampman, 1962, p. 24.] More recent studies by Smith and Franklin show similar proportions though greater stability: 27% in 1958 and 1962, 29% in 1965, and 25% in 1969. [Smith and Franklin, 1974, p. 166.]

A 1962 survey by Projector and Weiss found the top 6% of families owning 57% of all wealth, and the top 16% owning 75%. At the bottom of the scale, 11% of families showed negative net worth, 5% zero, and another 12% under \$1000, --for a total of 28% of households with wealth less than \$1000. 46% of all families had wealth under \$5000; these families owned 2% of all wealth (or less, were negative net worths subtracted from this amount). [Projector and Weiss, 1966, pp. 96 and 136; cited in Brittain, 1978, p. 6.]

Distribution of wealth appears even more unequal in Great Britain. For example, Atkinson estimated for the 1960's the top 0.05% of wealthholders had about 10%, the top 0.5% had 25-32%, the top 1.0% had 33-40%, and the top 5% had 59-64%. [Atkinson, 1975, pp. 289 & 308.]

Such figures probably understate the concentration of wealth in the top wealth brackets for a variety of reasons. In particular, the estates from which wealth distributions are calculated do not include wealth held in trusts--a substantial amount in upper brackets.

In comparison, income distributions show much less inequality. For example, Budd and Radner estimated for the U.S in 1964 that the top 1% of families received 8% of income, the top 20% received 46%, the next 20% received 23%, the middle 20% received 16%, the fourth 20% received 11%, and the bottom 20% received 4%. [Budd and Radner, 1975, p. 467].

For a thoughtful discussion of the methods and problems of defining and measuring wealth and income, see Atkinson, The Economics of Inequality 1975, Chps. 1 - 3.

9.3 Origin of Wealth: Exogenous or Endogenous?

The wealth--transaction cost hypothesis treats wealth as exogenous. That is, wealth causes certain behavior, but that behavior does not create wealth, -- though it may perpetuate existing wealth. Current wealth depends on prior wealth.

In the real world, wealth can be endogenous. It can result from economic decisions, such as the decision to invest in education, or to save for retirement.

Transactions costs may drive a wedge between richer and poorer people regardless of the origin or duration of differences in wealth. But clearly, the more wealth differences are exogenous, the broader the implications of the wealth--transaction cost hypothesis, and the easier the tests of those implications. On the other hand, the more such differences are endogenous, the more limited the implications and the harder the tests. (Statistical tests would require simultaneous

equations, with all the ensuing difficulties of measurement and interpretation).

9.3 Life-Cycle, Luck, and Inheritance

There are three major explanations of wealth differences, not mutually exclusive: life-cycle, luck, and inheritance.

Life-cycle:

The life-cycle explanation of wealth differences is associated with the life-cycle hypothesis (Modigliani and others), the permanent income hypothesis (Friedman and others), and the human capital theory (Becker and others). [Modigliani and Brumberg, 1954; Friedman, 1953; Becker, 1975]. According to the life-cycle explanation, people plan their consumption over a lifetime. They save, and invest in human capital, to meet this lifetime consumption plan. In its simplest form, the life-cycle hypothesis posits that people accumulate material wealth gradually up to retirement, and then decumulate. In more sophisticated versions, people may also save to bequeath wealth to their children.

The life-cycle approach attributes wealth differences primarily to differences in age. A man of fifty is richer than a man of twenty. Among persons of the same age, it attributes wealth differences to ability, motivation and tastes. Thus the person who chooses a career in music instead of a career in banking also chooses to accumulate less material wealth.

So under the simple life-cycle approach, wealth is endogenous, while ability (including motivation and tastes) is exogenous. The line of causation runs: ability (etc.) --> income --> wealth.

But a simple life-cycle model does not fit the data well. For a

start, inequality of wealth is just as great among people of the same age as in the whole population. [Atkinson, 1975b, p. 141]. Atkinson and others have constructed semi-empirical life cycle models for Great Britain; these cannot begin to account for observed inequality. [Atkinson, 1975b, p. 142].

Luck:

Another immediate problem with the life-cycle approach is that great wealth seems to arise suddenly, not gradually over a lifetime of patient saving. The wealthiest US families accumulated fortunes in a few years, at rates of return vastly exceeding market interest.

This fact underlies Lester Thurow's "random walk" explanation of wealth: From time to time, extraordinarily profitable opportunities may appear, due, for example, to new technology. Great fortunes arise when the financial markets capitalize the resulting unusually high real rates of return. Thurow argues such fortunes must count as luck: Even though the great entrepreneurs appear highly talented, their abilities probably don't exceed those of many other gifted entrepreneurs who never encounter a fantastic opportunity. [Thurow, 1975, p. 153]. To invention and entrepreneurship, Atkinson adds other sources of "windfall" fortunes: ownership of natural resources, and "exploitation of government restrictions" such as zoning laws. [Atkinson, 1975b, p. 145].

The windfall explanation of great wealth is consistent with the origin of wealth in more traditional societies: large landholdings obtained often by conquest, or grants from royalty or other rulers. Some great US fortunes arose from large landholdings, some of dubious legality, such as those of the 19th Century California land baron, Henry Miller.

Like many economists before him, Thurow posits a major role for luck in earnings, and so by implication in the wealth of the rest of the population. He cites as evidence large variances in earnings in different occupations. But here I think the case for luck is weaker, for two reasons. First of all, luck plausibly plays a dramatic role in the fortunes of entrepreneurs in risky ventures, or conquerors or court intriguers; but not so plausibly in the lives of ordinary folk. Second, much of the variation in Thurow's and other data on earnings may reflect measurement error, -- including the fact that true income may differ markedly from reported taxable income. (Is it credible that 1.1% of full time male physicians age 45-54 earn less than \$2000 a year? [Thurow, 1975, p. 67]). Critics faulted Jencks's Inequality for equating the measure of our ignorance with luck -- an error admitted in Jencks' subsequent Who Gets Ahead? [Jencks et al., 1972, 1979].

The role of luck in income also depends on time scale. Short run fluctuations may even out over time. A person may knowingly choose an occupation subject to periodic unemployment, or occasionally take time out from work to study or travel. Friedman developed the concept of "permanent" income to emphasize the difference between transitory fluctuations, planned and unplanned, and the expected income upon which people base lifetime consumption. "Permanent" income is much closer to wealth than ordinary income, and much less subject to chance. [Friedman, 1957].

Luck as an explanation of the origin of wealth is partly exogenous, and partly endogenous. For, as Friedman has emphasized, people may choose or avoid circumstances with large risk of gain or loss. And of course their taste for risk may partly depend on their background.

Inheritance:

Americans commonly downgrade inheritance. Public policies, notably the income tax, rest on an assumption of "income fundamentalism": that income is the source from which all else flows, including the distribution of wealth. Such income fundamentalism underlies the simple life-cycle hypothesis. Economists still routinely regress other variables, including wealth, upon income, (and ordinary income at that, despite Friedman's warning about measurement error introduced by transitory components).

But emphasis is shifting. Recent empirical work in the US, like older empirical work in Great Britain, shows significant inheritance of material wealth, economic status and human capital.

9.5 Inheritance of Material Wealth

Studies of material wealth usually cover only those rich enough to pay estate taxes: the top 1 to 3 per cent of the population.

Even the most sanguine about opportunity in the US, like Lebergott, allow a large role for inheritance among the top wealthholders. Lebergott estimates that "Of the families who make up the top 1 percent of the wealth distribution in one U.S. generation, about 40 percent fail to have heirs who appear in the next generation's top group". [Lebergott, 1975, p. 161.] At the other end of the political spectrum, Thurow estimates that about 50% of great fortunes are inherited, the rest are self-made. [Thurow, 1975, p. 130.]

For various reasons, Brittain believes these estimates understate the importance of inheritance. For example, a study of case histories reveals that many "self-made" rich, like J. Paul Getty, started with substantial inheritances and other family assistance. [Brittain, 1978,

p. 15.] Brittain attempts various estimates of inheritance, including an ingenious comparison of the wealth of women and men. Since women rarely make their own fortunes, the difference between their wealth and that of men should give some indication of the difference between self-made and inherited wealth. He obtains a rough estimate for men of 37-61% inheritance in the top 2 percentile, and 46-94% in the top .01 percentile. Percent inheritance for women comes out much higher: 65-85% in the top 2 percentile; 70-90% in the top .01 percentile.

[Brittain, 1978, p. 48.]

In Great Britain, the most recent work is a series of studies by Harbury and associates comparing the wills of rich men with their fathers' wills. As a characteristic result, Harbury found that of those leaving £100,000 or more in 1956-7 and 1965, less than one third had fathers leaving under £25,000. [Harbury & McMahan, 1973, in Atkinson, 1975b, p. 154.]

Atkinson reviews British and US evidence, finding that, "it may be reasonable to conclude that around one third of the top wealth-holders in Britain (broadly the top 0.1 per cent) are self-made men and that two-thirds have inherited substantial amounts. In the United States the importance of inheritance may be rather smaller, and the proportions could possibly be reversed. In neither country is there conclusive evidence of a trend towards the reduced importance of inherited wealth". [Atkinson, 1975b, p. 155.]

Only a fraction of the population owns significant material wealth. Most people inherit only a "socio-economic background". The evidence shows that such background plays at least as large a role as inherited material wealth. Social mobility in the US, while high compared to

most other countries, still falls far short of the American myth. I will review this evidence in Chapter 14 on social class.

9.6 Inheritance, Life Cycle and Luck

The simple life cycle hypothesis is easily modified to accomodate inheritance. Blinder, for example, incorporates material inheritances, and education, as exogenous variables, and allows the absolute and proportional size of bequests to depend on wealth. [Blinder, 1975, p. 35].

So the life-cycle as modified by inheritance might look as follows:

Part of the population does seem to behave according to the simple life-cycle model of gradual accumulation followed by decumulation: the working class and lower middle class who acquire wealth chiefly in the form of pensions, insurance and Social Security. Lower levels of the population accumulate nothing. Higher levels of the population often inherit some material wealth, do not entirely decumulate in old age, and pass on some wealth. The richest levels very often inherit substantial wealth, may not decumulate at all but merely slow the rate of accumulation, and leave large inheritances. (Brittain cites some Census statistics for 1960 and 1970 showing a steady increase of wealth with age in upper brackets, but at a decreasing rate. [Brittain, 1978, p. 60]).

Luck might play some role in shifting people from one level of society to another, particularly in catapulting an enterprising few from the top of the middle to the top of the top.

Fig. 9.1: Flow Chart of Causation for a Richer Male
with Transactions Costs

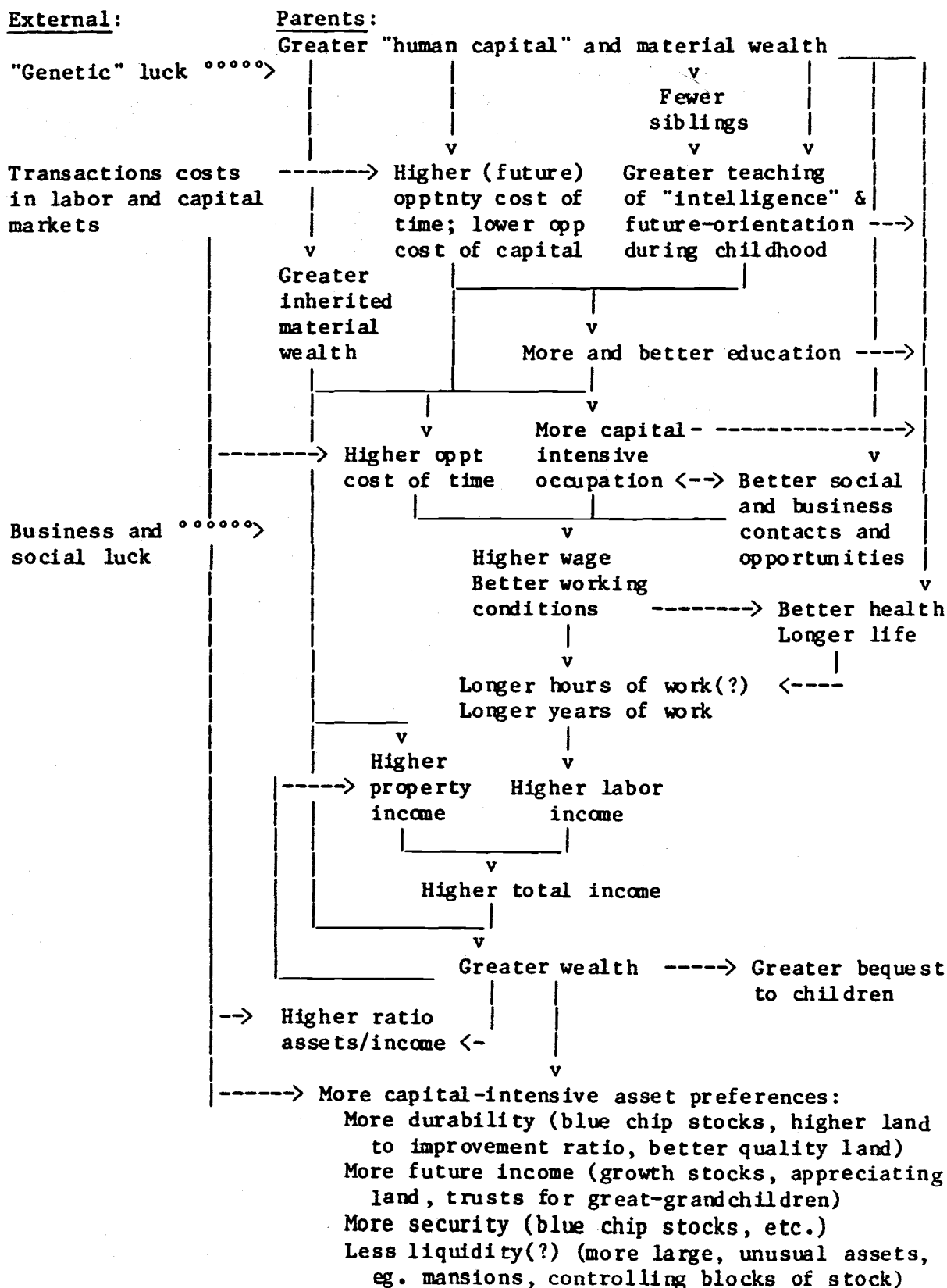


Fig. 9.2: Flow Chart of Causation for a Richer Male Without Transactions Costs

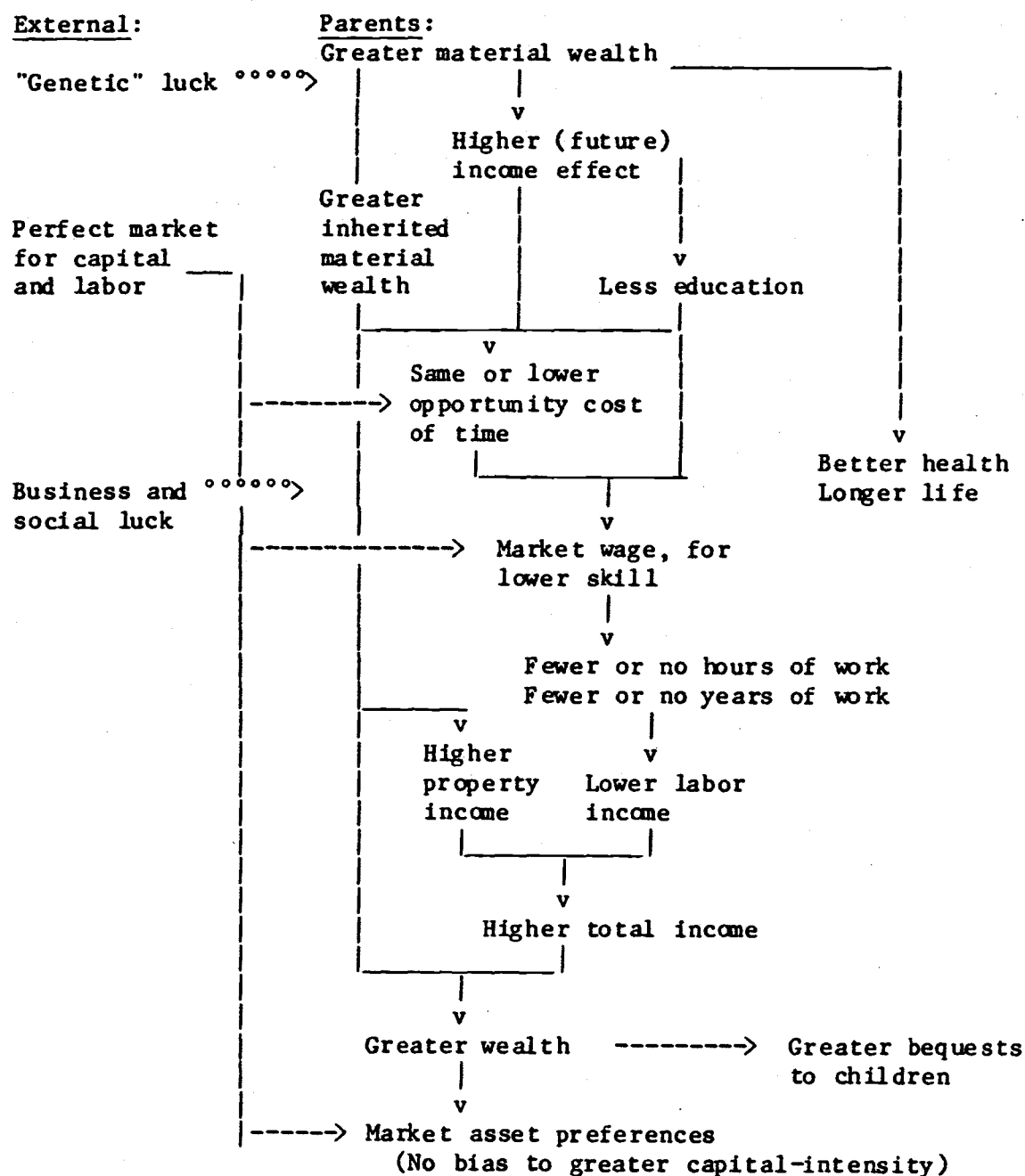


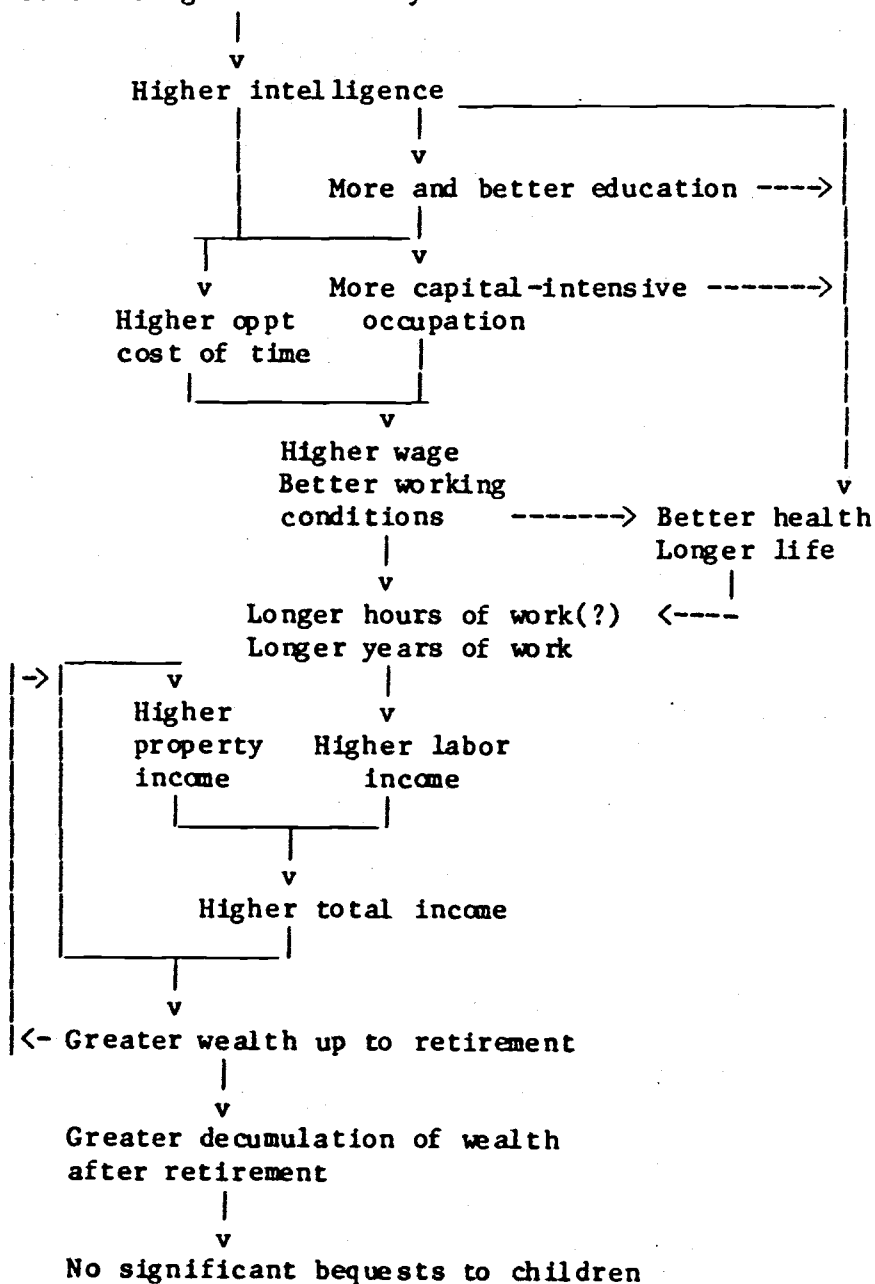
Fig. 9.3: Flow Chart of Causation for a Richer Male
the Life-Cycle Hypothesis

External:

Parents:

Genes for greater ability

Business and social luck >



CHAPTER 10

WEALTH AND ABILITY: INTELLIGENCE AS HUMAN CAPITAL

"The difference between the most dissimilar characters, between a philosopher and a common street porter, for example, seems to arise not so much from nature as from habit, custom, and education".

Adam Smith, The Wealth of Nations, Britannica, p. 7.

In the real world, ability has much to do with making, keeping, or losing wealth.

The wealth--transaction cost models of Part I assume no correlation between intrinsic "genetic" ability and wealth. (All but a couple of models in Chp. 2 in fact assume identical individuals.)

The wealth--transaction cost hypothesis itself does not require no correlation; it merely holds that transactions costs obstruct trade between individuals with different proportional endowments of labor and capital. A correlation would simply reduce potential gains from trade. But to the extent wealth and genes are uncorrelated, then the wealth--transaction cost hypothesis must explain the well-known rise in intelligence of children with wealth of parents: The rise reflects a greater transmission of human capital.

The independence of genetic ability and wealth accords with current liberal American views, and apparently with the views of most economists working in the area. [Sahota, 1978, p. 6.] However, the opposite view has a long tradition of "scientific" support, beginning with the social Darwinists of the last century, through the early 20th century eugenics movement, up to today's genetic determinists like Arthur Jensen, William Schockley, and Richard Herrnstein. [Gould, 1975; Blum, 1978.]

Moreover, the high correlation between parents' and childrens'

wealth would not cut so strongly against the life-cycle explanation of wealth distribution if parents transmitted ability through their genes. That is, although richer parents might decumulate wealth after retirement, their more intelligent offspring would reaccumulate the family wealth each generation.

10.1 The Nature and Heritability of Intelligence

What actually is the evidence on the nature and heritability of intelligence?

IQ rises markedly with socio-economic class. For example data from World War II shows average IQ of adult Americans by occupational group rising from 94 for "rural landowners and farmers" to 120 for "professionals". [Herrnstein, 1973, p. 73.] While blacks and Mexican-Americans show substantially lower IQ's than whites, these differences largely but not completely disappear with the addition of some controls for class. Given the difficulty of controlling for class, researchers have relied heavily on studies of identical twins raised apart. Such studies have shown separated twins to have strikingly similar IQ's, usually under five points apart.

Arthur Jensen has used the twin studies to claim that 80% of the variance in intelligence is genetically determined. Therefore, he claims, differences in IQ's of different races and classes are genetic. [Jensen, 1969.] Richard Herrnstein ignores race, but posits a "genetic spine running through the social class continuum." [Herrnstein, 1973, p. 73.]

A great many critics have pounced on serious statistical flaws in such studies. Even worse, it turns out that the authors of several classical twin studies collected data unscientifically or simply

falsified it outright! And reexamination of the more reliable data weakens the case for genetic IQ: Most separated twins in fact grew up under quite similar socio-economic circumstances. Yet in a handful of cases where twins grew up under different circumstances they showed very large IQ differences--up to 24 points. [Whimbey, 1975, Chp. 5.]

All of this leaves quite apart the question of whether IQ measures "intelligence" (whatever that is!), and if not, what it does measure.

Minority leaders and many liberals have long attacked IQ tests and the very similar Scholastic Aptitude Tests (SAT's) as biased in favor of white middle-class culture. Defenders of the tests reply that they do in fact accurately predict success in school, college and business--not a very good answer if these institutions are similarly biased.

10.2 Intelligence as a Learned Skill

I find more impressive the arguments of Arthur Whimbey in Intelligence Can Be Taught. He claims that IQ tests in fact measure a learned skill in problem-solving and rational analysis, including the analysis of written texts. (Hence people who do well on analytic parts of IQ tests also do well on verbal parts, unless they are foreigners not fluent in English.)

This skill is far more likely to be taught, though usually not explicitly, in middle and upper class homes and in good schools. However, it can be taught explicitly, with remarkable success. Whimbey describes the most comprehensive effort to teach intelligence, the Milwaukee Project, directed by Rick Heber. [Heber, et al., 1972; described in Whimbey, 1975, pp. 42-47.] 40 slum mothers with IQ's under 75 participated. The children of half these mothers received special coaching starting at birth, while same-age children of the other

mothers served as controls. The controls and older siblings of the experimental children showed the steady decline in IQ with age typical of slum children. At most recent testing at 66 months, the experimental children showed a mean IQ of 124, with some registering as high as 135. The control group's mean was 94.

Nor need intelligence training begin at birth. Whimbey cites considerable evidence suggesting that proper coaching can substantially raise the IQ of older children and even adults. (The University of California at Berkeley uses his methods to coach students in academic difficulty, notably students on athletic or special minority scholarships.)

Rather than delving further into the vast and acrimonious literature on "nature vs. nurture", I will simply follow Whimbey. Thus, I make two assumptions about intelligence:

First, intelligence is a real, productive skill, not just a "cultural" characteristic of class.

Second, differences in genetic potential are in fact distributed independently of wealth. (Whimbey feels that, given the same background, the intelligence a child develops depends more on temperament than on innate capacity, whatever that might be.)

10.3 Intelligence and the Wealth--Transaction Cost Hypothesis

One salient feature of IQ accords better with Whimbey's explanation than with genetic or cultural explanations: firstborn children tend to measure higher than second children, second than third, etc., and the smaller the family or the greater the spacing between children, the higher expected IQ. Clearly, IQ depends on quantity of adult attention.

It also depends on quality of adult attention, as evident from the

failures and successes of some of the compensatory education programs: Programs that simply put "deprived" preschoolers into an agreeable environment with loving teachers have had relatively little effect. Thus Headstart programs have produced real, but only modest results. But programs that forcibly drilled children in logical thinking have succeeded dramatically. [Whimbey, 1975, p. 184.] (Drill in logical thinking may occur routinely, if inadvertently, in a middle-class home. For example, when my three-year-old comes home with, "She hit him and she was angry, " I cross-examine her until I extract a complete and consistent account.)

Suppose that intelligence is indeed a form of human capital, transmitted to children in proportion to quantity and quality of adult attention. The wealth--transaction cost hypothesis predicts that richer people invest more heavily in all forms of capital, including human capital. Then the richer the parents, the greater the quantity and quality of adult attention the children receive.

A well-known fact supports this prediction: family size declines sharply with wealth. Gary Becker attributes this decline to richer persons' preference for higher "quality" children. For on the one hand, higher quality children require a higher investment of adult time and attention; while on the other hand the parents' time has become more valuable. Hence, fewer children. [Becker, 1976, Chp. 10.]

In this fashion, the wealth--transaction cost hypothesis makes ability and preschool education endogenous variables--instead of leaving them exogenous as does ordinary human capital theory. It also extends the concept of human capital somewhat from an investment in one's own skills to an investment in someone else's skills, notably

parents' investment in their children. As such, it helps explain the highly-educated middle-class housewife. She does not sacrifice her earnings to be a mere caretaker, but to invest in the future earnings of her children. [see Arleen Leibowitz, "Women's Allocation of Time to Market and Non-market Activities: Differences by Education", 1972, on preschool investment in the nurture of children, in Sahota, 1978.]

CHAPTER 11

WEALTH, EDUCATION, AND DISTRIBUTION OF EARNINGS

"[T]he distribution of earned income itself is likely to be more uneven, the greater is the importance of the unevenly distributed income from investments. This result comes about because differences in income from investments make possible different degrees of educational training and afford different opportunities for entering lucrative professions".

A. C. Pigou, The Economics of Welfare, 4th ed., 1932, p. 653.

11.1 Demand and Supply of Education

The education models of Chapter 2 assume that education permits people to convert material capital into an increased personal labor supply. A more educated person can accomplish more in a given time.

Then the wealth--transaction cost hypothesis predicts that richer people invest more in education (including on-the-job training). They respond to their higher initial capital to labor ratio by transforming more capital into labor. This response divides into reasons both of demand and supply.

Demand:

Because they have relatively more assets to manage, richer persons face a higher personal demand curve for their labor. Yet their time costs more. So they demand more education to stretch their relatively scarce labor over more assets. In more common sense terms, the greater opportunities they enjoy make a given purchase of education more productive, and raise the opportunity cost of not purchasing that education. Sec. 3 of Chp. 2 models this relationship.

Suppose further that, as argued, intelligence itself is a form of human capital transmitted directly to young children by their

parents. Suppose that, like formal education or on-the-job training, it increases the amount a person can accomplish in a given time--including acquiring more education or training. Then intelligence makes an investment in education or training more productive, further increasing richer persons' demand.

In predicting an effect of wealth on demand for education, the wealth--transaction cost hypothesis differs from the ordinary human capital approach, which leaves such demand exogenous and independent of wealth.

Supply:

As familiar from Becker and others, capital market failure (due to transactions costs) makes capital relatively cheap to richer people, and their internal discount rate correspondingly low. [Becker, 1975, p. 79.] So they invest more now for future benefits. They supply themselves with more education because it costs them less. Becker estimates an average money rate of return on a college education for white males at between 13 to 15% over a lifetime, or 11% to 13%, corrected for the higher average ability of college graduates. He estimates around 18% (uncorrected for ability) for a high school education, and still higher rates on elementary school education. [Becker, 1975, p. 5, p. 160.] Some estimates put return on an 8th grade education as high as 40%. [Reynolds, 1974, p. 55.]

The fact that even uncorrected estimates show a declining pattern of return suggests to Atkinson that "differences in abilities may in fact be less important than inequality of opportunity" ie. capital cost differences. [Atkinson, 1975, p. 91.] For in a perfect capital market where everyone had the same ability, equilibrium returns must be the

same for all levels of education. But in a perfect capital market with differing abilities, higher education should show a higher return, since it includes a return to a greater endowment of ability. So a falling return shows that effects of capital market failure outweigh effects of variations in ability.

Notice that the declining return to years of education fits with Friedman and others' results described earlier, that the income differential between professions and non-professions exceeds the differential that would equalize the advantage, assuming professionals and non-professionals paid the same cost of capital. In other words, their relatively high cost of capital restricts poorer people to occupations offering a higher, more immediate return.

So the effect of richer peoples' cheaper capital outweighs the effect of their greater ability, when that ability is taken as exogenous. But now suppose that rising ability with wealth results from rising expenditure by parents on preschool care and quality schools. Then, including this expenditure, the returns on years of education would fall even more steeply.

11.2 Education and the Wealth--No Transaction Cost Hypothesis:

The model in Chp. 2 compares the predictions of the wealth--transaction cost hypothesis with an alternate wealth--no transaction cost hypothesis. The latter yields a most bizarre prediction: richer people invest less in education! Why? Because in a world without transactions costs, greater wealth has only an income effect making people work less. Assuming that education increases the effectiveness of labor, people who work less need less education. (Consequently, under the wealth--no transaction cost hypothesis, since education falls

with wealth, richer people actually earn a lower wage!)

Can some other transaction-cost-less hypothesis account for the rise in education with wealth?

The usual approach takes ability as exogenous. Then ability --> education --> income --> wealth. But, as seen, this line of causation predicts that return to education rises with years of education, contrary to fact. And of course the high correlation of background with ability suggests that the more significant line of causation runs wealth --> ability --> education.

Perhaps education does not create productive skills at all, but merely serves as an expensive form of entertainment? Then, even in the absence of transactions costs, richer people might purchase more education. This proposition simply doesn't hold up.

For example, human capital theory predicts, and reality confirms, that people obtain most of their education at the beginning of their lives, when it yields the greatest return as an investment. Education as entertainment yields no such prediction. If anything, it suggests people would get more education after retirement.

In addition, what about women? Suppose that while women may inherit intelligence, early education, and material wealth just like their brothers, they don't inherit the same status--the same opportunities and expectations. They are not expected or allowed to take as much responsibility for family wealth, (except for the early education of children.) Then the wealth--transaction cost hypothesis predicts women obtain less education than their brothers. The no-transactions cost hypothesis, with education as entertainment, if anything predicts the opposite. If men are expected to earn income, that leaves women more

freedom to entertain themselves with education.

In fact, of course, women do obtain less education than men of the same background. But the difference has narrowed over time as the economic status of women has approached that of men. (A hundred years ago, an upper class woman's education consisted of foreign languages--for travel abroad; and music and art--to better amuse a husband.)

What about the proposition that education in fact serves as a screening device for employers? [Taubman and Wales, 1974.] There must be some truth in this proposition. Employers do tend to judge potential employees by characteristics of the group they belong to. But, as Becker points out, if education contributed little to skill, job-seekers could undergo extensive tests, at their own or employers' expense, depending on skills involved. That would surely prove their competence more cheaply than four years of college. [Becker, 1975, p. 11.]

Moreover, the hypothesis of the "sheepskin effect" relies on the existence of substantial transactions costs. So it cannot, in some convoluted way, help explain why richer people might get more education in a world without transactions costs.

So the fact that richer people get more education is an anomaly that traditional transactions-cost-less economics cannot explain. Why has noone noticed this anomaly? I suggest that on the one hand, economists just assume richer people get more education because they can "afford to." They often forget that, absent transactions costs, poorer people could "afford to" as well, by borrowing. On the other hand, economists may casually assume the 'ability --> education --> income --> wealth' line of causation. Thus, richer people are richer because they get more education, rather than the other way around.

11.3 Distribution of Earnings

As Becker shows, human capital theory can explain the upward skew in the distribution of earnings. [Becker, 1975, p. 86.] Suppose at the simplest, ability and educational investment are symmetrically distributed. Given a positive correlation between ability and demand for education, the resulting product of two symmetrical distributions--"educated ability"--is skewed upward, and hence earnings is skewed upward. The greater the correlation, the greater the skew.

The wealth--transactions cost hypothesis gives further reasons for a skew: If ability in fact represents human capital invested in young children by their parents, the distribution of ability reflects the upwardly skewed distribution of wealth. At the same time, the cost of education falls with the skewed distribution of wealth. So both ability and educational investment are skewed to begin with. And they are even more highly positively correlated than would be predicted just from the fact that greater ability raises the return on investment in education.

The models of Chp. 8 suggest a further possible explanation for the skew in the distribution of wealth: a tendency to a dual distribution from the combined effect of the wealth--transaction cost hypothesis and the wealth--future-orientation hypothesis.

11.4 Education and Wage

The rise in education with wealth helps explain why the rise in wage with wealth has not appeared anomalous. The rise in wage does not smack of market failure like the fall in the cost of capital because "obviously" better-educated people earn higher wages. And as noted, under the life-cycle hypothesis, the rise in the education poses no problem: people get richer because, due to greater education and/or

ability, they earn a higher wage.

CHAPTER 12

WEALTH, LABOR SUPPLY, AND WORKING CONDITIONS

12.1 Hours of Labor, With and Without Transactions Costs

The models of Part I assume that labor supply curves do not "bend backward". That is, as a person's wage increases, the "substitution effect" outweighs the "income effect" and labor supply continues to increase, though at a decreasing rate.

In fact the models assume further that, under the wealth--transaction cost hypothesis, labor supply rises with wealth. The substitution effect of the rising wage still outweighs the income effect of rising labor and property income. The curve rises steeply at first, then flattens. This is a convenient and harmless assumption: If in fact labor supply rises and then falls again with wealth, the other effects of transactions costs become more dramatic.

By contrast, under the alternative no-transaction cost hypothesis, labor supply necessarily falls with wealth. For there can be no substitution effect at a constant wage. In fact, as shown in Chp. 1, labor supply must fall at an increasing rate. Moreover, as shown in Chp. 2, if education and therefore wage fall with wealth, labor supply must fall even faster.

So the wealth--transaction cost hypothesis and the wealth--no transaction cost hypothesis yield strikingly different predictions about labor supply as a function of wealth.

12.2 Evidence on Hours of Labor

In primitive economies, hours of labor are astonishingly low. Hunter-gatherers work perhaps two to four hours a day, depending on

tribe, including all food collection and preparation. [Sahlins, 1972, Chp. 1.]

In modern economies, as Linder observes [1970, p. 28ff], there are two kinds of labor, specialized labor performed for pay (actual or imputed), and personal labor. Personal labor includes personal maintenance, such as brushing teeth, preparing food, caring for children; and maintenance of consumer goods, such as cleaning and repairing clothing, home, appliances and car.

Studies of labor supply mostly measure specialized labor. (Most economists in fact write as if personal labor did not exist; they subsume both personal labor and consumption time under "leisure".) So, since men perform proportionally more of specialized labor, data on men gives a better indication of the relationship of wealth to labor supply.

In modern economies, hours of (specialized) labor have fallen substantially over time, from around 60 hours a week at the turn of the century to around 40 since World War II. This fall has traditionally been explained as "income effect". However, as Becker and Linder suggest, it may be that the "productivity" of time spent in consumption and personal labor has increased. That is, it takes more time to enjoy modern consumption opportunities, and to maintain proliferating modern consumer goods. [Becker, 1976, p. 103; Linder, 1970.]

In cross-section, male labor declines much less than over time. Holding education constant, male labor supply curves may bend backwards a little as wage rises. (Married female curves do not bend backwards.) Not holding education constant, wage and labor supply show no clear relationship. [eg. Finegan, 1962; Rea, 1974.] However, labor force participation rises steadily with education among "prime-age" males

(from 25 to 54); in the 1960 Census, from 89% for 0-4 years education, to 99% for 17+ years education. [Bowen and Finegan, 1969, p. 54.]

Moreover, higher earning persons live longer and work longer, increasing their lifetime labor supply.

So the male labor supply curve as a function of wage seems close to flat over a large range. At the lower end of the range, married blue collar workers reduced their effort little if at all in a negative income tax experiment--even though both income and substitution effect operated together to discourage work. (The experiment did produce a 30-40% decline in work of white wives, less for Spanish-speaking wives, and apparently none for black wives.) [Watts, Cain, 1974.] Higher in the range, there is abundant evidence that high income taxes don't make middle-class males work significantly less. [Holland, 1969.]

Below the flat range are the lower class poor: frequently unemployed or non-participant. (Census figures probably overstate participation in the lower ranges, due to greater undercounts of non-participants.) Such people have a "low labor force attachment". They work when they need money to survive, and quit when they don't. [see Banfield, 1974; Lewis, 1966 ... and any number of other sociological studies of the poor.] This kind of behavior suggests their labor supply curve is steep; small changes in wage or income may produce large changes in effort. As Bowen and Finegan observe, "whether a man with very limited job horizons even bothers to look for work is likely to be quite sensitive to how much more he can expect to receive in wages than from welfare." [Bowen and Finegan, 1969, p. 54].

As for women: 1970 Census data on wives shows that probability of working and median earnings rise and then fall again as husbands'

earnings rise. [Cited in Thurow, 1975, p. 6.] Logically, high-earning husbands concentrate more on specialized work, leaving proportionally more of the family's personal work to their wives. Unlike men, women seem to respond to higher wages by working more; in fact they probably mostly substitute specialized for personal work.

12.3 The Evidence and the Theory

Noone has apparently tried to plot labor supply as a function of wealth, instead of wage or income. However, the evidence appears to support the predictions of the wealth--transaction cost hypothesis better than those of the no transaction cost hypothesis.

Why has no one apparently thought it odd that the middle class and rich work harder than the poor?

For a start, the rise in labor with wealth poses no problem under the income fundamentalist perspective: richer people are richer partly because they work more.

Another easy explanation for the rise in labor unwittingly assumes transactions costs: What is the "obvious" reason the middle class works harder? Because possessors of human capital must accompany their capital to work. Middle class professionals work long hours because they cannot otherwise enjoy the fruits of their investment. To be sure, a physician can hire assistants--but he must supervise them closely... This is the wealth--transaction cost hypothesis again, with a vengeance. If transactions costs hinder the combination of one person's labor with another's material capital, they doubly hinder the combination with another's human capital.

Finally, one might argue that middle and upper classes work more because they enjoy better working conditions. According to Bowen and

Finegan, participation rises with education in part due to greater "access to the cleaner, more interesting, more pleasant jobs." [Bowen and Finegan, 1969, p. 53.] But this argument considers working conditions intrinsic rather than partially determined by demand. And it puts the cart before the horse; perhaps middle and upper classes enjoy better conditions because they are richer and work more.

12.4 Conditions of Labor

Why do conditions of labor generally improve with rates of pay? After all if true wages consist of pay plus conditions of labor, then shouldn't the highest pay go to those who do the nastiest work, like farm workers or coal miners? But in fact, higher pay compensates for worse conditions only holding skill constant. (Thus the same factory worker gets a premium for working the swing shift, and the same pilot makes a small fortune flying crop-dusters.)

First of all, if nice working conditions are normal goods, then demand for them rises with income or wealth. So richer persons "buy" more of them, either from employers or at a sacrifice in profits to the self-employed.

Second, improvement in working conditions also follows directly from increasing scarcity of time with income or wealth. For as Becker and Linder emphasize, consumption requires time. The scarcer the time, and the longer the working hours, the greater the pressure to consume on the job. So the executive's "business" golfing weekend, or the doctor's convention in Acapulco, -- are perhaps not so frivolous. Busy, highly-paid people may have to combine business with pleasure or forgo pleasure altogether.

Finally, to the extent working conditions genuinely inhere in a

job, richer people have a comparative advantage in getting nicer jobs.

(Notice that improved working conditions follow from higher wages whether those higher wages originate in greater wealth or greater skill.)

CHAPTER 13

WEALTH, MANAGEMENT AND CHOICE OF ASSETS

To improve land with profit, like all other commercial projects, requires an exact attention to small savings and small gains, of which a man born to great fortune, even though naturally frugal, is very seldom capable... He embellishes perhaps four or five hundred acres in the neighborhood of his house, at ten times the expense which the land is worth after all his improvements; and finds that if he was to improve his whole estate in the same manner, and he has little taste for any other, he would be a bankrupt before he has finished the tenth part of it. (p. 166)

A small proprietor, however, who knows every part of his little territory, who views it with all the affection which property, especially small property, naturally inspires, and who upon that account takes pleasure not only in cultivating but in adorning it, is generally of all improvers the most industrious, the most intelligent, and the most successful. (p. 179)

Adam Smith, The Wealth of Nations, Britannica, 1952

13.1 Management of Assets

The wealth--transaction cost hypothesis predicts that where richer and poorer persons occupy similar land, richer persons use the land less intensively. They apply less labor per acre, and obtain less output per acre--though necessarily more output per manhour. But under the alternative wealth--no transaction cost hypothesis, wealth of owner does not affect management of land.

However, the wealth--transaction cost hypothesis also predicts that richer persons have a comparative advantage in owning better quality land. Better quality land yields more output for given labor input. This difference in choice of land quality may obscure some of the differences in management between richer and poorer owners, while emphasizing others.

Table 13.1 summarizes a few significant differences in management between richer and poorer landowners, engaged in the same activity (like agriculture or housing). Table 13.1 is simplified from the results of Chp. 5, summarized in Table 5.1. The first measure, cycle length, refers to the frequency of replacement of improvements. This includes the frequency of cutting trees, or harvesting crops (where more than one crop a year is possible), replacing equipment or buildings. It also includes the rate of inventory turnover, and time from start to finish in manufacturing. The last measure, capital turnover, equals output divided by property value. Other measures are self-explanatory.

Some measures of difference depend on whether the improvements are appreciating, like timber, or depreciating, like buildings, roads, and other "fixtures". Notice that for appreciating improvements, on the same quality land, richer people show a higher ratio of improvement to land value. For depreciating improvements, on the same quality land, they show a lower ratio of improvement to land value.

Other measures may depend on the extent to which richer people occupy better quality land. Both columns labeled "better quality land" refer to the consequences of better quality, all else being equal, including wealth of landowner. For example, all else being equal, better quality land yields higher output per acre. So if richer people occupy better quality land, they may obtain higher output per acre than poorer people obtain from lower quality land. The greater the difference in land quality, the more likely richer people obtain more output. The greater the difference in wealth, the less likely richer people obtain more output.

The effect of difference in quality of land may obscure the

Table 13.1 (Derived from Table 5.1)

Economic Measure	Appreciating Capital (TREE MODEL)				Depreciating Capital (BUILDING MODEL)			
	Grtr Wealth		Better Land		Grtr Wealth		Better Land	
	Obser ver	Owner	Lower Labr	Higher Prod	Obser ver	Owner	Lower Labr	Higher Prod
1. Cycle length:	+	+	-	-	+	+	-	-
2. Cycle x discount:	+	- mstly*	-	-	+	- mstly	-	-
3. Output/cycle:	+	+	-	+	+	+	-	+
4. Gross income/acre:	+ ir† - dr	+ ir - dr	- ir + dr	+	-	-	+	+
5. Labor/acre:	-	-	- mstly	+	-	-	-	+
6. Labor cost/acre:	-	+ mstly	-	+	-	+	-	+
7. Rent/acre:	0	-	+	+	0	-	+	+
8. Profit/acre:	+ th-**	-	+	+	+ th-	-	+	+
9. Av. prod. labor:	+	+	+	+	+	+	+	+
10. Labor share:	-	+	-	-	-	+	-	-
11. Rent share:	- ir + dr	-	+	+	+	-	+	+
12. Profit share:	+	-	+	+	+	-	+	+
13. Land value/acre:	0	0	+	+	0	0	+	+
14. Total val/acre:	+	+ mstly	+	+	-	+ mstly	+	+
15. Impr. val/acre:	+	"	- or?	+	-	"	-	?
16. Impr. val/land value	+	"	-	-	-	"	-	-
17. Capital turnover:	-	- mstly	-	-	-	-	-	-

Observer: as measured by outsider. Owner: as measured by owner.

Lower labor: less labor/unit output. Higher prod: more output/unit labor.

* "mostly". † Increasing returns and decreasing returns to time. ** "+ then -" as cycle length goes from min to max.

difference in length of cycle and labor per acre, as well as output per acre. Unfortunately, a great deal of empirical material comparing property owners of different wealth fails to record quality differences in land. Fortunately, two measures distinguish richer and poorer landowners regardless of land quality or use: richer landowners always obtain higher output per manhour, and they always show lower capital turnover (ratio of output to property value). In addition, for depreciating improvements--buildings, machinery, etc., richer landowners always show a lower ratio of improvement to land value.

13.2 Literature and Empirical Evidence on Management of Assets

As in the quotation above, Adam Smith loves to take a dig at "the great proprietor." He goes further: comparing the British colonies in America to the Spanish colonies, he attributes the prosperity of the former to the predominance of small farmers, and the backwardness of the latter to the great estates of the nobility. [Smith, 1952, p. 246.]

Henry George, in Progress and Poverty, makes a central issue of the landowner who "prevent[s] others from using or improving what he cannot or will not use or improve himself". [George, 1879, p. 401.] He clearly associates this "withholding of land" with the wealth of landowners--though he somewhat inconsistently explains it by "speculation."

In an unpublished dissertation and in subsequent articles, Mason Gaffney assembles very extensive empirical evidence on the lower intensity of land use by wealthier landowners. He attributes this lower intensity to lower internal discount rate, due to capital market failure. However, he does not note the complications introduced by the systematic difference in the choice of land quality between richer and poorer landowners. [Gaffney, 1956, 1961, 1975.]

13.3 Agricultural Data

It is a truism of the economic development literature that small landholders do indeed cultivate land more intensively than large landholders. Development economists do not explain this fact by any broad reference to transaction costs, but simply on grounds that tenants lack security for their improvements, landlords hold "traditional" views inconsistent with proper modern management, and so forth. However, from this fact originates the "efficiency" argument for land reform: Redistributing land from large landholders to peasants raises employment and output, facilitating economic development. [Dorner, 1972.]

Table 13.2 shows data from seven South American countries on hectares/worker and percent of land cultivated on different size landholdings. Hectares per worker rises dramatically with size of landholding, from 2.15 to 75.4. Percent of land cultivated falls, from 55% to 16%. These crude figures may understate the differences between small and large landholdings, since larger landholdings generally occupy better quality land.

Figure 13.1 shows data assembled by Peter Dorner on output per hectare for different farm size groups in eight different countries, all underdeveloped except for Japan. All the countries show at least some and often substantial decline in output per hectare with farm size. According to Dorner, the data probably understates the decline for various reasons, including the fact that smaller farms use less capital per hectare. Japan shows an increase and then a decline. But as Dorner notes, the data does not include the fact that the Japanese multiple-cropping ratio consistently declines as farm size increases. [Dorner, 1972, p. 123.]

Table 13.2

Farm Size and Workers for Seven Latin American Countries*

Farm Size	Farm Land 489.5 mil Hectares	Workers 20.3 mil	Hectares/ Worker	% of Land Cultivated
Minifundia	2.3%	26.1%	2.15	55%
Family Farms	20.8%	26.1%	19.25	29%
Smaller Latifundia	24.1%)	29.6%	19.65	33%
	> 76.8%			
Larger Latifundia	52.7%)	18.2%	75.4	16%

Adapted from Ernest Feder, The Rape of the Peasantry, Anchor Books, New York, 1971, p. 31. Farm size categories are defined by a rough estimate of productivity rather than pure size. The minifundia are peasant plots too small to support a family. The family farms just support a family. The latifundia can support many families. The data was collected by CIDA, the Inter American Committee for Agricultural Development, organized in 1962 under the Charter of Punta del Este of 1961.

* Argentina, Brazil, Chile, Ecuador, Guatemala, Colombia, Peru.

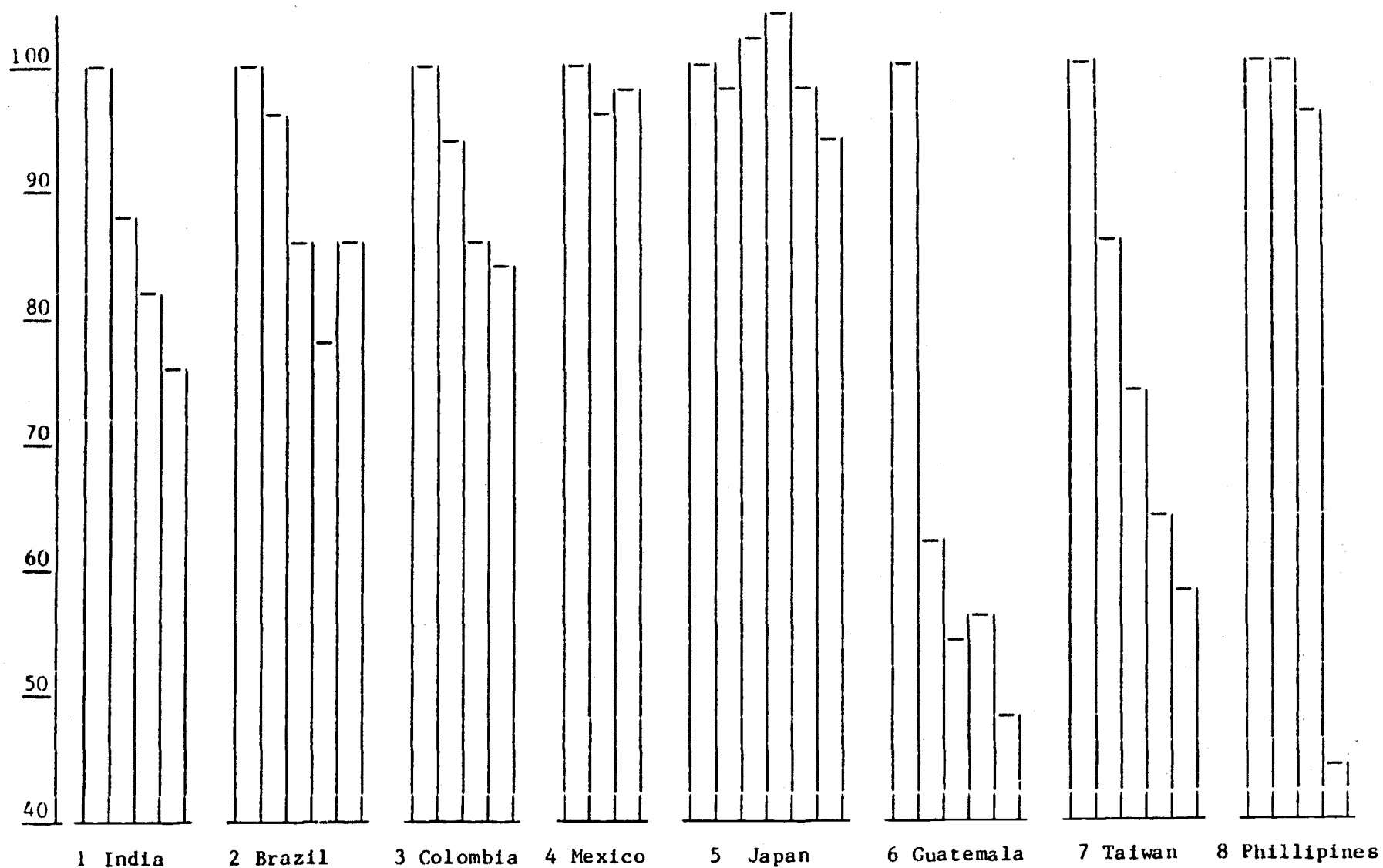


Fig. 13.1: Output per hectare for farm size-groups. For each country, bar at left represents output per hectare for smallest farm size-group; bars to the right represent successively larger farms with their output per hectare expressed as a per cent of that of the smallest size-groups. [Dorner, 1972, Figure 1, p. 121].

Notes to Figure 13.1, Dorner's Figure 1

1. [India] From data for the mid- and late-1950's gathered by the Studies in Economics of Farm Management, Ministry of Food and Agriculture, Government of India, New Delhi. Output as gross value in rupees per acre. Long classified actual farm sizes into four size-groups -- smallest, second smallest, second largest, largest -- for each of eight areas in seven states, and presented output per size group as the average of the eight areas. Data from more than 1000 farms from seven states [Long, 1961].
2. [Brazil] Output as net sales per productive hectare, in thousands of cruzeiros (1963). Actual farm sizes included in each size class are: (a) 0-10 has.; (b) 10.1-20 has.; (c) 20.1-40 has.; (d) 40.1-100 has.; (e) more than 100 has. Sample of 311 farms. [Johnson and Buse, 1967].
3. [Colombia, 1950] Output as per cent of value of subfamily (smallest) farm production per cultivated hectare. The authors classed actual farm sizes into four groups: subfamily, family, multifamily medium, and multifamily large. Based on National Census data. [Barraclough and Domike, 1966].
4. [Mexico, 1960] Output as gross value per hectare of arable land, in pesos. Actual farm sizes included in each size-class are: (a) less than 5 hectares in the private sector (average about 1.45 has.); (b) ejido lands averaging about 7 hectares per ejido member (only about 2 per cent of 1.6 million ejido members engage in collective farming); (c) more than 5 has; in the private sector (average about 27 has.). Based on National Census data. [Dovring, 1969].
5. [Japan, 1960] The author uses data from the Japanese Farm Household Survey of 1960. Output as total receipts per cho minus fertilizer costs per cho, for seven crops. Farm sizes are classified into six groups: (a) less than 0.3 cho; (b) 0.3-0.5 cho; (c) 0.5-1.0 cho; (d) 1.0-1.5 chos; (e) 1.5-2.0 chos; (f) more than 2.0 chos. One cho is slightly larger than one hectare [USDA, 1965].
6. [Guatemala, 1950] Output as value product per utilized hectare for nine selected crops, in US dollars. Farms are classified into five groups; micro farms, subfamily, family, multifamily medium, and multifamily large. [Comité Inter-americano de Desarrollo Agrícola, CIDA, 1965].
7. [Taiwan, 1965] Output as net farm income per chia, in thousand NT dollars. Actual farm sizes are: (a) under 0.51 chia; (b) 0.52-1.03 chias; (c) 1.04-1.54 chias; (d) 1.55-2.06 chias; (e) over 2.07 chias. One chia is 0.9699 hectare. [Christensen, 1968].
8. [Philippines, 1963-4] Output in kilograms per hectare per year. Farms were placed in four groups: (a) below 1.0 ha.; (b) 1.1-2.0 has.; (c) 2.1-3.0 has.; (d) above 3.0 has. Figure depicts relative productivity for share tenants in Barrio Balatong B. [Ruttan, 1966].

The pattern reappears, though less dramatically, in the United States. For example, Dorner cites a study which compares land per worker in the smallest and largest size classes, attempting to hold land quality constant, for India (Madhya Pradesh), Chile (Central Valley), and the U.S. (Illinois). India shows 1.6 acres per worker for smallest farms and 15.6 for largest, a ratio of about 1 to 10. Chile shows 1.1 and 16.6 acres respectively, a ratio of about 1 to 15. The U.S. shows 74 and 219 acres respectively, a ratio of about 1 to 3. [Kanel, 1967, p. 29, cited in Dorner, 1972, p. 101.]

13.4 Urban Data

The pattern also shows up in urban land use. Three examples:

In a study of Washington D.C. Census tracts, geographer Harold Brodsky found that residential improvement values rose with the 1.3 power of income, while land values rose with the 1.8 power. [Brodsky, 1970, p. 239.]

A second example comes from Sternleib and Burchell's study of residential abandonment in a deteriorating area of central Newark. [Sternleib and Burchell, 1973.] They found that "well-kept parcels tend to be owner-managed and to be in the hands of people who had no other holding, with a third of the poorly kept versus two-thirds of the well-kept in such hands". [p. 69.] In general, owners of well-kept parcels were poorer, both in terms of property and reported income. They had purchased their property recently and held it heavily mortgaged or otherwise financially burdened. (Slum property often sells on contract, conventional mortgages being unavailable.)

Owners who neglected and abandoned tended to be richer (in this case, mostly lower middle class), absentee, had held their property longer and

owned it free and clear. Sternleib and Burchell found the wealthy slumlord to be a "myth". Property owners of any means are the first to sell or abandon property when neighborhoods decline. Slum property is a risky, marginal, labor-intensive investment. It attracts only those, such as minorities, who lack better opportunities and impute very low wages to themselves.

Slum land values often approach zero. A third example comes from the opposite end of the land value scale: central business district land. Two studies, one of San Francisco, and the other of Seattle found a similar pattern: Estates and trusts own a large share of central business district land. In San Francisco in 1960, 19% of parcels, 31% of more valuable property (over \$250,000 assessed value), and 16% of less valuable property (under \$250,000 assessed value) belonged to estates. [Monsen, 1961.] (At the 1960 assessment ratio of about 6%, \$250,000 comes to over \$4 million). In Seattle in 1966, 36% of properties and 23.5% of assessed value belonged to estates and trusts. [Seyfried and Appelo, 1966.] Compared to properties belonging to individuals, partnerships, or corporations, these properties rarely sold. They also showed higher ratios of land to building values. That is, the properties tended to be under-improved or blighted. This is significant because, as noted in Chp. 10, estates are probably the most concentrated form of wealth in the United States.

13.5 Security of Assets

Chp. 6 suggests that richer people and managers of larger firms consume more security, defined as relatively low riskiness (proportional variability) of income, and lower downside (or higher upside) risk. However, their lower riskiness may come at the expense of opportunities

Table 13.3

Average Portfolio Allocation to Bonds and Cash for Different EstateSizes (Male):

<u>Size of Estate</u>	<u>Age</u>		
	<u>30-40</u>	<u>55-60</u>	<u>75-80</u>
\$70 - 80,000	12.0%	20.2%	26.2%
\$100 - 120,000	11.5%	19.1%	23.5%
\$200 - 300,000	11.4%	15.3%	20.7%

From Robert Lampman, Share of Top Wealth-Holders in National Wealth, 1922-56, NBER, Princeton, 1962, from [Stiglitz, 1969, p. 268.]

for large gain as by innovation. On the other hand, their lower discount rate may give them a comparative advantage in holding illiquid assets.

Pratt and Arrow argued almost simultaneously that while richer people might take larger absolute risks--the classic argument of Bernoulli--they take smaller proportional risks. [Pratt, 1964; Arrow, 1965.] Ironically when Stiglitz tried to test this hypothesis a few years later, he chose to measure personal liquidity. To his distress, he found that bonds and cash as a proportion of net worth fall with wealth, as shown in Table 13.3 above. [Stiglitz, 1969.] (Notice that bonds and cash rise with age, as one might expect if the approach of death shortens one's time horizon and increases one's insecurity.)

But there is plenty of other evidence suggesting consumption of security rises with wealth. For instance, statistics show that lower paid people much more commonly quit jobs on impulse, without previously lining up a new job. [Matilla, 1974.] And of course richer people hold more secure jobs, and less marginal assets.

However the best evidence comes from business, and will be presented in Chapter 17.

13.6 General Patterns of Personal Asset Holding

Table 13.4 shows a breakdown of personal assets: the shares of total assets in a category held by the richest 0.5% and 1%; and the distribution of assets within categories for the top 0.5%, the second 0.5% and the bottom 99%.

The patterns seem consistent with the wealth--transaction cost hypothesis. For instance, notice that the richest 0.5% own 44% of corporate stock, and keep 54.4% of their wealth in the form of stock. The wealth--transaction cost hypothesis suggests that a) there should be a close relationship between the richest people and the largest corporations; and b) richer people prefer assets that deliver more of their value in the future, notably corporate stock. Of course the table doesn't show what is quite certainly true: richer people hold proportionally more blue chip stock--thus they can get their appreciation without undue riskiness, at a sacrifice in yields, of course.

Notice also that the richest 0.5% owns 85.2% of trusts! Trusts are about the least liquid of assets, but deliver all or most of their value far in the future--whatever value a bungling generation of bank trust officers has left.

Table 13.4

Distribution of Assets, 1969

<u>Asset</u>	Share held by richest		Distribution of holdings among asset classes		
	0.5%	1%	Top .5%	Next .5%	Bottom 99%
Real estate	9.8%	14.4%	17.4%	30.4%	37.5%
Corporate stock	44.0%	50.8%	54.4%	32.3%	19.1%
Bonds	32.0%	35.9%	9.4%	4.4%	4.7%
Cash	9.7%	14.4%	7.2%	13.1%	15.6%
Debt instruments	25.7%	34.7%	3.3%	4.4%	2.1%
Life insurance	6.6%	10.8%	1.3%	3.1%	4.2%
Miscellaneous & trusts	15.2%	18.9%			
Trusts	85.2%	91.6%			
Miscellaneous	7.4%	10.8%	7.0%	12.3%	20.8%
Total assets	18.9%	23.8%	100.0%	100.0%	100.0%
Liabilities	13.6%	18.0%	11.3%	14.0%	16.9%
Net worth	19.9%	24.9%			

Note: The categories "Miscellaneous & trusts" and "Trusts" overlap with other categories, so the totals do not add up.

James D. Smith and Stephen D. Franklin, "New Dimensions of Economic Inequality: The Concentration of Personal Wealth, 1922-1969," AER, May 1974, Vol. 64, No. 2, pp. 162-167, p. 166.

Percentages in last 3 columns computed by author.

CHAPTER 14

SOCIAL CLASS AND THE WEALTH--TRANSACTION COST HYPOTHESIS

"I was told that the Privileged and the People formed two nations."

Benjamin Disraeli, Sybil, 1845.

14.1 Social Class Due to Comparative Advantage

Ordinary transaction-cost-less economics offers no predictions on social class. Social class, let alone the rigid castes of traditional societies, necessarily remain an exogenous "cultural" phenomenon. By contrast, the wealth--transaction cost hypothesis predicts the existence and many characteristics of social class.

First of all, the wealth--transaction cost hypothesis predicts that persons of similar wealth tend to deal preferentially with one another. Why? Because the richer a person, the more he prefers to hire labor from or entrust property to more skilled, reliable persons. This saves his precious time, at the cost of higher pay, or lower rent or interest payments, as shown in the models of Chapter 2. But, as also shown in Chapter 2, skill rises with wealth, since richer people invest more in education. So richer people prefer to hire or rent to other richer people. Moreover, apart from skill, nepotism makes good economic sense in a world of transactions costs. For, people know more about their relatives to begin with, and (hopefully) relatives require less watching.

Second, as noted, richer people enjoy a comparative advantage in acquiring better quality land: better located or more fertile or richer in minerals, etc. Land quality normally varies continuously from place to place. So people of similar wealth tend to own adjoining property, reenforcing their tendency to deal preferentially with one another.

It is easy to imagine what these two predictions mean in an economy without specialized skills, and with only one industry, such as a very simple agrarian economy. There would be just a social continuum, with the richest hiring and renting to the slightly less rich, and so on down to the poorest, who would work for and/or rent from the slightly better off. The richest would occupy the best land, the next richest the adjoining next best land, and so on until the poorest occupied the most remote and marginal land.

But imagine an economy advanced enough to support specialization both of labor and of industry. Then, third, the wealth--transaction cost hypothesis predicts that wealth endowment, both material and human capital, determines a person's comparative advantage in all investments, including choice of occupation. A person with a small endowment, and so a high capital cost and low labor cost, invests in labor-intensive things, such as a manual occupation, a run-down rented apartment, and a second-hand Chevy. A person with a large endowment, and therefore low capital and high labor cost, invests in capital-intensive things, such as an MD, a suburban mansion with five acres of land, and a new Mercedes (or two).

These predictions combined suggest that in an advanced economy, the social continuum becomes segmented into a hierarchy of discrete social classes determined by occupation. In exactly this way, according to location theory, a continuum of land around a city becomes segmented into discrete rings of, say, fruit, wheat, and grazing, depending on the ratio of value to transportation costs.

Occupational specialization by wealth on the one hand reenforces the tendency of persons of similar wealth to associate. Doctors and lawyers deal regularly with other doctors and lawyers, farmworkers and

coal miners with other farmworkers and coalminers. On the other hand, occupational specialization forces people to deal with others across large gaps in wealth. Most people need doctors and lawyers, and doctors and lawyers need secretaries, garage mechanics, and housekeepers.

Despite this complexity, the wealth--transaction cost hypothesis offers another prediction: the wealthiest people deal with the tops of occupational classes, and the poorest with the bottoms. The best lawyers visit the best doctors and vice versa. The poor find third-rate shysters and quacks, or do without medical and legal services. Wall Street stockbrokers hire the creme de la creme of upwardly mobile, Latin American housekeepers, while Main Street insurance agents complain of the high cost and unreliability of working class teenage babysitters.

14.2 Social Class and Social Mobility--Some Evidence

The lower a society's social mobility, the more striking the division into social classes. Moreover social mobility, or the lack of it, offers the clearest measure of the impact of inheritance, as opposed to luck or life cycle.

In traditional societies, class and occupation coincide. For example, hundreds of castes make up traditional Indian society. Each caste has its particular specialty, and its clear rank in the hierarchy. The top castes own most of the land, and the bottom castes own nothing. Families arrange marriages for economic advantage, strictly within the same caste. Social mobility is virtually nil.

The greater social mobility of the United States blurs class lines, so that division by occupation no longer seems so obvious. Most sociologists nevertheless do define class by occupation, but they may add other measures, such as property ownership, income, and education.

How great is US social mobility? By international standards, U.S. mobility is very high, perhaps the highest in the world. Yet in an absolute sense, US social mobility is surprisingly low, and--Horatio Alger notwithstanding--probably was even lower a hundred years ago.

Thernstrom's study of unskilled laborers in Newburyport, Mass., from 1850 to 1880 proves very revealing. [Thernstrom, 1964.] Census figures divided occupations into four categories: unskilled--under 10%; semiskilled--about 25%; skilled--about 40%; and non-manual, including small businesses and farms. Such an occupational structure clearly offered ample room for mobility to unskilled laborers. [p. 91.] Thernstrom examined Census and other data on the unskilled laborers who stayed in Newburyport for ten years or more. Of these, only one in twenty made it into the "non-manual" class during his first decade in the city--mostly by acquiring a subsistence farm. One in ten made it into skilled occupations, and more into semiskilled, but two thirds remained in unskilled occupations. The sons of these laborers did somewhat better; the majority entered semiskilled occupations, and 17-37% entered skilled trades. [Thernstrom, 1964, pp. 112-113.]

Yet these were already a select group of men; the majority of unskilled laborers did not remain from one Census to the next but drifted elsewhere in search of work. And they were select in another way too: most of them acquired property, usually small houses, and kept small savings accounts. Ironically, fathers often achieved this modest success at the expense of their childrens' occupational advancement--by sending the children to work early instead of to school. [p. 155.]

Thernstrom considers Newburyport fairly representative of nineteenth century US mobility. By comparison, he cites studies in England showing

lower mobility; common laborers virtually never owned property. [p. 116.] He also reviews a number of studies of 20th century US mobility. These show the same pattern, but somewhat higher mobility into white collar occupations. He estimates that, while a hundred years ago something like one in ten children of working class families made it into the middle class, today two to three times as many make it. He suggests that both the increasing importance of white collar occupations, and improved educational opportunity account for the increase. [p. 220.]

More recently, Jencks and collaborators in Who Gets Ahead? stress the importance of background in economic success. From comparing brothers to men in general, they find "family background as a whole explained about 48 per cent of the variance in occupational status and 15 to 35 percent of the variance in earnings among men aged 25 to 64 in the early 1970's". [Jencks, 1979, p. 81.]

Brittain finds an even greater inheritance of economic status. [Brittain, 1977.] He uses a detailed survey of 659 person who died in Cleveland in 1965-65 and a follow-up survey of their survivors. Inheritance of material wealth plays relatively little role among these people. However, economic status as measured by occupation, education and residential quality proves strongly hereditary. Brittain estimates socioeconomic background and education accounts for as much as two-thirds of variation of measures of success, education itself being partly determined by background. [p. 3.] In one sample, he ranks 144 married sons and their (deceased) fathers into ten socio-economic levels. Of the 14 sons of fathers in the top level, 7 stayed at the top, 4 fell to the second level, 2 to the third, and one to the fourth. Of the 14 sons of fathers in the bottom level, 6 stayed at the bottom, and the

rest rose to the 9th through 6th levels. This study shows alot of mobility, yet not one son from the top fell into the lower half, and not one from the bottom rose into the upper half. [p. 22.] In addition, Brittain finds a strong tendency to marry at the same socioeconomic level: "parents' economic status was transferred to daughters almost to the same extent as it would have been if they had married their brothers." [p. 24]. (Shades of traditional India!)

Finally, what about the top of the heap who own most of the material wealth? Figures cited in Chp. 9 suggest alot of mobility--say one third to one half self-made among the top 1% or 0.1%. But where do these self-made men come from? Brittain suggests they come mostly from the highly educated and skilled professional class--the top 5% or above. They may make enormous fortunes, but barely change social rank. The poorest of Lampman's richest 1.6% of adults left estates of only \$60,000! Thus a man who inherits \$100,000 and turns it into \$10 million may move only from the bottom to the top quartile of the top 1%.

CHAPTER 15

RETURN ON INVESTMENT, SAVINGS AND GROWTH

"There was a notion that those who had large capitals obtained a great amount from society in proportion to what they gave it. This was, however, entirely a mistake. It was the large capitalists that had to work for the smallest proportionate return. Take the case of Sir Thomas Brassey, who, on contracts amounting to £78,000,000, made a total profit of £2,500,000, or 1/2d, in the shilling. What small shopkeeper would do his business at that return?"

Alfred Marshall, in discussion following his 2nd lecture on Progress and Poverty, 1883. [Stigler, 1969, p. 198].

"[T]he rich obtain a higher yield on their property than do the poor, presumably partly because they are better informed through financial advisers but partly because with larger properties risks can be taken and spread more easily so that the average yield is higher. The result is that the concentration of income from property is even more marked than the concentration of property ownership itself..."

James E. Meade, Efficiency, Equality, and the Ownership of Property, 1964, p. 27.

15.1 Get Spectacular Returns on Investment: Be Poor!

According to the wealth--transaction cost hypothesis, return on investment falls with wealth. After all, suppose richer people do pay or impute a lower marginal cost for capital. Then they should invest capital until, in equilibrium, that lower marginal cost equals a lower marginal product. So, in equilibrium, richer people must get a lower return on investment.

However, I suspect a lot of people may find it hard to swallow that the rich get a lower return on investment. In the popular demonology, and in the minds of leftish economists like Meade, the rich have their cake and eat it too: more income and higher returns. There are two main sources of confusion:

First, middle class entrepreneurs becoming rich obviously do obtain

extraordinarily high returns on investment. That's how they get rich. Such entrepreneurs tend to catch the public eye more than, say, the heirs of a rich family whose chronic low returns drag them back down into the middle class.

Second, on financial investments, richer people get a higher cash return than poorer people--for obvious reasons: transactions costs make it much cheaper for bankers and brokers to handle large investments than small ones. For example, economist Thomas Atkinson estimated returns on financial investments for Wisconsin individuals in 1949, a time of little inflation. He found people with incomes under \$5000 averaged a 3.7% return, while people with incomes over \$50,000 averaged a 6.8% return. Meade's claim that the rich get a higher yield on their property rests upon data like this from England. But, as Atkinson acknowledges, richer people's higher cash return on financial investments doesn't prove they get a higher return in general.

In fact, the cash return on investment is not necessarily the true return. The true return on a financial investment must include the value of other benefits, such as liquidity and security. It also must include other costs, such as the fees a rich person pays his skilled financial advisors, or the value of the person's own high-priced time managing his portfolio.

Richer people surely invest in stocks and bonds primarily for the cash return (net of advisors' and brokers' fees) plus appreciation--for such investment often provides their main source of present and future income. But why on earth should poorer people, chronically strapped for cash, nonetheless invest one or two thousand dollars at a miserable return in a savings bank? They don't invest for the interest--

surveys of small savers generally show they haven't the foggiest understanding of compound interest. Rather, as the sociological literature makes quite apparent [eg. Rubin, 1976], poorer people keep a small "rainy day fund" in a savings account primarily for emergencies like loss of jobs or sudden medical expenses. So a savings account offers poorer people not only a bit of interest, but--more important--liquidity and disaster insurance, as well as a safer place to store cash than a sock. (Recall that the models of Chp. 6 predict that liquidity means more to poorer than to richer people.)

In any case, financial investments are relatively unimportant to poorer people, as the wealth--transaction cost hypothesis predicts.

For just as individuals divide their labor between "specialized" marketed labor and "personal" home labor, they also divide their investments between market and home. Home investments obviously include purchase of houses and consumer durables, as well as materials and personal labor applied to fixing and improving houses and durables. In the last ten years, inflation has made the appreciation of houses (or rather the land under them) into a major form of home investment. Home investments also include labor and cash savings put into a "family" business. And home investments include purchase of human capital: earnings forgone by mothers who stay home with the kids, earnings forgone by highschool and college students, earnings forgone by trade apprentices; as well as cash outlays for tuition and supplies, or admission to unions. Such saving and investment mostly gets counted as consumption, or doesn't get counted at all. (For this and other reasons, conventional data exaggerates the difference in savings rates between richer and poorer people.)

Home investments differ from market investments in the same way that home labor differs from market labor: absence of transactions costs.

The wealth--transaction cost hypothesis suggests that richer people invest proportionally more through formal financial markets. This follows first of all because they must combine their larger capital supply with the labor of a greater number of other people. Therefore they more quickly exhaust home investment opportunities, and so move into market investments yielding, after transactions costs, as much as home investments.

Second, richer people should invest proportionally more through financial markets because they enjoy a comparative advantage in activities offering economies of scale. Just as home investments show rapid diseconomies of scale, financial investments offer clear economies of scale. Stock and bond investments often require minimum lump sums. Advisors' and brokers' fees can to some degree be spread thinner over larger investments. Larger market investments also allow more diversification. And a large enough investment in a given company also gives some control, though at a loss in liquidity.

Notice that, Meade to the contrary, these economies of scale do not automatically provide a higher return on investment. For in equilibrium, economies of scale become exhausted and capitalized. Thus investors who try to buy too much of a given stock drive up the price to their own disadvantage--as the Hunt brothers discovered. And in any case, the equilibrium price of a given class of stock or bond reflects the cost advantages of the highest bidders--including those enjoying the greatest economies of scale.

15.2 Evidence on Differences in Return on Investment

Solid empirical evidence indeed shows poorer people and smaller companies get considerably higher true returns than richer people and bigger companies. There is much indirect evidence, and some direct evidence.

Differences in interest rates for richer and poorer people or larger and smaller companies indirectly measure differences in return on investment. For people's and companies' marginal returns on investment must equal their marginal cost of borrowing capital.

Small borrowers, business and personal, pay alot more for their capital. They may pay banks up to six or so points above the prime rate. By contrast, wealthy people or big companies can borrow for as little as a point or so below prime. (Prime, corrected for inflation, usually hovers well under 5%.)

But the real spread extends much wider. When wealthy people or large corporations finance investments internally, although they could borrow at under prime, they obviously find internal capital even cheaper. At the other end of the scale, banks refuse loans altogether to risky, poorly collateralized customers. Such customers must resort to more expensive sources of capital, including installment buying and the neighborhood loan shark.

Usury laws show the desperation of small borrowers for a little capital. For example, the 18% annual limit on credit buying, imposed before inflation drove the prime rate over 3 or 4%, suggests that even then many people in fact willingly paid more than 18%.

So well known is the fact that poorer people and smaller companies must pay exorbitant interest, if they can obtain loans at all, that a

number of federal agencies exist to deal with the problem. For example, the Small Business Administration, the Federal Housing Administration, the Farmer's Home Administration, and others, serve primarily to provide or insure cheap loans for small borrowers. (Due to the transactions costs inherent in administering such programs, these agencies fumble the job.)

Direct evidence of poorer people's higher returns comes from efforts by Gary Becker and others to measure the return on an investment in education, as described in Chp. 11. As the economists making these estimates recognize, the fall in rate of return with years of education stems entirely from poorer people's difficulty obtaining capital. Poorer families cannot borrow to tide themselves and their children through school or college. Meanwhile richer families can support their children through six years' graduate school finishing a PhD in English--which may add not a whit to their earning power.

These and other figures suggest that working and lower class people and very small companies may average real (inflation-free) returns of 16% on up. Middle class people and smaller companies may average 10 to 15%. Very rich people and big companies may average no higher than 8%, probably much less. (If there's one thing money can't buy, it's a high return on investment.)

15.3 Investment and Growth

Economic growth, the increase in national income, arises from investment. As any business executive could tell us, national growth, like the growth of a business, depends not only on the quantity of investment but on the quality. An investment at zero return adds nothing to growth. An investment at 20% adds twice as much as at 10%.

So who contributes more to national economic growth--richer or

poorer people, bigger or smaller companies?

Macroeconomists, in dealing with economy-wide aggregates, find it most convenient to assume everyone gets the same return on investment. So only quantity of investment matters. Therefore, it seems to follow that richer people and bigger companies contribute more to growth, because they save and invest a larger share of income. It also seems to follow that transferring income to richer people and bigger companies will increase national growth. In short, the idea that richer people and bigger companies contribute more to growth depends on the assumption that everyone gets the same return on investment.

But if poorer people and smaller companies get a much higher return on investment, then they may contribute proportionally more to growth.* There's good evidence that they do in fact contribute more to growth.

As mentioned in Chp. 9, although per capita wealth has grown enormously since the turn of the century, the distribution of wealth hasn't changed much. So, as a matter of logic, wealth in the hands of poorer people must have grown as fast as wealth in the hands of richer people.

*If we give a person or company an extra dollar of income, they contribute to growth the amount they save from that dollar, times their return on investment. If they save 10% of the dollar, or 10¢, and invest it at 20% return, then they increase national income by 2¢ a year. But if they save 20% of the dollar, or 20¢, yet only invest it at 5%, they increase national income by only 1¢ a year. Clearly, differences in return on investment can outweigh differences in rate of saving from income.

In fact wealth in the hands of poorer people must have grown much faster than wealth in the hands of richer people, for two reasons:

First, population growth dilutes per capita wealth in the lower brackets faster than in the upper ones. For poorer people have more children, and most immigrants (legal and illegal) are poor. So to make wealth per capita grow equally at bottom and top, total wealth must grow faster at the bottom. For example, suppose a rich two-child family and a poor six-child family each double their wealth per person over a generation. For the rich two-child family, that's a 100% increase in family wealth; for the poor six-child family it's a 300% increase. So the poor parents increase their wealth faster than the rich parents.

Second, there's the impact of social mobility. People at the bottom of the heap can only go up, and people at the top of the heap can only go down. So, if there is any social mobility, people necessarily rise faster than average at the bottom, and slower than average at the top.

For example, recall Brittain's study of 144 sons and fathers, described in Chp. 14. The sons from the top level ended up spread from the top level down to the fourth; the sons from the bottom tenth level ended up spread from the bottom tenth up to the sixth level. So the top group sank relative to the average, while the bottom group rose.

Net upward mobility from the bottom clearly appears in the large fraction of descendants of poor immigrants of the last century, like the Irish, who have ascended to the middle class. More recent immigrants, notably Hispanics, have replenished the lower brackets. (Different ethnic groups, of course, have climbed at very different speeds.)

At the upper end, among the richest 1%, are the one third to one half "self-made," who climbed up mostly from the middle class. As noted

in Chp. 14, they may have moved only a few percentage points, say from richest 10% or 5% into richest 1%. But the wealth difference is staggering, since the richest 1% begins around a net worth of \$100,000 and ranges up to billionaires. Notice that if 40% of the rich arrive each generation, then a big chunk (not necessarily 40%) of the old rich must sink back into the middle class to make way for them.

Of course some of the growth at the bottom must result from redistributive policies. The oldest form of redistribution, public education, has surely had the greatest impact.

But it's hardly credible that the high growth rate of the middle class relative to the rich results from redistribution in their favor. (If anything, the burden of redistributive policies falls on the middle class, with benefits going to poor and rich.)

Consequently, the higher growth rate of middle class people means that their higher return on investment indeed does outweigh their lower rate of saving.

Since businesses belong to people, social mobility naturally is matched by business mobility. For instance, of the 1980 Fortune 500, some 230 were not among the 1960 500. Of the top 50 of the 1980 500, 23 were not in the 1960 top 50; eight of these, including Xerox, were not even in the 1960 500. Business mobility means the same as social mobility: on the average smaller companies grow faster than bigger ones.

CHAPTER 16

THE WEALTH--FUTURE-ORIENTATION HYPOTHESIS

"Make [a man's] condition such that it cannot be much worse, while there is little hope that anything he can do will make it much better, and he will cease to look beyond the day."

Henry George, Progress and Poverty, 1879, p. 309.

16.1 Testing the Wealth--Future-Orientation Hypothesis

Suppose people's opportunities change with wealth as predicted by the wealth--transaction cost hypothesis. But suppose they all have the same sets of time preferences. Then, as shown in Chp. 8, the distribution of wealth necessarily converges to equality over time. The rich sell and the poor buy property until everyone ends up the same. Only if future-orientation increases with wealth, -- that is, if the wealth--future-orientation hypothesis holds -- can unequal distribution remain stable over time. Since distributions of wealth manifestly do remain remarkably stable over many generations, this in itself supports the wealth--future-orientation hypothesis. But what about more direct evidence?

First of all, we cannot test the wealth--future-orientation hypothesis by looking at the average behavior of persons of different wealth or social class. The wealth--transaction cost hypothesis specifies precisely the average differences of behavior arising from differences in opportunity, -- the differences described in previous sections. The wealth--future-orientation hypothesis predicts no additional differences of behavior, but only a slight exaggeration of effects of different opportunity.

Consequently, some evidence that might seem to to prove differences in preferences in fact proves only differences in opportunity. For example, the fact that a poor person borrows at exorbitant interest

from a loan shark says nothing about his time-orientation. If he borrows to start a small business, he's more future-oriented; if to pay his grocery bills, he's more present-oriented. Or, a rich person's preference for investments yielding most of their returns in the remote future -- does not prove him especially future-oriented. Such a preference follows automatically from cheap capital and expensive labor.

So how can we test the wealth--future-orientation hypothesis?

First, anthropologists, sociologists and others have traditionally relied on interviews to ascertain people's attitudes. Such an approach may strike economists as rather too subjective. After all, people often say one thing and do another. Nevertheless, expressed attitudes may reflect a stable set of preferences, and hence give some indication of what people really do.

Second, if preferences are stable, it may be possible to test preferences by "holding" circumstances equal. For example, someone from a well-to-do background, accidentally reduced to poverty, should demonstrate greater future-orientation than someone born to poverty.

Finally, social mobility offers a test both of the reliability of expressed attitudes as a measure of time-orientation, and of the hypothesis that rising future-orientation with wealth keeps unequal distribution stable over time. That is, suppose a person expresses unusual future-orientation, or unusual present-orientation compared to others of his socio-economic level. Then that person should subsequently rise, or fall, somewhat in level. Alternatively, people who have risen, or fallen, by their own initiative and not by luck -- should demonstrate attitudes closer to the level at which they have arrived than

to the level from which they came.

16.2 Wealth and Time Attitudes

Writers have long harped, sympathetically and unsympathetically, upon the "improvidence" of the poor, or the "fatalism" of peasants. Nineteenth century American editorialists regularly exhorted the poor to the middle class virtues of industry and thrift, that they too might climb the social ladder in the "land of opportunity". [Thernstrom, 1964, p. 161]. The current sociological literature bristles with observations on the "impulsiveness" of the lowest class. In The Unheavenly City, Banfield makes a central point of the rise in future-orientation with rising social class. In fact he goes further and defines social class by time orientation. He emphasizes that a person's objective circumstances may differ radically from his class so defined. [Banfield, 1970, p. 47].

According to Banfield, time orientation is measured by ability to visualize and desire to provide for the future. He distinguishes, by time orientation, four social classes: upper, middle, working and lower.

"[T]he upper-class individual expects a long life, looks forward to the future of his children, grandchildren, great-grandchildren (the family "line"), and is concerned also for the future of such abstract entities as the community, nation, or mankind. He is confident that within rather wide limits he can, if he exerts himself to do so, shape the future to accord with his purposes." [1974, p. 57].

"The middle-class individual expects to be still in his prime at sixty or thereabouts; he plans ahead for his children and perhaps his grandchildren, but, less future-oriented than the ideal typical member of the upper class, he is not likely to think in terms of "line" or to be much concerned about "mankind" in the distant future. He, too, is confident of his ability to influence the future, but he does not expect to influence so distant a future as does the upper-class individual, nor is he as confident about the probable success of his efforts to influence it." [1974, p. 59].

"The working-class individual does not "invest" as heavily in the future, nor in so distant a future, as does the middle-class one. He expects to be an "old man" by the time he is fifty, and his time horizon is fixed accordingly. Also, he has less confidence than the middle-class individual in his ability to shape the future and has a stronger sense of being at the mercy of fate, a "power structure," and other uncontrollable forces." [1974, p. 60].

"[T]he lower-class individual lives from moment to moment. If he has any awareness of a future, it is of something fixed, fated, beyond his control: things happen to him, he does not make them happen. Impulse governs his behavior, either because he cannot discipline himself to sacrifice a present for a future satisfaction or because he has no sense of the future. He is therefore radically improvident: whatever he cannot use immediately he considers valueless." [1974, p. 61].

Banfield adds a number of further "characteristics" of different social classes (as he defines them), including some items that clearly reflect opportunity rather than preference. (Thus, lower-middle class people like to drive to work in a car pool rather than singly because they enjoy crowding! [1974, p. 69]). But the quoted excerpts do provide a reasonable summary of a great deal of sociological and anthropological work.

Evidence on class time preferences comes also from a very different source: research on intelligence. As reported earlier, in Sec. 9.

Whimbey argues that intelligence is a learned skill in problem-solving.

But what sort of skill? Whimbey reports on a classic study:

"Bloom and Broder observed that low-aptitude students were mentally careless and superficial in solving problems. They often rushed through the instructions, or even skipped them, and selected a wrong answer because they failed to comprehend what was required. When asked to reread the instructions more carefully, frequently they understood them and proceeded correctly. However, typically they did not peruse the instructions thoroughly on their own, but were satisfied with an incomplete understanding.

"In actual problem solving, low-aptitude students were almost completely passive in their thinking. They spent little time considering a question, but chose an answer on the basis of a few clues. Frequently, the selection was founded on simply a feeling, an impression, or a guess. High-aptitude students, by contrast,

made a decidedly active attack on the problems. When a question was initially unclear, they often employed a lengthy sequential analysis in arriving at an answer. They began with what they understood of the problem, drew on other information in their possession to clarify the question further, and carefully proceeded through a chain of steps that finally brought them to a solution...

"Quite significantly, low-aptitude students tended to place little value on reasoning as a method of solving problems. They did not see problems as susceptible to analysis. Their orientation was not to attack a complex problems by breaking it down into subproblems: Either they knew the answer or they didn't; and if they didn't they made a cursory evaluation and then guessed." [1975, pp. 55-56].

This description shows clearly that "low-aptitude" and "high-aptitude" persons differ not in mental equipment, but in attitude toward problem-solving. Moreover, that attitude is learned, since "low-aptitude" persons can be trained to solve problems competently -- substantially raising their measured IQ.

Clearly also, the difference in attitude is one of time-orientation. A high IQ person willingly sits down and works through a problem slowly, patiently, and carefully, with the confidence that the effort will eventually pay off. A low IQ person, believing problem-solving effort to be hopeless, quickly guesses an answer. ("Low-aptitude" children, when questioned verbally, may begin wildly guessing answers before even hearing the questions!) Contrary to popular impression, a "slow" learner proceeds so hastily and impatiently he learns nothing at all.

The steady rise in IQ with social class thus further suggests a rise in future-orientation with wealth.

16.3 Environment vs. Background

The notion that the lower classes are relatively present-oriented, and that this present-orientation helps to "keep them down" -- understandably arouses bitter opposition (unfortunately fueled by Banfield's cynicism and obvious contempt for the lower orders).

For example, in her moving study of working class families, Rubin observes their "fatalism, passivity, and resignation". She insists, "But it is not these qualities that are responsible for their humble social status... Rather, it is their social status from which these qualities stem". [Rubin, 1978, p. 163]. And scholars (more sympathetic than Banfield) who maintain that poor urban blacks owe their plight partially to a present-oriented "culture of poverty" -- collide head-on with others who blame only continuing racial discrimination. [Clark, Gershman, 1980].

The two sides of this debate can be summarized as follows:

1. The cultural position: a. People learn their preferences, including their time preferences, during childhood. During adulthood, preferences remain relatively stable, responding only slowly if at all to changes in circumstances. b. A background of poverty tends to make people present-oriented, while a background of wealth tends to make them future-oriented. But other background factors, notably parents' ethnic culture and a child's particular personal experiences, also influence time-orientation.

2. The environmental position: If poorer people seem more present-oriented, and richer people more future-oriented -- their attitudes simply reflect a natural, logical response to external circumstances. So, richer and poorer people do not "really" differ in underlying time preferences at all. If the poor feel hopeless and powerless, then they truly are. If a slum child claims it's a waste of time to continue school, then he's right, as an objective fact.

Stated this way, the environmental position appears untenable.

This is not because it denies a difference in time orientation between

richer and poorer people. Rather, the environmental position fails because it necessarily denies that preferences can be stable, or can depend on anything other than current economic circumstances.

To deny the stability of preferences flies in the face of common experience, history, and modern psychology. Common experience shows how heavily "habit stronger than death" weights the scales of choice. History bursts with heretics and heroes who knowingly choose to die for their beliefs. In fact we consider it admirable to stick to one's guns against all odds. And modern psychology holds (with perhaps some exaggeration) that childhood experiences virtually predetermine a person's life. Why should people hold time preferences with any less tenacity than they hold preferences for food, religion, and sex?

And if preferences depend largely on current circumstances, why do people in the same circumstances often behave so differently? Why do some actively change their circumstances, and others not? But it is precisely this variety of behavior, assuming stable preferences, that permits the clearest test of the wealth--future-orientation hypothesis.

Accidental Change of Circumstances:

First, if preferences are stable and depend largely on background, perhaps we can test preferences by "holding" later circumstances equal. That is, we can compare the behavior and expressed time preferences for persons of different background who have accidentally ended up in similar circumstances as adults.

For example, imagine a middle class family with small children, impoverished by the incurable illness of the husband. Wouldn't the wife slave and scrimp? Wouldn't the children do better at the local slum school than the children of their lower class neighbors? And wouldn't

they all expect that at least the children would eventually return to their proper level?

Alternatively, imagine the street kid who wins a large sum at the numbers game. Wouldn't he quickly splurge the money, saying, "What's the use of saving -- I'm going to have some fun while I can"?

Of course, the hypothetical family does drag some human capital down into the depths with it. Perhaps this makes all the difference. But to claim so runs perilously close to claiming preferences are circumstances -- reducing economic theory to mush.

There is plenty of sociological research, some of it reviewed by Banfield, and plenty of common experience showing people accidentally displaced from from their original circumstances do in fact continue to show their background preferences. For example, middle class refugees, like the Cubans, arrive in this country destitute and not speaking English. Yet in a decade or so, they largely recover their former status.

Social Mobility:

Social mobility also provides some evidence on the wealth--future-orientation hypothesis. For, suppose expressed attitudes really do reflect time preferences, and rising future-orientation with wealth does help keep unequal distribution stable over time.

Then, suppose a person expresses unusual future-orientation, or unusual present-orientation compared to others of his socio-economic level. That person should subsequently rise, or fall, in level, -- at least on average. For example, suppose we take a group of school children from the same background. Those who claim they'll study hard and get ahead probably will succeed better than those who don't.

Alternatively, suppose a person has risen or fallen by his own initiative and not by luck. That person should demonstrate behavior and express attitudes closer to the level at which he has arrived than to the level from which he came. (As hypothesized, a person who has risen or fallen by pure luck should demonstrate attitudes closer to his background level than to his current level).

Plenty of evidence associates attitudes with social mobility. For example, Rubin terms her working class families "settled-living". Married couples with children, they own their homes (heavily mortgaged). Husbands, and sometimes wives, work hard and fairly steadily, often at two jobs. But often husband, wife, or both, came from "hard-living" families, where parents drank too much, worked erratically, deserted, fought violently or beat their children. They have close relatives who remain "hard-living". The "settled-living" differ little from the "hard-living" in education or skill; mostly they differ in their drive for security. They live still watching over their shoulders for the spectres of alcoholism and despair. And they regard effort to advance further as futile. [Rubin, 1978].

The same probably held for Thernstrom's Newburyport laborers. By "ruthless underconsumption", and by sending their children early to work, they saved up to buy a small house, surely demonstrating extreme future-orientation compared to others of their background. But they pursued a more immediate goal -- the security of homeownership -- at the expense of a more distant goal -- the advancement of their children. [Thernstrom, 1964, p. 136]. This attitude has not changed. Working class families still expect unmarried children, on graduation from highschool or before, to work to supplement the family income.

(The choice of a more immediate goal of course does not in itself prove anything about time orientation, but only about opportunities constrained by limited capital. However, persons of more middle-class origin would surely have put education of children above homeownership).

I need belabor the point no further. Average future-orientation rises with background wealth. Persons unusually future or present-oriented for their background, -- subsequently rise or fall in wealth.

Basis for the Environmental Position:

Given the evidence, why does the "present-orientation of the poor" still offend so many people? Three reasons, I think.

First of all, present-oriented attitudes -- hopelessness and passivity -- often seem "rational" responses to current circumstances. Second, to hold that attitudes in any way account for poverty -- seems too much like blaming the victims for their misfortune. And third, pointing to attitudes may divert attention from real and continuing injustices. For example, Rubin reports that although a few of her subjects had done well in school, guidance counselors actively discouraged them and others of their background from considering college. (Outrageous, to be sure, but why did they accept the counselors' advice so passively?)

In more traditional societies, these reasons seem particularly compelling. For such societies, including the Jim Crow South, actively use both the law and extralegal force (lynch mobs) to keep the lower orders down. In some societies, like parts of Latin America today, social mobility remains virtually impossible. The handful who dare step out of line simply "disappear". It seems absurd to hold the downtrodden peasants in any way responsible for their situation. But is it? The

rulers of such societies can easily squelch an upstart few, as long as the rest remain passive. But if all the peasants begin to hope and work for a better life -- that is the stuff of revolution. Revolutionaries teach future-orientation; for oppression does not provoke revolution, but the hope for an end to oppression.

16.4 Wealth and the Causes of Time-Orientation

Why should a background of poverty usually create present-orientation, and a background of wealth usually create future-orientation? Ordinary economic theory doesn't help much, since it takes preferences as given. But let me take a stab at the question anyway, drawing on anthropology and psychology.

First of all, absolute poverty or wealth seems at least as important as relative. In hunter-gatherer societies, with at most minor distinctions in wealth, all members demonstrate highly present-oriented attitudes. [Sahlins, 1972]. Somewhat less primitive societies show slightly more future-orientation. [Linder, 1972, Chp. 2].

Second, contrary to Banfield, there is nothing intrinsically pathological about extreme present-orientation. According to Sahlins, who dubbed them "the original affluent society", hunter-gatherers lead an easy and agreeable life. For their wants are very limited and quickly satisfied. Since mankind presumably evolved under hunter-gatherer conditions, it is hard to regard their present-oriented culture as somehow unnatural. Rather, we have to figure out what it is about wealth, or capital, that leads to greater future-orientation.

I think the well-known psychological theory of "learned helplessness" offers a possible explanation. [Seligman, 1975]. The classic experiment demonstrating learned helplessness runs as follows. Dogs are penned in

cages having two compartments with a door between them. For some dogs, the door remains open, for others it remains closed. A buzzer sounds, followed closely by an electric shock. The dogs with open doors quickly learn to avoid the shock by running into the other compartment when the buzzer sounds. The dogs with closed doors resign themselves to the inevitable shock. Now, if their doors are opened, these dogs do not try to escape the shock. They have learned they are helpless. Only if someone several times physically drags them into the other compartment after the buzzer sounds can they unlearn their helplessness. [Seligman, 1975].

Notice that learned helplessness is fully adaptive behavior. It keeps an organism from wasting time and energy on futile endeavors. I don't flap my arms trying to fly because I know I can't. Learned helplessness becomes inappropriate only if circumstances change, and the organism fails to perceive the change.

Learned helplessness appears to explain a great deal of apparently paradoxical human behavior, both minor and major. For example, many otherwise intelligent adults, due to some difficult school experience, remain convinced they cannot do math -- it terrifies them. The slum children who don't learn to read demonstrate learned helplessness: a series of failures due to their impoverished background and/or low quality schooling convinces them they're hopelessly stupid. They give up. Seligman reports an intriguing experiment in which such children, placed in a special summer school program, easily learned to read Chinese characters! Children, battered or neglected by their parents, learn that others cannot understand or respond to their needs, and that people cannot control their random outbursts of rage. They grow up emotional

cripples, who batter or neglect their own children. [Kempe & Kempe, 1978].

People can unlearn such learned helplessness, but it often takes much skilled and patient coaching to overcome their tendency to give up at the first sign of difficulty.

I tentatively suggest that learned helplessness accounts for the present-orientation of poverty. For wealth can be used as capital to affect the future. The first neolithic farmers, who discovered that scattering some of their wild grain harvest increased the yield of their next harvest, -- also discovered they could control the near future. The early civilizations, who discovered that irrigation works could vastly increase the size, quality, and reliability of harvests, -- also discovered they could control the more remote future. The hunter-gatherers, by contrast, must frequently shift camp lest they exhaust the local supplies of game and edible roots, nuts, and fruits. They can accumulate no capital, and hence experience no success in controlling the future.

In short, people who discover that by use of capital they can advantageously control the future, also learn a degree of future-orientation. People lacking capital learn they cannot control the future. They are helpless, and hence present-oriented. In this fashion, people's experiences of success or failure in one period influence their preferences in subsequent periods.

I introduced the concept of learned helplessness to suggest a logical connection between present-orientation and lack of capital. But I don't mean that people learn present-orientation mostly through direct experience of lack of capital during childhood. Clearly, children learn

their time-orientation primarily from their parents, who learned it primarily from their parents, and so on.

But children, and adults, also have their own particular experiences, which may either reenforce or counteract attitudes learned from parents. For example, a working class child with a frequently unemployed father may experience life as beyond control. Yet that same child may encounter a sympathetic school teacher who encourages him to strive for a professional career. A society like ours presumably differs from a traditional society in that individuals more frequently have experiences that teach them attitudes different from their parents' attitudes.

CHAPTER 17

SIZE AND BEHAVIOR OF FIRMS

"The directors of [joint stock] companies, however, being the managers rather of other people's money than of their own, it cannot well be expected that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own. Like the stewards of a rich man, they are apt to consider attention to small matters as not for their master's honour, and very easily give themselves a dispensation from having it. Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company.

Adam Smith, The Wealth of Nations, Britannica, p. 324.

The wealth-transactions cost hypothesis predicts the same kinds of differences between larger and smaller firms as between wealthier and poorer individuals. Fortunately, the data comparing varying size firms is often "harder" than that comparing individuals.

Here is some evidence from a case study of the coal industry; some evidence on wage rates in different size firms; some data on capital turnover, labor productivity, profitability and return on investment; some evidence on risk-taking; and a few concluding comments on "negligence and profusion".

17.1 The Case of the Coal Industry

Oliver Williamson once analyzed an illuminating Supreme Court case: United Mineworkers vs. Pennington [Williamson, 1968]. Until the unionization of the coal industry, small operators had paid substantially lower wages than large operators. The Court faced the question: had the United Mineworkers, in imposing uniform wage rates across the industry, conspired with the large coal mine operators to eliminate the small operators? The Court decided yes. Williamson argues that uniform wage

rates really can eliminate small operators only if small operators have a higher labor to capital ratio.

Do small operators in fact have a higher labor to capital ratio? Williamson restricts himself to underground mines. As a proxy for labor-capital ratios, he divides the industry into hand-loading and machine-loading operations. Hand-loading mines outnumber machine-loading by more than four to one, but account for only 11% of industry output. In addition, a crude regression on horsepower per production worker shows mines with fewer than 20 employees have a capital-labor ratio about half that of mines with 100 employees. And Tennessee mines, which are typically very small, have an output per man-day about half the national average.

Why the difference between large and small operators? According to Williamson it's very simple: mechanical loading pays only for seams greater than four feet thick. That puts mechanization out of reach of small operators with thinner seams. He concludes that "elimination of wage differentials, therefore, has placed the small operators at both an initial and a continuing disadvantage." [p. 107]

But this conclusion still leaves Williamson with a mystery: there would be no point to an agreement by the union and large operators to eliminate small operators were entry possible by more large operators. So what is coal industry structure? Williamson finds that 1) there are a very large number of firms in the industry; 2) there is an extreme inequality of firm size; and 3) there is little output concentration, so no operators enjoy much market power.

Williamson concludes that the barrier to entry at large scale must arise from large firms' "absolute cost advantages" in that they control a scarce resource: the limited number of wide-seam deposits. [p. 112].

This hypothesis of "absolute cost advantages" of large operators is of course nonsense in terms of the conventional, transactions-cost-less theory of the firm. There can be no such thing as "absolute cost advantages." If large coal operators pay above market wages to eliminate small operators, then absent market power, they necessarily accept below market returns on their investment in wide-seam deposits. In a transactions-cost-less world, that just can't happen. The large operators would speedily disinvest until the wage was forced back down to the market level.

In fact, even if the large operators did enjoy market power, they would still have to accept below market returns on investment in order to pay above market wages. For the extra revenue due to that market power would be capitalized into the value of the scarce wide-seam deposits, and, for publicly-owned firms, into the market value of stock.

In short, transactions-cost-less economics cannot explain the observed rise in wages with firm size in the coal industry. Or in other industries, as the rise in wages seems universal.

17.2 Wages and Firm Size

Here's a sample of more interesting wage studies:

Richard Lester surveys Bureau of Labor Statistics and Census data for about 20 different industries starting in 1939. He finds wage differentials on the order of 25% to 30% between large and small plants, (around 20 employees versus over a thousand in most industries). These differentials have remained fairly stable over time. Unions seem to play little role. Regional differences are also not very significant.

Differences in fringe benefits are even more striking. Bureau of Labor Statistics statistics show large establishments nationwide paying

about twice the rate of small establishments for vacations and other benefits. Lester cites a number of studies showing the same pattern within regions. [Lester, 1967].

Another "fringe benefit" is stability of employment. C. E. Ferguson finds that "in all industries except tobacco there is a marked tendency for stability of employment to increase with the size of the firm" [Ferguson, 1960, p. 44]. The size-stability relationship does not differ markedly from one industry to another. Ferguson also finds that large size associates with stable growth and profit rates.

It is also well known, though I have not seen any specific studies, that higher wages go along with better working conditions. Plants and equipment are more modern, clean and safe, offices are larger, and so forth. The difference in conditions widens the true wage differential.

As an explanation of wage differentials by size of establishment, Lester feels that [sic] "the character of the competition could hardly be a key factor with wide influence, since a significant differential exists in other industries characterized by a preponderance of small firms producing for a wide market, such as food and wood products." [p. 60-61]. Or such as the fairly unconcentrated coal industry, as described by Williamson.

Other evidence comes from efforts to test the "monopoly wage hypothesis" that wages are higher in concentrated industries because workers extract a share of monopoly profits.

Leonard Weiss tests the hypothesis on the one-thousandth sample of the 1960 Census of Population. [Weiss, 1966]. Weiss makes two principal findings: 1) the effect of concentration on wages in particular occupations within industries is "unequivocally positive." [pp. 103-4].

Unionization raises wages 16% when concentration is low, and not at all when it is high. Concentration seems to raise earnings by about 33% when unions are weak, but only 13% when they are strong. (Weiss makes an impossibly crude "correction" for the fact that larger firms predominate in more concentrated industries--so I suspect his effects of concentration and unionization are really effects of firm size.)

2) After Weiss introduces 31 personal characteristics (such as education, race, sex, residence, etc.), the coefficients for concentration and unionization drop to insignificance. "The implication seems to be that firms in concentrated industries do pay their employees more but that they get higher 'quality' labor in the bargain." [p. 108].

Weiss seems to think he has proved that monopolistic firms are cost-efficient. In fact, it would be very strange indeed if firms that paid higher wages couldn't select better employees--or if firms wanting better employees didn't have to offer higher wages to get them. But for the transaction-cost-less theory of the firm, that just substitutes one mystery for another: If bigger firms pay higher wages because they get better employees, why should they want better employees? Moreover, why should they pay more for employees with more socially desirable characteristics--males instead of females, whites instead of blacks?

A classic study by Sumner Slichter sheds some light on this question and further supports the wealth--transaction cost hypothesis against the transaction-cost-less theory of the firm. Slichter relates wages of male unskilled workers to various industry characteristics. [Slichter, 1950]. He finds that the average hourly earnings of male unskilled workers:

1) are high where wages of semi-skilled and skilled are high, and

low where they are low.

2) tend to be high where the proportion of women in industry is low.

3) are high where value added by manufacturing per wage earner hour is high.

4) are high where the value product per wage earner hour is high.

5) are high where payrolls are a low percentage of income from sales.

6) are high where net income after taxes is a high percentage of sales.

Slichter finds this wage structure changes only slowly during his study period from 1923 to 1946. Unionization appears a relatively minor factor.

Slichter does not deal directly with firm size or industry concentration. However, the higher-paying industries in his list of 20, like autos, chemicals, rubber, and steel, generally have larger firms and greater concentration. Lower paying industries, like furniture have small firms and low concentrations.

Slichter argues that, "The fact that the rates which yield the highest hourly earnings occur where labor is not an important item in costs or where profit margins are large indicates that most managements do not regard above-the-average wage rates as economical." For if the quality of better-paid workers were so much greater as to make higher rates of pay a bargain, then "The firms in greatest need of low labor costs (those with large payrolls relative to sales or those with low profit margins) would aggressively strive to get themselves a low [real] price for labor by putting up rates," --instead of the opposite.

[Slichter, 1950, p. 90].

(Labor economist Lloyd Reynolds takes the same view, alluding to "the luxury of paying superior wages". [Reynolds, 1966, p.271.] He reports from a labor market study of New Haven, Connecticut that, "one manager, after stating that his company tried to maintain the highest wage level in the industry, said: 'You see, we are the largest company in the industry. In fact, we are known as the Tiffany of the _____ industry. We should pay the highest wages because the other companies in the industry look to us for leadership.'" [Reynolds, 1951, p. 167].)

In short, statistical evidence strongly supports the wealth-transaction cost prediction that wages and workforce quality rise with firm size. Yet alternative explanations of this rise in terms of market power of large firms, or union power, or greater cost-effectiveness of superior employees -- do not hold up well.

Doeringer and Piore's study of internal labor markets offer a different sort of support for the wealth-transaction cost hypothesis and the industry wage comparisons cited above. [Doeringer and Piore, 1971].

By their estimate, about 80% of the employed labor force works in internal labor markets, that is, where jobs are filled by promotion from below, rather than by hiring people from outside. A particularly important consequence of internal labor markets is that wages for different jobs within a firm are necessarily linked, both by the need to induce workers to move voluntarily from one job to the next, and by intra-firm notions of a "fair" wage. So firms that pay high or low wages in one category tend to pay high or low wages in other categories. This characteristic of internal labor markets fits well with the prediction of the wealth-transaction cost hypothesis that the higher than average

wages (actual or imputed) of wealthy owners or managers will be transmitted down the line to their employees as well.

17.3 Assets and Sales per Employee, Capital Turnover, Profitability,
Return on Investment

Table 17.1

1979 Fortune 1000, Ranked by Sales, in Fortune May 5, June 16, 1980

Firms	Employees/\$1 mil Assets	Sales/Employees	Sales/Assets
Top 20	11.6	\$242,396	\$1.40
Top 50	13.3	\$202,961	\$1.46
Bot 50	25.1	\$ 69,940	\$1.55

The predicted differences show up among the Fortune 1000 for any year, eg. Table 17.1 for 1979, above. The bigger the company, the fewer the employees per dollar of assets. Hence, the higher the sales per employee, but the lower the sales per dollar of assets. The differences don't arise just because bigger companies tend to be in more capital-intensive industries. Even within the same industries, the pattern holds, as apparent in Table 17.2 below.

Table 17.2

Employees per \$1 Million Assets

Industry	Fortune 500, 1978	All U.S. Industry, 1976
Petroleum	3.7	6.6
Tobacco	10.8	17.0
Apparel	55.6	163.9

From U.S. Bureau of the Census, Statistical Abstract of the United States: 1979, p. 572 & p. 560.

The predicted fall in capital turnover with greater firm size does not show up very strikingly among the Fortune 1000, probably for a couple of reasons: First, the Fortune firms are ranked by sales, biasing the selection towards relatively high sales to assets (we need an instrumental variable). Second, the larger the firm, the more the book value of assets probably understates the true value, both because larger firms are often older, and because their assets more often include "intangible" market power. (To illustrate the possible magnitude of understatement, a 1976 estimate put Pittston's coal reserves at \$2.5 billion dollars, as opposed to the \$496 million on the books. A coal analyst was quoted "Most of these companies acquired their properties when grandmother was a girl". Forbes 10/15/76, p. 52.)

However, the fall in capital turnover with firm size shows up clearly in other kinds of data, of which Table 17.3 is an interesting illustration. Table 17.3 shows for the steel industry that: 1. Share of reserves is more concentrated than market share. Most strikingly, in all three years shown, 1948, 1955, and 1963, U.S. Steel's share of reserves was more than double its market share. 2. Reserve to output ratios are higher for larger firms. For instance in 1963, reserve to output ratios ranged from 100 years for U.S. Steel with 58.8% of reserves, down to 12 years for little Kaiser with .8% of reserves. 3. Capacity utilization is lower for larger firms. So not only do larger firms build less capacity in proportion to reserves, they use what capacity they have less intensively.

Table 17.4 illustrates an undisputed fact: the bigger the firm, the higher percentage net income is of gross income. That is, the bigger the firm, the higher its "profitability". For example, 1969 pretax net

Table 17.3

Reserve-Output Ratios and Other Data, Steel Industry, 1948, 1955, 1963

Firm	Share of Reserves (%)			Reserve-Output Ratio (Years)			Steel Ingot Capacity Utilization (%)			Market Share (%)		
	1948	1955	1963	1948	1955	1963	1948	1955	1963	1948	1955	1963
U.S. Steel	69.1	65.0	58.8	39.5	63.6	100.1	93.8	90.8	65.1	33.1	31.1	25.3
Bethlehem	11.5	4.0	12.5	26.6	10.1	47.1	97.2	98.5	69.3	15.1	14.9	14.7
Republic	3.5	9.8	5.9	19.6	87.7	56.7	96.8	94.2	66.4	9.4	8.3	7.8
Jones & Laughlin	4.8	3.5	5.9	25.0	31.0	58.3	95.8	100.0	77.8	5.2	5.3	5.8
National	4.1	5.0	4.1	20.2	26.2	26.5	96.0	98.0	102.8	4.4	4.7	6.6
Inland	2.2	3.9	3.1	20.7	31.7	45.7	103.9	103.8	90.8	4.0	4.1	5.4
Armco	1.0	5.9	4.7	42.2	93.8	55.6	91.6	98.1	85.3	3.8	4.1	5.3
Youngstown	2.1	.9	2.5	12.5	14.1	34.2	99.1	100.9	70.6	4.5	4.8	4.4
Wheeling	1.0	1.1	1.5	15.6	22.8	30.3	98.0	96.6	83.3	1.5	1.7	1.8
Crucible	.7	.2	---	30.0	24.0	---	95.0	92.9	78.6	1.4	1.0	1.0
Kaiser	---	.6	.8	---	18.8	12.2	---	100.0	72.4	---	1.2	1.9

From Table 5.9, p. 128, in David D. Martin, "Resource Control and Market Power," in Extractive Resources and Taxation, Mason Gaffney, ed., U. of Wisconsin Press, Madison, Wisconsin, 1967, pp. 119-137.

Table 17.4

Net Income as Percentage of Receipts for Different Size Corporations

Net Income as % of Receipts:	Assets, in Millions of Dollars								
	Total	< .1	.1 to .999,999	1 to 9.9	10 to 24.9	25 to 49.9	50 to 99.9	100 to 249.9	250 +
Pretax	4.89%	1.08%	2.51%	3.30%	4.76%	4.90%	5.23%	6.16%	7.32%
After tax	2.66%	0.38%	1.52%	1.55%	2.40%	2.54%	2.82%	3.39%	4.08%
After tax incl deprec. all.	3.06%	0.41%	1.55%	1.64%	2.58%	2.79%	3.07%	3.63%	4.88%
Effective Tax Rate	46%	65%	39%	53%	50%	48%	46%	45%	44%
Effective Tax Rate incl. Deprec.	37%	62%	38%	50%	46%	43%	41%	41%	33%

Calculated from No. 768, Active Corporations--Income Tax Returns by Asset Size and Industry, 1969,

The American Almanac: The US Book of Statistics and Information for 1973, Grosset and Dunlap, Inc. New York.

Source: U.S. Internal Revenue Service, Statistics of Income, 1969, Corporate Income Tax Returns.

income for firms under \$.1 million in assets averaged 1.08%; for firms over \$250 million it averaged 7.32%. After tax differences are even more striking: 0.41% versus 4.88%. The wealth-transaction cost hypothesis predicts this rise in profitability as an earmark of the rise in capital-intensity with firm size. A more conventional interpretation is that it simply reflects greater "efficiency".

On the other hand, it is an essential element of the wealth-transaction cost hypothesis that return on investment falls with firm size. For this there is powerful indirect evidence, reviewed in Chapter 15, notably that larger firms pay less for borrowed capital. But direct evidence is at best muddled. IRS, FTC and SEC data actually shows return on investment rising up to some modest firm size then levelling off. [Caves, 1970, p. 286]. One study puts this size at \$.5 to \$2.5 million dollars. [Sherman, 1968, Chp. 2].

But there are clearly serious difficulties in measurement, most obviously the one noted above, that the larger the firm, the more book value probably understates the actual value of assets. Many studies of return on investment actually set out to measure the extent to which "intangible" assets like market power add to the apparent return on ordinary assets, so that the lack of clear results suggests that the true return on all assets falls.

17.4 Riskiness and Firm Size

Empirical evidence, reviewed at length by Richard Caves in 1970 suggests larger firms occupy less risky situations than smaller ones:

1. The variability of profits (net income) declines with increasing firm size. Aggregate profits of small firms vary much more over the business cycle than those of large ones. Since small firms as a group

are at least as diversified as big ones, this suggests that the lower profit variability of large firms does not arise primarily from an advantage in risk-pooling. (This difference in variability of profits, incidentally, suggests there is something very queer indeed about the studies that seem to show level or rising return on investment with firm size; even in a perfect market, lower variability should go with lower return on investment).

2. As described in Chp. 2, the ratio of equity to total assets rises with increasing firm size. This means that larger firms have a less risky capital structure.

3. Oligopolists tend to hold prices rigid to avoid the risk of an outbreak of price competition. They also hold market shares stable over long time periods.

4. The evidence that larger firms pay more, offer more stable employment, and select higher "quality" employees, also possibly shows greater management risk-aversion.

5. Mergers, diversification, vertical integration. There is evidence that large firms may diversify to the extent of a serious sacrifice in yields. For example, Sampson argues that this happened when ITT diversified from its lucrative telecommunications monopolies [Sampson, 1973, p. 76]. Vertical integration may also bring a sacrifice in yields [Caves, 1970, p. 295]. Raymond Vernon describes the resource and market matching strategies of the international oligopolists: for each new resource one firm acquires, or market one firm enters; its rivals do likewise, often at enormous cost. [Vernon, 1971, p. 29ff]. In fact, it is the nature of oligopolists to build up excess capacity as insurance against actions of rivals.

6. While big firms may lavish funds on research and development, most major innovations still come from single inventors or smaller firms, and smaller firms adopt new techniques faster than do larger ones.

7. Small firms dominate notoriously risky industries like agriculture, fishing, scrap metal, or clothing. Despite high capital requirements, small firms still predominate in real estate development and sales.

8. There is the evidence of comparative advantage, including geographic preferences, already sketched in Chp. 3. If smaller firms have a comparative advantage in owning more marginal resources suited to any given activity, then almost ipso facto they put themselves in a riskier position. For example, there's the evidence cited earlier that slum property is simply too risky and labor-intensive an investment for any but the near-poor. It's common knowledge in the oil industry that in bidding for off-shore oil leases, the majors pay premiums for proved tracts, leaving the poorer, riskier tracts to smaller companies.

17.5 Negligence and Profusion

Negligence and profusion have troubled economists ever since they invented the classical theory of the firm. Why should corporate managers so stubbornly refuse to behave like profit-maximizing automatons? Why the chauffeured limousines, the landmark office buildings, the conferences in Hawaii, the company gymnasiums, or the full-page glossy ads in Fortune? (Here's my favorite -- the complete text [Fortune 12/75, p 151]:

Great ideas -- One of a series.

Container Corporation of America, the packaging side of Marcor.

remember always that you have not only the right to be an individual; you have an obligation to be one.)

At one end of the spectrum, some economists still insist that if managers do it, it must be profit-maximizing. Thus Morris Adelman:

"If the managers prefer a quiet life to earnings and growth, the stockholders may have no choice but to sell their shares. As the price per share falls, the firm becomes a tempting prize. The final result may be the acquisition by outside interests, or a stockholder suit expelling the old mismanagement, or failure, or absorption by another firm. These are all surface phenomena of a central fact: a company whose management does not aim at maximizing profit or present value has not the same chance of survival and growth as a company which does." [Adelman, 1970, p. 139]

Among other obvious drawbacks, this argument ignores the enormous transactions costs and delays of lawsuits and takeover battles, --and only applies to publicly-held corporations at that.

More toward the middle of the spectrum, Alchian and Kessel explain corporate profligacy in regulated industries as the natural consequence of restrictions on rate of return (Averch-Johnson effect). They then advance the more ingenious than plausible proposition that managers of large monopolistic firms take excessive "non-pecuniary" income lest an appearance of great profitability invite regulation. [Alchian and Kessel, 1962].

At the other end, a number of economists have developed theories as to how, in one way or another, corporate managers siphon off a share of monopoly profits. Such theories include Cyert and March's model of "corporate slack", Harvey Leibenstein's "X-Efficiency", and Oliver Williamson's model of managerial discretion. [Cyert and March, 1963; Leibenstein, 1966; Williamson, 1963]. Williamson shows how, given transactions costs, managers can always divert some limited portion of corporate monopoly profits to their own ends, be it "perks" or corporate "empires". His models are mathematically almost identical to some of mine in Chapters 1 and 2.

The problem with these theories is of course that the behavior they purport to explain isn't confined to monopolies. Moreover, which is what bothers the Chicago types, there is no good conventional theoretical reason why monopolists should have higher costs than non-monopolists. So here the wealth-transaction cost hypothesis offers a simpler and more universal explanation of managerial behavior: people, be they individuals or managers, behave in certain predictable ways according to the size of assets they control.

BIBLIOGRAPHY

Adelman, Morris A., "World Oil and the Theory of Industrial Organization," in Industrial Organization and Economic Development, Essays in Honor of E. S. Mason, Jesse W. Markham and Gustav F. Papanek, eds., Houghton-Mifflin Company, Boston, 1970.

Alchian, Armen A. and Ruben A. Kessel, "Competition, Monopoly, and the Pursuit of Money," Aspects of Labor Economics, National Bureau of Economic Research, Special Conference Series, No. 14, Princeton, N. J., Princeton University Press, 1962, pp. 157-175.

Alonso, William, Location and Land Use, (1964), Harvard University Press, Cambridge, Mass., 1974.

The American Almanac: The US Book of Statistics and Information for 1973, Grosset and Dunlap, Inc., New York, 1974.

Arrow, Kenneth J., Aspects of the Theory of Risk Bearing, Yrjö Jahnsson Lectures, Yrjö Jahnssonin Säätiö, Helsinki, Finland, 1965.

Arrow, Kenneth J., "Limited Knowledge and Economic Analysis," American Economic Review, Vol. LXIV, No. 1, (March 1974), pp. 1-10.

Atkinson, A. B., "The Distribution of Wealth and the Individual Life Cycle," Oxford Economic Papers, n.s., vol. 23, (July 1971), pp. 239-64.

Atkinson, A. B., "The Distribution of Wealth in Britain in the 1960's -- the Estate Duty Method Reexamined", in James D. Smith, ed., The Personal Distribution of Income and Wealth, Vol. 39, Studies in

Income and Wealth, National Bureau of Economic Research, Columbia University Press, New York and London, 1975.

Atkinson, A. B., The Economics of Inequality, London, Oxford University Press, 1975.

Averitt, Robert T., The Dual Economy: The Dynamics of American Industry Structure, W. W. Norton & Company, Inc., New York, 1968.

Banfield, Edward C., The Unheavenly City Revisited, Boston, Little Brown, 1974.

Atkinson, Thomas R. The Pattern of Financial Asset Ownership, Wisconsin Individuals, 1949, Princeton University Press, for National Bureau of Economic Research, 1956.

Barracrough, S., and Domike, A., "Agrarian Structure in Seven Latin American Countries," Land Economics, Vol. 42, pp. 391-424, 1966, cited in Dorner, 1972.

Becker, Gary S., The Economics of Discrimination, 2nd ed., The University of Chicago Press, Chicago and London, 1971.

Becker, Gary S., Human Capital, A Theoretical and Empirical Analysis, With Special Reference to Education, 2nd Edition, National Bureau of Economic Research, New York, Distributed by Columbia University Press, New York and London, 1975.

Becker, Gary S., The Economic Approach to Human Behavior, The University of Chicago Press, Chicago and London, 1976.

- Blake, Robert, and Jane Srygley Mouton, Productivity, The Human Side, AMACOM, New York, 1981.
- Blinder, Alan S., Toward an Economic Theory of Income Distribution, MIT Press, Cambridge, Mass., 1974.
- Blum, Jeffrey M., Pseudoscience and Mental Ability: The Origins and Fallacies of the IQ Controversy, Monthly Review Press, New York and London, 1978.
- Bowen, William G., and T. Aldrich Finegan, The Economics of Labor Force Participation, Princeton University Press, Princeton, 1969.
- Brittain, John A., The Inheritance of Economic Status, Studies in Social Economics, The Brookings Institution, Washington D.C., 1977.
- Brittain, John A., Inheritance and the Inequality of Material Wealth, Studies in Social Economics, The Brookings Institution, Washington D.C., 1978.
- Brodsky, Harold, "Residential Land and Improvement Values in a Central City," Land Economics, 46, (3), (August 1970), pp. 229-247.
- Budd, Edward C. and Daniel B. Radner, "The Bureau of Economic Analysis and Current Population Survey Size Distributions: Some Comparisons for 1964", in James D. Smith, ed., The Personal Distribution of Income and Wealth, Vol. 39, Studies in Income and Wealth, National Bureau of Economic Research, Columbia University Press, New York and London, 1975.

Burck, Arthur, "Why Auto Companies Are Too Big," Business Week, Nov. 17, 1980.

Caves, Richard E., "Uncertainty, Market Structure, and Performance: Galbraith as Conventional Wisdom," in Industrial Organization and Economic Performance, Essays in honor of Edward S. Mason; Jesse W. Markham and Gustav F. Papanek, editors; Houghton-Mifflin Co., Boston, 1970.

Christensen, R. P., "Taiwan's Agricultural Development: Its Relevance for Developing Countries Today," Foreign Agricultural Economic Report no. 39, US Department of Agriculture, 1968, cited in Dorner, 1972.

Clark, Kenneth, vs. Carl Gershman, "Black Plight--Race or Class?" New York Times Sunday Magazine, Oct. 5, 1980.

Coase, Ronald H., "The Nature of the Firm" (1937) Reprinted in C. Stigler & K. Boulding, eds., Readings in Price Theory, Richard D. Irwin, Inc., Chicago, 1952, pp. 331-51.

Coase, Ronald H., "The Problem of Social Cost," The Journal of Law and Economics, Oct. 1960, 3, pp. 1-44.

Comité Interamericano de Desarrollo Agrícola, "Tenencia de la Tierra y Desarrollo Socio-económico del Sector Agrícola," Pan American Union, 1965, cited in Dorner, 1972.

Cheung, Steven N. S., "Transaction Costs, Risk Aversion, and the Choice of Contractual Arrangements," The Journal of Law and Economics, April, 1969, pp. 23 - 42.

- Cyert, Richard M. and James G. March, A Behavioral Theory of the Firm, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1963.
- Doeringer, Peter B. and Michael J. Piore, Internal Labor Markets and Manpower Analysis, Heath Lexington Books, D. C. Heath and Company, Lexington, Mass., 1971.
- Dorner, Peter, Land Reform and Economic Development, Penguin Books, Baltimore, Maryland, 1972
- Dovring, F., "Land Reform and Productivity: the Mexican Case," Land Tenure Center Paper no. 63, 1969, pp. 1-22, from Dorner, 1972.
- Feder, Ernest, The Rape of the Peasantry, Anchor Books, New York, 1971.
- Ferguson, C. E., "The Relationship of Business Size to Stability: An Empirical Approach," Journal of Industrial Economics, IX, November 1960, pp. 43-62.
- Finegan, T. A., "Hours of Work in the United States: A Cross-sectional Analysis," Journal of Political Economy, October 1962, pp. 452-70.
- Forbes, "Ace in the Hole", 10/15/76, p. 52.
- Fortune, 1979 Fortune 1000, May 5, June 16, 1980.
- Frank, Charles R., Jr., and Richard C. Webb, eds., Income Distribution and Growth in the Less-Developed Countries, The Brookings Institution, Washington D.C., 1977.

Friedman, M., and Kuznets, S., Income from Independent Professional Practice, NBER, New York, 1945, cited in Atkinson, 1975b, p. 82ff.

Friedman, Milton, A Theory of the Consumption Function, Princeton University Press, Princeton, N.J., 1957.

Gaffney, M. Mason, Land Speculation as an Obstacle to Ideal Allocation of Land, PhD Dissertation, University of California, 1956.

Gaffney, M. Mason, "The Unwieldy Time-Dimension of Space," The American Journal of Economics and Sociology, Vol. 20, No. 5, Oct. 1961, pp. 465 - 481.

Gaffney, M. Mason, "The Property Tax is a Progressive Tax," Proceedings of the Sixty-Fourth Annual Conference on Taxation, National Tax Association, 1971, pp. 408 - 426.

Gaffney, M. Mason, Concepts of Financial Maturity of Timber and Other Assets, A. E. Information Series No. 62, Department of Agricultural Economics, North Carolina State College, Raleigh, North Carolina, December, 1960.

Gaffney, M. Mason, "Toward Full Employment with Limited Land and Capital," in Arthur Lynn, Jr. (ed.), Property Taxes, Land Use and Public Policy, University of Wisconsin Press, Madison, 1975, pp. 99-166.

George, Henry, Progress and Poverty: An Inquiry into the Cause of Industrial Depressions and of Increase of Want with Increase of Wealth ... the Remedy (1879), The Robert Schalkenbach Foundation, New York, 1962.

Ginzberg, Eli, "Youth Unemployment", Scientific American, May 1980,
Vol 242, No. 5, pp. 43-49.

Goldsmith, Raymond, A Study of Saving in the United States, 3 vols.,
Princeton University Press, Princeton, N. J., 1955-56.

Gould, Stephen Jay, Ever Since Darwin, W. W. Norton & Company, New York,
London, 1977.

Harbury, C. D., "Inheritance and the Distribution of Personal Wealth in
Britain," Economic Journal, vol. 72 (December 1962), pp. 845-68.

Harbury, C. D., and P. C. McMahon, "Inheritance and the Characteristics
of Top Wealth Leavers in Britain," Economic Journal, vol. 83
(September 1973), pp. 810-73.

Harbury, C. D., and D. M. W. M. Hitchens, "The Inheritances of Top Wealth
Leavers: Some Further Evidence," Economic Journal, vol. 86 (June
1976), pp 321-26.

Herrnstein, Richard J., IQ in the Meritocracy, Boston, Little Brown, 1973.

Holland, Daniel M., "The Effect of Taxation on Effort," Proceedings of
the Sixty-second National Tax Association Conference, (Oct. 1969),
National Tax Association, pp. 428-524.

Jencks, Christopher, Inequality, Basic Books, New York, 1972.

Jencks, Christopher, et. al, Who Gets Ahead? The Determinants of Economic
Success in America, Basic Books, New York, 1979.

- Johnson, R. G., and Buse, R. C., "A Study of Farm Size and Economic Performance in Old Santa Rosa, Rio Grande do Sul," Land Tenure Center Research Paper no. 27, pp. 1-77, 1967, cited in Dorner, 1972.
- Kanel, D., "Size of Farm and Economic Development", Indian Journal of Agricultural Economics, vol. 22, pp. 26-44, 1967, cited in Dorner, 1972.
- Kempe, John, and Ruth Kempe, Child Abuse, Harvard University Press, Cambridge, Mass., 1978.
- Lampman, Robert J., The Share of Top Wealth-Holders in National Wealth, 1922-56, Princeton University Press for the National Bureau of Economic Research, 1962.
- Lebergott, Stanley, The American Economy: Income, Wealth, and Want, Princeton University Press, 1976.
- Leibenstein, Harvey, "Allocative Efficiency vs. X-Efficiency," American Economic Review, June 1966, pp. 392-415.
- Lester, Richard, "Pay Differentials by Size of Establishment," Industrial Relations, VII, October 1967, pp. 57-67.
- Lewis, Oscar, La Vida, Vintage Books, New York, 1965
- Linder, Staffan Burenstam, The Harried Leisure Class, Columbia University Press, New York, 1970.
- Long, E. J., "The Economic Basis of Land Reform in Underdeveloped Countries," Land Economics, Vol. 37, pp. 113-23, 1961, cited in

Dorner, 1972.

Martin, David D., "Resource Control and Market Power," pp. 119-137, in Extractive Resources and Taxation, Mason Gaffney, ed., University of Wisconsin Press, Madison, Wisconsin, 1967.

Mattila, J. Peter, "Job Quitting and Frictional Unemployment," American Economic Review, March 1974, pp. 235-239.

Mayer, Thomas, Permanent Income, Wealth, and Consumption, University of California Press, Berkeley, Cal., 1972.

Meade, James E., Efficiency, Equality, and the Ownership of Property, Allen & Unwin, London, 1964.

Modigliani, Franco and Richard Brumberg, "Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data," in Kenneth K. Kurihara, ed., Post Keynesian Economics, Rutgers University Press, 1954.

Monsen, R. Joseph, "Who Owns the City", 37 Land Economics, (May 1961), pp. 174-178.

Okun, Arthur M., Equality and Efficiency: The Big Tradeoff, Brookings Institution, Washington D.C., 1975.

Oulton, Nicholas, "Inheritance and the Distribution of Wealth," Oxford Economic Papers, n.s., vol. 28, (March 1976), pp. 86-101.

Pigou, A.C., The Economics of Welfare (1922), 4th ed., MacMillan & Co., London, 1932

Pratt, John W., "Risk Aversion in the Small and in the Large,"

Econometrica, Vol. 32, No. 1-2, January-April 1964, pp. 122-136.

Projector, Dorothy S and Gertrude S. Weiss, Survey of Financial

Characteristics of Consumers, Board of Governors of the Federal Reserve System, 1966.

Rea, Samuel A. Jr., "Unemployment and the Supply of Labor," Journal

of Human Resources, Vol. IX, No. 2, (Spring 1974), pp. 279-289.

Reynolds, Lbyd G., Labor Economics and Labor Relations, 6th ed.,

Prentice Hall, Englewood Cliffs, New Jersey, 1974.

Reynolds, Lbyd G., The Structure of Labor Markets, New York, Harper,

1951.

Rubin, Lillian Breslow, Worlds of Pain, Life in the Working-Class Family,

Basic Books, Inc., New York, 1976.

Ruttan, Vernon W., "Tenure and Productivity of Phillippine Rice Producing Farms," Phillipines Economic Journal, vol. 5, 1966, pp. 42-63.

Cited in Dorner, 1972.

Sahlins, Marshall, Stone Age Economics, Aldine Publishing Company,

Chicago, 1972.

Sahota, Gian Singh, "Theories of Personal Income Distribution: A Survey",

Journal of Economic Literature, Vol. XVI, (March 1978), pp. 1-55.

Sampson, Anthony, The Sovereign State of ITT, Stein & Day, New York, 1973.

Schickele, Rainer, "Farm Tenure Under the Strain of War," Journal of Farm Economics, 25 (Proceedings), 1943, pp. 235-44. Cited in Gaffney, 1961, p. 472].

Seligman, Martin, Helplessness, W. H. Freedman, San Francisco, Cal., 1975.

Seyfried, Warren R. and Burton A. Appelo, "Land Tenure in the Central Business District," 42 Land Economics, 171 (1966), pp. 171-178.

Sherman, Howard J., Profits in the United States: An Introduction to a Study of Concentration and Business Cycles, Cornell University Press, Ithaca, New York, 1968, Chp. 2

Slichter, Sumner, "Notes on the Structure of Wages," Review of Economics and Statistics, Vol. 32, February 1950, pp. 80-91.

Smith, Adam, An Inquiry into the Nature and Causes of the Wealth of Nations, Great Books of the Western World, Robt. Maynard Hutchins, Editor-in-Chief, William Benton, Publisher, Encyclopaedia Britannica, Inc., Chicago, London, Toronto, 1952

Smith, James D., "White Wealth and Black People: the Distribution of Wealth in Washington D.C., in 1967," in James D. Smith, ed., The Personal Distribution of Income and Wealth, Vd. 39, Studies in Income and Wealth, National Bureau of Economic Research, Columbia University Press, New York and London, 1975.

Smith, James D. and Stephen D. Franklin, estimates reported in U.S. Bureau of the Census, Statistical Abstract of the United States, 1975, Government Printing Office, 1975.

- Smith, James D. and Stephen D. Franklin, "New Dimensions of Economic Inequality: The Concentration of Personal Wealth, 1922-1969," American Economic Review, Vol. 64, No. 2, (May 1974), Papers and Proceedings, 1973, pp. 162-167.
- Sowell, Thomas, Race and Economics, Longman Inc., New York, 1975.
- Sternleib, G. and R. W. Burchell, Residential Abandonment: The Tenement Landlord Revisited, Center for Urban Policy Research, Rutgers University, 1973.
- Stigler, George J., "Alfred Marshall's Lectures on Progress and Poverty," The Journal of Law and Economics, April, 1969, pp. 181-226.
- Stiglitz, Joseph E., "The Effect of Income, Wealth, and Capital Gains Taxation on Risk Taking," Quarterly Journal of Economics, (May 1969), pp. 263-283.
- Stiglitz, Joseph E., "Distribution of Wealth Among Individuals," Econometrica 37, (July 1969), pp. 382-97.
- Stiglitz, Joseph E., "Incentives and Risk Sharing in Sharecropping," Review of Economic Studies, Vol. XLI(2), No. 126, (April 1974), pp. 219-255.
- Taubman, Paul, and Terence Wales, Higher Education and Earnings: College as an Investment and a Screening Device, McGraw-Hill for the National Bureau of Economic Research, 1974.
- Thernstrom, Stephan, Poverty and Progress, Social Mobility in a Nineteenth Century City, (1964), Atheneum, New York, 1978.

Thurow, Lester C., Generating Inequality: Mechanisms of Distribution in the U. S. Economy, Basic Books, Inc., New York, 1975.

U.S. Bureau of the Census, Statistical Abstract of the United States: 1979.

U.S. Department of Agriculture, Changes in Agriculture in Twenty-six Developing Nations, 1948-1963, Foreign Agricultural Economic Report no. 27, 1965, cited in Dorner, 1972.

Veblen, Thorstein, The Theory of the Leisure Class, (1899), Mentor Edition, New York, 1953.

Weiss, Leonard W., "Concentration and Labor Earnings," American Economic Review, LVI, March 1966, pp. 96-117.

Watts, Harold, and Glen C. Cain, "Basic Labor Responses from the Urban Experiment", Journal of Human Resources, Vol. 9, No. 2, (Spring 1974), pp. 156-278.

Whimbey, Arthur, with Linda Shaw Whimbey, Intelligence Can Be Taught, E. P. Dutton, New York, 1975.

Williamson, Oliver E., "A Model of Rational Management Behavior," in Cyert and March, A Behavioral Theory of the Firm, Prentice Hall, Englewood Cliffs, New Jersey, 1963, pp. 237-252.

Williamson, Oliver E., "Wage Rates as a Barrier to Entry: The Pennington Case in Perspective," Quarterly Journal of Economics, February 1968, pp. 85-116.

Williamson, Oliver E., Markets and Hierarchies, Analysis and Antitrust Implications, The Free Press, New York, 1975.

Vernon, Raymond, Sovereignty at Bay: The Multinational Spread of U.S. Enterprise, Basic Books, Inc., New York and London, 1971.