

# Chapter 1

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## The Trajectory and the Potential

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Most people in the world traditionally knew where they stood in the hierarchy of wealth. They knew from childhood whether they were wealthy or poor. They did not need a wide range of categories to bracket themselves. A few pigeonholes covered the possibilities. Most people could also resign themselves to staying down if they were not in one of the higher categories. Their hope—and for most it was a slim hope—was that their children would move up.

Now it takes more categories to classify people, and there are more people moving up, and people know it. They have realistic hopes of ascending the ladder of wealth during their own lifetimes. A latter-day version of Nurkse's "demonstration effect" has portrayed for many precisely what the next steps up the ladder look like. Full-motion color video and quadraphonic sound now envelop even the poorest people, and demonstrate for them much more detail than Nurkse contemplated in 1958, when battery-powered radios carried the vanguard of information propagation beyond the span of the electric power grid.

People stuck in a rut of poverty, in a chronic state of unconsummated aspiration, now know that entire communities, even entire countries, can suddenly become wealthier. They know the heretical truth, and they

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grasp it at an instinctual level. They do not know how to make it happen, but they know perfectly well that it does happen. It happens across the world, across town, and across the street. People know it whether they live in cities or in remote areas, even in countries that try to control access to information.

This heretical, universally known truth has four premises:

- The world is much wealthier than it was 10 or 20 years ago.
- The potential for further enormous increases is at hand.
- Wealth is increasing at a faster rate each year.
- The wealthy are getting wealthier, and their wealth is growing faster and faster.

There are uncertain parts too: the questions of whether the poorest are obtaining any absolute improvement in living standards, and how to bring the benefits of increasing wealth to the entire population.

The potential world wealth today could be as high as \$1 quadrillion. This figure is an estimated maximum potential market value of all productive assets on earth. These include land, buildings, machines, intellectual property, and franchises. These also include mineral resources that have already been discovered and developed, as well as commercial forests. This figure also includes the value that organizations like corporations are able to achieve in excess of the value of the assets they are managing. This figure does not assume any quantum leap in technology or resources. Explicitly, it does not assume that a clean, renewable, costless source of energy will be discovered; it does not assume any sudden increase in the educational level of the workforce; it does not assume any big jump in construction or infrastructure; and it does not assume any important new discoveries of oil or minerals.

The \$1 quadrillion figure for potential wealth compares with the much lower figure that exists today. With today's market conditions, total world wealth does not exceed \$130 trillion. Today's total includes more than \$87 trillion worth of financial assets; other assets are not securitized, and so are not priced daily in financial markets. Those other assets would probably be appraised at about \$42 trillion today.

The gap between today's puny level and the much larger potential level seems enormous, but it is due to only a few factors, and those factors

are easy to identify and remedy. Moreover, the task of raising the market values up to their potential level is already underway, and the gap is being bridged very quickly.

To put the world wealth figures into per capita terms, the potential is \$166,666 of assets for each of the 6 billion people on earth, compared to the approximately \$20,000 that has been achieved until now. The same assets can be worth more, but presently are not. The increase in value is approximately 20 times the world average annual per capita income. Wealth increases have the potential to exceed income and have already done so for short periods of time. The steep rise of wealth can be made to continue.

### ***Tracking the Rise***

Most readers would not have guessed how high world wealth has already risen. The big increase has been recent, and most of the increase has been in the market value of financial assets. The tangible assets that most people used to think of as wealth have not increased much. There is no more land than there was before, and only slightly more gold has been extracted and refined. There may be more buildings and roads but there are probably fewer trees, and there is certainly less oil because so much of it has been extracted and burned.

So it would seem that there is not much more real, physical wealth in the world than there was at those times in the past that people think of as reference points, like 1980 or 1990. Nevertheless, the rise in market value of financial assets has been spectacular. In 1980 the value was \$13 trillion. By 1990 it had reached \$37 trillion. And at the end of 1998 it was \$78 trillion. The annual compound growth rate for the first interval was 11%, already a remarkable rate. The growth rate for the second time interval was 9.7%. And the growth rate from 1996 to 1999 has been 14.3%, an astounding increase by any standard, so astounding as to require discussion.

The 14.3% annual rate of growth from 1996 to 1999 is not the achievement of one country; it is a world average. It is 1½ times higher than the growth rate of the previous period, and if it continues it would quickly raise world financial wealth to the \$500 trillion level, and from there to the \$1 quadrillion target figure. At a 14.3% annual growth rate, the year-end 1998 figure of \$78 trillion compounds to \$500 trillion in 14 years, or by 2012. At the slightly higher annual growth rate of 23%, it compounds to the \$1 quadrillion level over the same time horizon. Fi-

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financial assets grew faster than the world average in many individual countries, so they might achieve the potential level in less time.

Skeptics argue that these growth rates are aberrations, and are not sustainable. They argue that the world is in a serendipitous interlude, when conditions favor a buildup of financial wealth, but sometime soon conditions will revert to normal, and financial wealth will fall back into its normal proportions. They support their argument by scrutinizing components of total financial wealth, and then affirming that the growth in the total is accounted for by only a few of the components. They then argue that those few components are going to slow down, or go into descent. Let us consider some of the standard arguments that skeptics adduce.

First, the growth of financial assets was not entirely driven by the rise of the U.S. stock market. Taking out the U.S. stock market boom, the annual rate of increase from 1996 to 1999 was still 10.1%. Second, the growth was not entirely driven by new issuance of government bonds. Taking out the increase in Japanese and Euroland\* government bonds, the annual growth rate from 1996 to 1999 was still 11.8%. Third, the growth was not caused by inflation in the prices of goods and services. Inflation was low in the United States, Euroland, and Japan during the 1996 to 1999 period. Inflation would not have caused the market value of financial assets to rise, because it is the enemy of financial assets. Financial assets are claims on future amounts of *money*, not future amounts of purchasing power. Their market prices would not rise if investors were worried about inflation. Fourth, a falling rate of inflation did not cause the rise of financial assets either. Inflation in the dollar market was high in 1980, then declined by 1982, and has been low ever since.

The high growth rates are not so easy to brush aside. They survive the piece-by-piece deconstruction. In particular, the rise is not entirely a case of collective speculative delusion. It is not simply a few million rich kids tossing a few dozen hot stocks back and forth among themselves at astronomical prices. That is just the foam on top of the wave. The wave is much more substantial than that.

To dissect the increase in financial assets, and see what it consists of, consider Table 1.1. The numbers are a consequence of several important trends.

\* The countries of the European Union, which have adopted the euro as a common currency.

**Table 1.1 World Financial Assets, \$ Trillions**

Category	1980	1990	2000 (est.)
Bank deposits and cash	5	15	24
Equities	3	8	38
Government bonds	3	9	17
Corporate bonds	2	5	9
Total	13	37	88

Note: Excludes mortgages and gold. Total for 1998 was \$78 trillion.

Source: Data from the International Monetary Fund (IMF), International Finance Corporation (IFC), Bank for International Settlements, Morgan Stanley Capital Markets International (MSCI), Salomon Smith Barney, and *The Economist*.

First, banks are losing market share everywhere. Middle-class savers used to put their money into savings accounts at banks. Now they no longer do so. Instead, they put their savings into mutual funds and pension funds. Savers also buy stocks and bonds directly, and they do so in much greater numbers than they used to. They now feel confident enough to buy stocks and bonds, when previously only the intrepid and the wealthy did so. The recent performance of stocks and bonds has justified their confidence. If their confidence continues, and if the buying power they can muster is sufficient, the dollar value of financial assets can keep rising, and can keep revalidating their confidence.

Second, stocks held in tax-exempt retirement and pension accounts are gaining market share. Middle-class savers used to be cautious with the savings under their control, because their pensions and their current livelihood were both tied to the same employer. If the company they worked for went under, it would take their job and their pension down together. The Employee Retirement Income Security Act, passed in the late 1970s, gradually decoupled pension security from job security, so savers now are more risk tolerant.

Third, there are now more savings products offered to middle-class savers. These products target narrower segments of the saving public, and appeal to them at different phases of the life cycle. Savers who might not have put much into plain-vanilla financial products like savings accounts or whole life insurance policies have put money into products that combine tax exemption, downside protection, and upside potential.

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In summary, the rise of financial assets has its grounding in the happy conjuncture of macroeconomic stability, favorable tax and regulatory rulings, and savers who can afford to take risks. Later chapters will show how some corporate managers and governments have done their part to spur the rise. The same illustrations will show there is still more room for growth. The rise is gathering momentum and gaining new converts and can continue.

### ***Is \$1 Quadrillion Attainable?***

Starting from \$78 trillion in 1998, can the market value of world financial assets reach \$500 trillion or \$1 quadrillion in a short time? Surely that would be a stupendous accomplishment. Those immense figures equate to 500 million or 1 billion people with financial assets of \$1 million each, assuming that the rest of the people on earth have no financial assets. A vertical ascent that large would be too much of a leap. All the world's productive assets, even if they were securitized and packaged as well-designed financial assets, could hardly support such a high figure for world financial asset value.

Standard calculations show how difficult it would be for world financial asset values to attain the \$500 trillion or \$1 quadrillion level. World annual output for 1999 is worth \$39 trillion. For a country, total market value of financial assets can hardly be expected to exceed 5 times the value of annual output. If the same multiple is applied to the world, it would seem that the maximum attainable figure for financial asset values, assuming that all assets had been securitized, would be \$195 trillion. A different calculation indicates how high the target figure is, compared to annual output and savings. Suppose that world savings is 25% of output. Suppose also that all savings are invested in low-yielding investments like bank deposits or short-term government bonds. Savings would be \$9.75 trillion for the year 1999, and that is only  $\frac{1}{43}$  of the difference between \$78 trillion and \$500 trillion  $[(500 - 78)/9.75 = 43]$ . And it is only about 1% of the difference between \$78 trillion and \$1 quadrillion.

These standard calculations are correct, yet it is still possible for world financial assets to attain a total market valuation of \$500 trillion or \$1 quadrillion in less than 20 years. Three facts make this exclamatory assertion a real possibility:

- *Prices of financial assets sometimes rise sharply when only a small portion of them change hands.* To see why, consider first an example from the world of tangible assets. Suppose that in a town there are 10,000 houses. During a normal year 500 of these come onto the market. If, in a particular year, 800 would-be buyers appear, the prices are bid up. Some owners who were not thinking of selling change their minds and put their houses on the market. This increases the supply, but the total number of houses for sale does not reach 800. Some would-be buyers give up, but others persist. So the prices keep moving up, until finally the number of houses offered equals the number purchased. If 700 houses are sold, for example at prices 20% higher than they were before, the 9,300 owners who did not sell have a gain. The gain is a paper profit, and may disappear before they are able to take advantage of it, but in the meantime they can borrow against their houses as if the new, higher valuation were real.

Now consider a common stock. Seventy million shares of this stock have been issued, but most of them are not for sale. They are held in blocks by the group that controls the company, or by large, long-term investors. The free float of shares that are available in the market on a daily basis may be only 20 million. Daily trading may be only 1 million shares. So if buyers appear wishing to buy 2 million shares, their purchases may drive up the price. Again, the price increase is a paper profit for the holders of the 68 million shares that did not trade that day. Nevertheless, those shares can be pledged as collateral for loans, and they will be valued as if they were really worth the most recent market price.

So a small amount of buying, much less than \$9.75 trillion per year—indeed, less than \$3 trillion per year—can drive up market prices of financial assets. The buying power only has to slightly exceed the selling, and only on a majority of days, not every trading day.

- *Savings are not the only source of buying power.* Owners of tangible productive assets like farms can convert them into financial assets. At first glance this would not seem to generate any new buying power, but it can. Suppose that a person owns a farm worth \$500,000. The owner mortgages the farm for \$400,000, and puts

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the proceeds into a bank account. This creates a mortgage receivable and a bank account. The owner's net worth is the same as before. The only difference is that the owner holds more of it in the form of financial assets and less in the form of unencumbered tangible assets. Financial assets rise by \$800,000—namely, bank accounts rise by \$400,000 and mortgages receivable rise by \$400,000. This transformation does not immediately create any new wealth. But it does add to the total amount of financial assets, and it can also increase buying power for volatile financial assets.

Suppose that the farm owner uses the \$400,000 to buy common stocks that have small amounts of free float. This purchase might drive up prices of these stocks. Suppose that one of them was the stock mentioned before, and the farm owner's purchase drove up the price of the stock by \$1. In that case, for one day at least, the farm owner's purchase would have raised the market value of that company's shares by \$70 million.

But who had the \$400,000 before, and what prevented them from using it to buy the stock? The bank that gave the farm owner the loan had the money before. The bank got it from its depositors. The depositors could have bought the stock, but they did not. They were risk averse. The farm owner took a risk. The farm owner mortgaged the farm and put the money into a volatile stock.

The risk taking in this example is an important part of its message. The farm owner could have used the \$400,000 to buy Treasury bills. But Treasury bills do not jump up in value the way volatile common stocks can. If the market value of financial assets is going to reach a level as high as \$500 trillion or \$1 quadrillion quickly, owners of assets are going to have to take actions that historically have been considered risky. Investing in growth will give capital gains, and later some of the gains will be invested in bonds, including newly issued bonds.

- *Many new businesses produce and sell intellectual property.* For example, they invent new drugs, or they write new computer software. It is widely agreed that they create value when they do this. It is also clear that the value they create is not limited by the constraints that implicitly cap the value of financial assets. The cap of 5 times annual output can be surpassed. For an illustration, consider an is-

land country that has two industries: farming and iron-ore mining. The total value of all claims on this economy is strictly limited. Rational investors would not pay more than 5 times the value of the annual output of the farms. This assumes that the crops are annual staples with no exceptional qualities, and that labor and purchased inputs leave only part of the value of the output to pay dividends to the owners of the farms. Rational investors would not pay more for the iron-ore mines than the present value of the ore in the ground, less the costs of extracting it. So the market value of the total capital stock of this island economy is capped.

Now suppose that a brilliant person on the island discovers a new drug that can cure malaria, tuberculosis, and AIDS. This truly remarkable compound is cheap and easy to make. In a spirit of civic generosity, the brilliant person donates the patent to the government of the island country. The cap can now obviously be exceeded. The government can now sell enormous amounts of government bonds, and the total value of financial assets supported by the country's assets will greatly exceed 5 times its annual output.

The cap on market values of productive assets comes from traditional relationships between inputs and outputs, and from traditional ranges for the distribution of the output. Seed, land, and labor produce grain. Some of the grain has to be set aside as seed, and the laborers have to eat. The landowner can keep the rest. When the landlord wants to sell a farm, the value of the land is determined by its fertility, by the price of the crop, and by the opportunity cost of capital. Since farming is an uncertain business, a buyer who pays more than 5 times the value of the annual output will probably regret it.

Many businesses now, however, do not obey these traditional relationships. The relationship between inputs and outputs does not stay within predictable ranges. Computer software is an example. The cost of writing a new program may be recouped after the first 10,000 copies of it are sold. But it may go on to sell millions more copies. For some businesses, it is apparently rational to pay 25 or more times annual revenues. If that ratio would apply to all the income-producing properties in the world, they would already be worth \$975 trillion ( $\$39 \text{ trillion world output} \times 25 = \$975 \text{ trillion}$ ).

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The question of whether the market value of world financial assets can or will reach \$500 trillion or \$1 quadrillion is therefore open. The possibilities for assets to increase in value are so open-ended that old rules of thumb do not cap them. The traditional 5-to-1 cap implies that for world wealth to reach \$1 quadrillion, world annual output would have to reach \$200 trillion. But that traditional ratio may no longer apply. So world wealth may reach \$1 quadrillion before world annual output reaches \$200 trillion.

### ***Requirements for \$500 Trillion of Financial Wealth***

This book presents two similar scenarios for world wealth. This chapter presents the first scenario, illustrating what the annual macroeconomic aggregates would have to be for world wealth to reach a market value of \$500 trillion. Chapter 12 presents another scenario, showing what those aggregates would have to be for world wealth to reach a market value of \$1 quadrillion. As mentioned, the two scenarios are similar to each other; the one in Chapter 12 is just a bit more extreme. Both describe a vision of prosperity that the world can reach. Both are expressed in terms of world aggregates, and the reader may find them iconoclastic. If this book achieves its intended effect, the latter scenario will seem unremarkable and reasonable. Achieving a fivefold or tenfold increase in world wealth will seem a suitable and feasible objective.

Here is the first scenario. Suppose that world financial assets have a market value of \$500 trillion. Suppose that the \$500 trillion consists of bonds, bank deposits, and other fixed-income securities worth \$200 trillion, and common stocks worth \$300 trillion. The fixed-income securities yield 5% on average, so \$10 trillion of annual output would have to be dedicated to paying interest to the holders. The common stocks are trading at 30 times earnings, so \$10 trillion of corporate earnings would be needed to support the \$300 trillion valuation of all common stocks.

What level of annual world output would be required to support those amounts of debt service and corporate profit? Historically, total interest payments plus corporate profits after tax have been less than 25% of annual output. On that basis it would appear that world annual output would have to be at least \$80 trillion. That is slightly more than twice the 1999 level of \$39 trillion. But suppose world output were \$60 trillion, and \$20 trillion of that were dedicated to interest payments and corporate

profits. That could be done if society chose to direct those resources to those ends. In that event there would still be \$40 trillion of annual output left over, after interest and corporate profits. That would leave about \$6,700 a year per person for the 6 billion people on earth, well in excess of the present figure of approximately \$5,500. The people who do not own financial assets could gain 22% in per capita income terms while world output increased 54%. Holders of financial wealth, including new holders, would gain more than 500% from the policy of dedicating a higher portion of the annual output to corporate profits and interest payments.

The policy would make winners of some people and would leave some others as losers, at least in relative terms. The winners would gain much more than enough to be able to compensate the losers. Here is a direct way of showing how easily the winners could afford to compensate everyone who would be worse off in any sense. Suppose the owners of financial assets give the nonowners some of their gargantuan capital gains, which would be most of the increase of \$422 trillion (\$500 trillion – \$78 trillion = \$422 trillion). If every winner gave one-tenth of his or her gain to a pool to compensate the losers, the pool's worth would equal approximately one entire year's annual output.

Another way to show that the winners could compensate the losers is to describe two growth paths. The first one prioritizes current consumption: Society pays to owners of financial assets whatever is left over after current consumption needs have been met. The second one prioritizes the value of financial wealth. On the first path, annual world output rises at 3.1% per year, and the value of financial assets grows at a slow rate, for example 7%, because payments to wealth holders are held at a low level. On the second path, annual world output grows at 3.1% per year, and the value of financial assets grows at 14.3% per year. The difference in the first year would be 7.3% ( $14.3\% - 7\% = 7.3\%$ ) of \$78 trillion, or \$5.7 trillion. That amount is nearly 5 times the value of the annual increase in world output of \$1.2 trillion. It follows that wealth can increase much faster than output, and winners would have enough gains to compensate losers several times over. Directing more of each year's output to reward wealth holders creates a much bigger pie.

To conclude this scenario, the computations indicate that world output would have to rise only a little more than 50% to support a sextupling of world wealth, to \$500 trillion. The key requirement for wealth to in-

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crease that much is to dedicate a larger portion of current output to corporate profits and interest payments. World output would have to grow at only 3.1% a year to accomplish an increase of slightly more than 50% in 14 years. World output has grown that fast during several periods in the past, and can do it again. World financial wealth would have to grow only as fast as it did in the 1996 to 1999 period to reach \$500 trillion by the 2012 to 2014 time frame. It can grow that fast, and if it does, the impact on all facets of life on the planet will be unprecedented.

The scenario in Chapter 12 is only a bit more extreme. After the descriptions and numerical illustrations in the chapters that follow, it may seem obvious and attainable. Yet the scenario in Chapter 12 contemplates world wealth of \$1 quadrillion, a figure more than 10 times today's level.

In conclusion, the world economy is on a trajectory of rapidly increasing financial wealth. Annual output, the daily fare of news about the economy, is growing at its usual slow and erratic pace, and government policymakers in Euroland and Japan are trying to reactivate sluggish growth. Financial wealth, meanwhile, is growing beyond all previous magnitudes. Financial wealth has always risen and fallen, and has not been at center stage. Now it has taken the starring role, and is pushing aside other measures of economic performance. Financial wealth has not yet come anywhere near reaching its potential. The magnitudes discussed here seem outlandish, but the world economy is on a trajectory to attain them. The following chapters show piece by piece the mechanisms and motors that are creating so much financial wealth.