Equity markets across the world continue to struggle. The indices of most developed countries remain below the level they were at in 2000 when the 20th century ended. Many investors are worried that stocks will continue to provide inferior returns for years to come. Unfortunately, they may be right.

Historical Returns to Stocks and Bonds

Equities reflect the present value of future earnings and free cash flow to a corporation. If investors anticipate that future earnings will rise, stock prices rise, but if investors anticipate a decline in future profits, share prices will fall.

As shown in Figure 20.1, during the 18th and 19th centuries, the average share price of equities changed little over a period of decades because there was little inflation. Investors did not have to consider the trade-off between income taxes and capital gains taxes, and most profits were returned to shareholders as dividends.

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This changed in the 20th century. As countries abandoned the gold standard and allowed their paper currencies to inflate, share prices rose (often accompanied by numerous stock splits). As governments grew in size, so did taxes, and in countries where income taxes on dividends exceeded capital gains taxes, investors benefited from allowing corporations to reinvest profits that generated capital gains. As illustrated in Figure 20.2, anticipation of future capital gains led to price/earnings (P/E) expansion as investors anticipated rising earnings. Finally, as central banks manipulated interest rates to influence the economy, lower interest rates made equities more attractive contributing to the rise in equity prices.

At the same time, returns to fixed-income investors today are at unprecedented low levels. Short-term treasuries yield almost nothing in the United States while a 10-year bond yields around 2%. Generally speaking, the long-term yield to fixed-income investors equals the coupon when the bonds are issued, so fixed income investors should expect no more than a 2% annual return for the next decade, and if inflation were to pick up, real returns after inflation could be negative. If yields stay at these low levels, fixed-income investors get little or no return, and if yields fall, the situation becomes even worse. If inflation or other factors drive yields up, fixed-

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income investors face capital losses that reduce their total return.

Could the 21st century be reverting back to the condition of stock markets in the 18th and 19th centuries when the capital gains on stocks were minimal or non-existent? Unfortunately, the answer to this question could very well be yes.

Japan's Two Lost Decades

Japanese investors saw little or no return between 1990 and 2015. As illustrated in Figure 20.3, from 1950 to 1989, Japan had one of the best-performing markets in the world when the annual return to stocks and bonds was 14.24% per annum. The phenomenal growth in equity returns occurred as Japan's economy caught up with the rest of the world after the devastation of World War II. Since 1989, stock prices have declined dramatically, showing an annual decline of 1.1% between 1989 and 2015. At the end of 2011, the Nikkei was at the same level it had been at in 1986, almost 30 years with no change in stock prices. Moreover, the trendline on Japanese equities remains down. With the yield on Japan's 10-year bond actually turning negative in 2016, bonds provide a poor alternative to equities which provide a 2% dividend yield. With the Yen appreciating against other currencies, the return from foreign investments to Japanese investors is reduced. Is this the fate of investors in the rest of the world in the century to come?

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What went wrong? Why did stocks perform so poorly in Japan between 1990 and 2015? Part of the explanation is the bubble in stocks that occurred in Japan in the late 1980s, pushing share prices to unsustainable levels, just as Internet stocks increased in value in the 1990s. However, while other indices may stabilize after the bursting of an equity bubble, Japan remains in a downward trend. But why would it take over 25 years to recover from an asset bubble? The more important long-term factor is Japan's Nominal GDP, which in 2015 was little changed from 1992. No increase in GDP meant no increase in profits and no increase in stock prices. Whereas GDP had been rising in Japan from the end of World War II until 1990 allowing profits to increase and stock prices to rise, the end to rising GDP not only kept profits from growing but led to a compression in the PE Ratio and lower stock prices.

This is illustrated in Figure 20.4. The Price/Earnings Ratio for Japanese stocks was between 10 and 15 during the 1960s, but rose after that to 70 in 1989 when stock prices peaked, and to almost 100 in 1995. This allowed the price of stocks to increase faster than earnings. Since then, this trend has reversed. Once again, the P/E Ratio lies in the 10 to 15 range as it did in the 1960s. This at least means that the prices of Japanese stocks are unlikely to decline further unless the earnings of Japanese companies decline.

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Figure 20.4. Japan P/E Ratio, 1956 to 2015.

In addition to enduring a stable GDP, the Japanese population declined between 2003 and 2015 and only increased by 3.5% between 1990 and 2015. The Japanese population has been aging, reducing the number of people of working age and in the labor force, further reducing the ability of GDP to grow. As the dependency ratio between workers and non-workers increases, the cost of supporting retirees rises, further limiting the growth in profits and thus share prices. This trend is reflected in the fact that labor force participation in Japan has fallen from 64% in 1970 to 59% in 2016. Although the size of government in Japan is smaller than it is in the rest of the developed world, government expenditures represent about 40% of GDP, leaving only 60% of the economy for the private sector to generate the growth needed to provide the future corporate profits that will allow share prices to increase. Could Japanese share prices be the same in 2050 or 2100 as they were in 2015? Yes. If the profits of Japanese corporations fail to grow, then stock prices will stay where they are now. With no inflation, no growth in population, a shrinking labor force, a low dividend yield, a low yield on government bonds, rising government debt, an increase in the dependency ratio as the population ages, and a stronger yen, this remains not only a possibility, but a probability. People talk of Japan's lost decade. Could it be a lost century? More importantly, is this the fate that awaits the rest of the developed world?

America's and Europe's Lost Decade

Most of the factors that have kept share prices from rising in Japan are also present in Europe and the United States. Europe's population is shrinking in some countries and stagnant in others, though population in the United States is rising due to higher birth rates and immigration. However, both the United States and Europe face aging populations with rising dependency ratios. Labor force participation peaked in the United States in 2000 and has declined since then, while labor force participation in Europe has been declining since the 1990s. A large portion of the increase in labor force participation at the end of the 20th century came from women joining the workforce, but women's share of the labor force has stabilized since the 1990s. Many governments have tried to spend their way out of stagnant economies by running large budget deficits caused by increases in government spending and declining government taxes; however, the deficits these policies have produced are unsustainable and have led to austerity programs in countries facing fiscal crises. A second response has been to expand the Central Bank's balance sheet as a way of providing liquidity to the private sector. These policies have also sent interest rates to unprecedented historical lows, even to negative rates in some cases, reducing returns to fixed-income investors. Low interest rates may encourage corporations to borrow but hurt investors saving for the future. One important fact to remember about fiscal and monetary policy is that they can help the economy reduce the impact of economic and financial crises, but it is more difficult for them to create real growth. Fiscal policy can redistribute income to avoid large drops in aggregate demand, but true GDP growth comes

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from increasing productivity and the amount of resources allocated to economic activity. Monetary policy can be used to control inflation, or the Central Bank can act as a lender (or bond purchaser) of last resort to prevent a financial meltdown, but monetary policy cannot generate changes in productivity or the amount of economic resources that are used in the economy. Only the private sector can generate the economic growth needed to increase corporate profits and equity prices. And as the size of the private sector shrinks, it becomes more difficult to generate growth in the economy. In one important way, Europe and the United States are in a worse position than Japan. In many European countries, the government represents half of GDP. Although the government—federal, state, and local—represents about 40% of GDP in the United States, if you add in the health and education sectors, which are largely state-provided in Europe, the government, health, and education sectors represent about 50% of GDP in the United States as well. This leaves only 50% of the economy to the private sector. At the beginning of the 20th century, government represented around 10% of the economy when countries were not at war, leaving 90% of the economy in the for-profit sector to generate profits for investors. That is no longer true. In addition to government expenditures, the cost of transfer payments and the impact of government regulations must also be considered as factors that limit the growth in corporate profits. So in a world where the non-profit government sector represents half of GDP, where populations are stable and labor force participation is shrinking, where populations are aging and the dependency ratio of non-workers to workers is rising, where inflation is low or stable, where nominal GDP is stable, where the “catch-up” growth that occurred in Japan and Europe after World War II has come to an end, where governments have built up large debts, sometimes exceeding GDP, where these governments have even larger future liabilities in terms of pension and health care for retired workers, how can investors anticipate the increase in profits necessary to generate higher stock prices? On the contrary, it would be quite easy to argue that it is because of these conditions that expectations of future corporate profitability have fallen and that equities have shown no increase in price in many countries over the past decade. This also means that unless the conditions cited above change, equity prices could be the same at the end of the twenty-first century as they were at the beginning. The problem this creates is obvious. Workers directly or indirectly through their pension plans save for their retirement. Providing a sufficient amount of money to cover personal expenses after retirement has become dependent on high returns to equities and fixed income. However, if equities once again become like bonds and show little capital appreciation, and dividends and bonds only return 2% to 3% per annum, there will be less money available for retirees. The fact that many people retire earlier and live longer will only exacerbate this situation. Many governments have created pension plans and retirement income dependent upon rising government revenue generated by a rising workforce and/or high returns on their investments. If either of these events fails to materialize, governments will have to cut back on the benefits they provide. Less money available to retirees means less expenditures, which means less profits for corporations, which creates a vicious circle sustaining the absence of capital appreciation in equities.

The Death of Investing

Investors in the 21st century may face the worse of all possible worlds. Fixed income provides little or no returns, and if yields rise, fixed-income investors will face capital losses. Equity investors may also face a similar situation. Rising equity returns depend on rising corporate

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profits. But if government represents 50% of GDP and provides substantial transfer payments, the share of the economy that allows corporate profits to grow becomes limited. Even within the for-profit sector, the opportunity for growth is limited. Increases in profits depend on productivity increases due to innovations, not applying existing technology to benefit from “catch-up” growth, or increasing labor force participation either through an increase in the working age share of the population, bringing more women into the workforce, or shifting workers from agriculture into industry and services. In most developed countries, services represent two-thirds of GDP making productivity increases more difficult. If nominal GDP remains stagnant and labor force participation declines, it is difficult to see how investors can anticipate the rising profits necessary to sustain capital gains in equities. What profits are generated will be transferred to the aging population instead of being reinvested to increase future profits. If the returns to equities fall, investors could focus on timing the market, but this is a zero-sum game. Investors in the developed world could move more of their investments to developing countries where these conditions are not yet present, but such a move would create problems of its own. Many developing countries have their own barriers to or controls on foreign investment. Although there are still many opportunities for “catch up” growth in emerging markets, these markets also face the problems of lower population growth, rising dependency ratios, and growing populations dependent upon pensions and other retirement benefits. Because of China’s one-child policy, which was only recently repealed, the country is aging quickly and by the 2020s, the median age in China will be higher than in the United States. Most Asian and Latin American countries have already reached the point where population growth has stabilized.

The Lost Century

Will the 21st century be a “lost century” for investors in which the world returns to a situation in which capital gains are rare and investors live off of the dividends and interest payments provided by the shares and bonds that they own as occurred in the 18th and 19th centuries? If the 21st century is one in which populations are stable or declining and growing older, and the labor force participation is declining, the dependency ratio between workers and non-workers will increase. Government, health, and education represent a substantial and rising portion of GDP leaving less opportunity for corporations to grow profits. If nominal GDP remains stagnant as the service sector dominates the economy and the opportunities for productivity growth are limited, then the opportunities for growth in the 21st century will be extremely limited. Some of the solutions are non-starters. Demographics are unlikely to improve. The trend of an aging population with a rising dependency ratio is unlikely to change. Higher inflation would only change nominal not real returns, and trying to trade the market’s fluctuations is difficult and ignores the fact that this is a zero-sum game. Shifting investments to emerging markets may provide some short-term relief, but may only delay the inevitable day of reckoning. Is there anything that can be done to avoid having finance join economics as a “dismal science”? The only way to allow future profits to increase at a higher rate is to allow the private sector more opportunities to generate profits. This would mean shrinking both the size of the government and the role of government in the economy at every level. This would include reducing the level of government expenditures, eliminating the corporate income tax and tariffs, simplifying the tax system, reducing government regulation, eliminating activist monetary policy, and allowing the role of the private sector to increase at every level of the economy. What is needed is more

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private-sector stimulus and public-sector austerity rather than the other way around. The 21st century need not necessarily be a lost century, but unless the role of government in the economy changes, it very well could be.

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