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# **GFD Guide to the Global Stock Markets**

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## **Global Financial Data**

### **United Kingdom**

The United Kingdom has one of the longest histories for stock trading of any country in the world. Data for equities begins in 1692, data for short-term interest rates begins in 1694 when the Bank of England was founded, and in 1700 when for government bonds.

#### **1. Sources**

We use the GFD UK-100 Index to chart the changes in the United Kingdom since 1692. The UK-100 index (GFUK100MPD) provides a DAILY index of stocks from the London Stock Exchange that begins in 1692. The index has a base of 12/31/1983 = 1000 so the index can be linked up to the FTSE-100 index and provide over 325 years of daily data on British stocks. With over 87,000 data points, the UK/FTSE-100 index provides more stock market history than any other index on the planet. The Index is available not only as a price index, but as a return index as well.

Global Financial Data has spent the past 10 years organizing data from the *Course of the Exchange*, *The London Times*, *The Investor's Monthly Manual* and other publications to create a complete history of stocks that traded in London over the past 325 years.

#### **2. Returns to Stocks, Bonds and Bills**

Figure 18.1 provides a graph of the GFD UK-100 Index on a logarithmic scale from 1692 until 2018. Over those 327 years, the trend on the price Index has been upward with most of the increase coming after 1950, though this was primarily due to inflation.

**Figure 18.1. GFD UK-100 Price Index, 1692 to 2018**

You can divide financial market history over the past 400 years into the six eras of Mercantilism (1602-1792), the Transportation Revolution (1792-1848) Globalization (1848-1914), World War (1914-1945), Keynesianism (1945-1981) and Globalization (1981-).

It is easy to make a case that one of the principle factors that has influenced the growth of the London stock market over the past 327 years has been the wars that Britain has fought. Wars forced the government to issue debt which crowded out capital that could have been reinvested in the economy. Britain fought a number of expensive wars in the 1700s and in the 1900s which withdrew capital from equity markets. The periods from 1815 to 1914 and since the 1970s were ones of general peace when market capitalization increased, but grew slowly during the 1700s and 1900s. Since 1975, bond yields have declined from 17% to around 1%, inflation rates have declined from 26% to 3% and the FTSE-100 has risen in value from 139 to over 7000

### Real Returns to Stocks, Bonds and Bills

If you adjust for inflation, most of the return to stocks is wiped out as Table 18.1 shows.

Era	Years	Inflation	Stock Price	Stock Return	Bills	Bonds
Mercantilism	1694-1792	0.04	1	5.37	4.07	
Transport Revolution	1792-1848	0.35	-0.01	4.49	4	
Free Trade	1848-1914	0.04	0.79	5.39	3.14	
World Wars	1914-1945	1.98	0.28	4.91	0.69	
Keynesianism	1945-1981	6.81	0	4.68	-0.96	
Globalization	1981-2019	3.52	3	7.21	1.97	
Pre-World War I	1692-1913	0.18	0.51	5.23	3.86	
Post-World War I	1913-2018	4.1	0.94	5.42	0.66	
All Years	1692-2018	1.48	0.66	5.3	2.8	

**Table 18.1. Annual Real Returns to Stocks, Bonds and Bills in the United Kingdom, 1692 to 2018**

**Figure 18.2. Real Returns to Stocks, Bonds and Bills in US Dollars, 1790 to 2020**

After inflation, equities have returned on average 5.30% per annum over the 327 years that are covered, bonds 2.98% and cash 2.80%. Nevertheless, there is a high variance in the returns, especially to fixed income. Bonds on average lost 3.27% per annum between 1945 and 1981 but returned 5.43% after 1981. Cash was beat by inflation between 1945 and 1981, losing 0.95% annually during those 36 years. The returns to stocks, bonds and bills in US Dollars after adjusting for inflation is provided in Figure 18.2.

Years	Stock Price	Stock Return	Bond Return	Bill Return	ERP	Inflation
<b>By Decade</b>						
1699-1709	7.28	14.03	6.6	5.42	6.96	
1709-1719	3.26	9.31	13.85	6.21	-3.99	
1719-1729	-0.63	4.13	1.81	3.18	2.28	
1729-1739	1.36	5.59	5.91	6.38	-0.30	
1739-1749	-0.74	3.23	2.13	3.01	1.08	
1749-1759	-2.75	0.86	0.5	3.04	0.37	
1759-1769	2.36	6.77	3.17	3.42	3.50	
1769-1779	-3.91	0.03	-0.04	4.21	0.07	
1779-1789	3.96	9.03	6.91	4.77	1.99	
1789-1799	-3.35	1.25	-0.68	1.96	1.94	
1799-1809	3.96	9.11	6.12	5.12	2.82	
1809-1819	-0.5	4.02	3.56	4.42	0.45	
1819-1829	2.73	6.97	10.45	7.14	-3.16	
1829-1839	-2.5	1.62	1.35	1.74	0.26	
1839-1849	0.9	5.24	6.59	6.44	-1.26	
1849-1859	1.04	5.52	1.81	2.40	3.65	
1859-1869	-1.63	3.31	0.53	1.92	2.77	
1869-1879	2.58	7.87	4.22	3.39	3.52	
1879-1889	1.78	6.02	2.71	2.61	3.22	
1889-1899	1.34	5.2	2.83	2.30	2.29	
1899-1909	-3.92	0.31	-1.15	0.61	1.47	
1909-1919	-7.26	-2.37	-10.14	-5.82	8.66	
1919-1929	4.15	9.19	8.99	8.11	0.18	
1929-1939	-0.37	3.86	7.06	1.22	-3.00	
1939-1949	-7.25	-3.7	-7.79	-8.87	4.43	
1949-1959	12.38	18	0.09	2.11	17.89	
1959-1969	1.02	5.36	-2.43	1.48	7.98	
1969-1979	-3.73	1	-0.04	0.98	1.04	
1979-1989	8.29	13.83	5.2	3.11	8.20	

1989-1999	7.97	12.47	9	4.71	3.19
1999-2009	-4.86	-1.64	3.37	1.74	-4.84
2009-2019	-0.39	3.48	0.71	-3.20	2.75
<b>By Era</b>					
1792-1848	0.61	5.14	4.61	4.65	0.51
1848-1914	-0.26	4.3	1.57	2.07	2.68
1914-1945	-0.26	4.33	1.97	0.14	2.32
1945-1981	-0.06	4.62	-3.33	-1.01	8.23
1981-2019	2.85	7.05	5.17	1.83	1.80
<b>To Present</b>					
1699-1799	0.47	5.06	3.62	3.70	1.35
1799-1899	0.95	5.47	3.98	3.73	1.43
1899-1999	0.92	5.57	0.68	0.66	4.87
1699-2019	0.61	5.17	2.8	2.61	2.31
1799-2019	0.6	5.09	2.29	1.91	2.74
1899-2019	0.31	4.77	0.9	0.42	3.84
1919-2019	5.98	2.29	1.05	1.72	1.23
1949-2019	2.77	7.29	2.21	1.54	4.97
1999-2019	-2.65	0.89	2.03	-0.76	-1.13
1969-2019	5.65	3.6	1.43	-0.05	2.14

**Table 18.2. United Kingdom Real Returns to Stocks, Bonds and Bills and the ERP by Decade**

### 3. Equity Risk Premium

Data on the Equity Risk Premium in the United Kingdom is provided in the last column in Table 18.2. The overall ERP over the past 300 years is 2.29%. The decade with the highest ERP was the 1950s when the British economy recovered from World War II and rising interest rates provided negative returns to fixed income investors. There have been six decades in which the ERP was negative with the 2000s being the largest.

As Figure 18.3 shows, the 10-year ERP periodically becomes negative with bonds outperforming stocks, usually due to the poor performance of stocks. The 2000s were the last decade when bonds outperformed stocks. Before that, the 1930s and 1940s were decades when bonds outperformed stocks. Given the fact that there are often 50-year lapses between these periods when bonds outperform stocks, you wouldn't expect this pattern to repeat itself for another 50 years. With bonds paying low yields currently, you would infer that bonds will continue to pay low returns for decades to

come and by default, stocks should outperform bonds during the next few decades.

**Figure 18.3. United Kingdom, 10-year Equity-Bond Premium 1700 to 2019**

#### 4. Bull and Bear Equity Markets in the United Kingdom

Because GFD has put together a daily index of stocks that traded on the London stock exchange between 1692 and 2018, we can measure exactly both the date of the market tops and market bottoms as well as the size of the bull and bear markets that existed in London during the past 327 years. By our count, there have been 25 bull and bear markets in London since 1692. We measure a bear market as a 20% decline in the stock market and a bull market as a 50% increase in the market. Every bull and bear market met these criteria except for the 1831-1845 railroad mania and the 1998-2000 bull market which failed to reach the 50% mark that we require.

The worst bear market in London's history was the decline from the 1720 bubble in South Sea Stock which produced a fall of 86% between 1720 and 1762. Although most of the decline occurred between 1720 and 1721, the market failed to bounce back for the next 40 years and continued to drift lower.

By comparison, the 1929-1931 bear market was relatively mild. Although the Dow Jones Industrial Average declined over 89% between 1929 and 1933, stocks in London declined only 45%. The 1937 bear market was worse than the 1929 bear market. Six other bear markets that began in 1692, 1700, 1720, 1937, 1972 and 2000 were more severe than the 1929-1931 bear market in Britain. The best time to have invested in stocks over the past 327 years was at the end of 1974 when the index rose 127.68% during the next year.

Not surprisingly, the strongest bull market in British history culminated in the South Sea Bubble of 1720. Between 1705 and 1720, the British market rose 364%, then remained in a downward trajectory for the next 42 years. Overall, between 1981 and 2000, the British market rose in price by 1125%, an increase which may never be matched. A record of the bull and bear markets in London since 1692 is provided in Table 18.2.

Bear Markets		Bull Markets	
Date	Decline	Date	Increase Cause
		01/02/1692	
10/09/1696	-58.90	04/15/1700	277.71 Nine Years War
3/7/1701	-46.13	05/28/1709	159.21 Death of Charles II
4/1/1712	-36.25	06/29/1720	706.00 War of the Spanish Succession
2/4/1762	-86.32	06/17/1768	94.33 South Sea Bubble
04/30/1778	-41.21	03/7/1792	94.27 American Revolutionary War
4/24/1798	-42.36	04/7/1802	73.26 French Revolution
8/1/1803	-32.11	11/7/1809	77.56 Napoleonic Victories

10/23/1812	-22.644	22/1824	54.95	Napoleonic Victories
4/16/1850	-38.915	24/1899	152.22	1825 Bubble, 1845 Railway Mania
10/30/1915	-37.94	1/28/1920	68.32	World War I
10/24/1921	-41.74	1/11/1929	106.44	Post WWI Recession
9/18/1931	-47.00	1/5/1937	116.64	Great Depression
6/26/1940	-52.17	5/15/1947	149.60	1937 Recession
6/20/1952	-26.89	7/21/1955	129.32	Post WWII Recession
2/25/1958	-26.92	5/15/1961	158.50	Suez Crisis
6/25/1962	-25.86	1/31/1969	132.35	Recession
5/27/1970	-36.35	5/19/1972	87.33	Devaluation
12/12/1974	-68.40	1/30/1976	168.16	OPEC, Three Day Week
10/27/1976	-30.30	5/4/1979	119.74	Recession
11/8/1979	-24.74	7/16/1987	427.00	Winter of Discontent
11/9/1987	-35.94	7/20/1998	294.77	1987 Crash
10/5/1998	-24.77	9/4/2000	46.24	Economic Slowdown
1/27/2003	-48.80	6/15/2007	93.42	Internet Bubble, 9/11
11/21/2008	-43.84	5/22/2018	128.74	Financial Recession

**Table 18.2. Bull and Bear Markets on the London Stock Exchange 1692 to 2018**

## 5. Fixed Income Markets in the United Kingdom

Figure 18.4. provides over 300 years of data on yields for the British Consol and 10-year government bond. The yield on Million Bank stock, which invested in government securities, is used from 1700 to 1729, the 3% annuity from 1729 to 1753, British Consols from 1753 until 1933, and 10-year bonds since 1933. Bond yields fluctuated during the 1700s, mainly in response to the wars that Britain fought. Bond yields declined continuously during the 1800s, reaching their nadir in 1897. After the Napoleonic Wars ended in 1815, Britain was involved in no major wars until 1914. The British Consol was a safe, international bond that investors from all over the world invested in, and it had the lowest interest rate of any security in the world. During the 1900s, inflation drove the yield on British securities. Yields rose during the inflation that followed World War I and World War II with yields peaking in 1974. Bond yields have been in steady decline since then.

**Figure 18.4 Yield on 10-year Government Bond and British Consol, 1700 to 2019**

## 10. Stock Market Capitalization and Government Debt as a Share of GDP.

The contrast between the size of British government debt and the capitalization of the stock market illustrates these changes. In 1689, Britain's central government debt was £1.3 million and the market cap of its stock market was £2.27 million. Government debt peaked at £844 million in 1819 when

stock market capitalization was only £80 million. By 1911, central government debt had shrunk to £733 million while the market cap of British shares had risen to £3.5 billion. A graph of Britain's debt as a share of GDP is provided in Figure 18.5.

When World War I closed down the London stock exchange in 1914. Sixty years of government regulation began which limited the growth of the equity market. According to Michie, British government debt grew from 11.5% of London capitalization in 1913 to 34.6% in 1920 and 57% in 1950 while foreign debt fell from 32.9% in 1913 to 18.6% in 1920 and 3.4% in 1950. Foreign equities and debt were sold and repatriated to help pay the war debts which Britain incurred during World War I and World War II. Equities' share of London capitalization fell from 55.6% in 1913 to 46.8% in 1920 and 39.6% in 1950. A comparison of the growth in central government debt and the stock market capitalization of British shares is provided in Figure 18.5.

The United Kingdom provides us with a longest history of stock dividend yields and government bond yields of any country in the world. As Figure 18.5 shows, with the exception of the period between 1960 and 2020, the dividend yield has consistently exceeded the yield on government bonds. There were some periods in the early 1700s, late 1700 and early 1800s when Britain was at war with the United States or France and higher bond yields pushed the yield on government bonds above the yield on stocks, but during most of the 140 years between the end of the Napoleonic Wars in 1815 and the beginning of rising inflation in the late 1950s, the yield on stocks exceeded the yield on bonds. Rapidly rising inflation and bond yields between the 1950s and 1970s pushed the spread to over 8%, although this difference declined until the 2000s as bond yields fell. More than anything else, this graph shows that bond yields drive the difference between the dividend yield and bond yields. Government bond yields are likely to remain below 1%-2% during the coming decade and it seems unlikely that the dividend yield won't remain higher than the bond yield.

**Figure 18.5. United Kingdom Stock Dividend Yield Minus Government Bond Yield, 1700 to 2020**

**Figure 18.6. Central British Government Debt and Stock Market Capitalization to GDP 1689-2019**

At the end of World War II, Britain's major industries were nationalized and by the 1950s, some members of Labour were questioning whether Britain even needed a stock exchange, but the gradual decline of the British economy in the 1970s made the importance of the private sector obvious. In 1975, Britain's inflation rate hit 26%, 10-year bond yields rose to 17%, the stock market hit bottom after a 77% decline in real terms between 1972 and 1975, and Margaret Thatcher was elected the leader of the Conservative Party. She became Prime Minister in 1979 and played an important role in getting Britain back on track as the financial center of the European economy.

## London's Stock Market Capitalization

The changes in the London stock market are illustrated in Figure 18.6 which shows the capitalization of British stocks as a share of GDP. There was strong initial growth until 1720 when the Bubble Act was passed making it more difficult to incorporate companies in Britain. The growth in the capitalization of the stock market relative to GDP declined for the next 85 years. Beginning in the 1790s, the growth of canals and railroads as well as other industries led to a steady growth in the capitalization of the British market from 1790 to 1914. Market cap as a share of GDP grew from around 10% in 1805 to 150% by 1914. However, with the onset of World War I, the growth in London equity markets ground to a halt and there was a general decrease in the capitalization of the British stock market during the next 60 years. Stock market capitalization fell from around 150% of GDP in 1914 to 30% by 1974. After 1974, capitalization skyrocketed for the rest of the twentieth century, reaching 180% by 1999 as London regained its role as the financial center of Europe. The stock market, however, has failed to surpass the 1999 peak during the twenty-first century.

## Exchange Rates

The exchange rate between the British Pound and the United States Dollar provides one of the most complete exchange rate histories available for any two currencies in the world. Britain was on the gold standard from 1717 until 1931. The exchange rate was set at  $\$4.84 = \pounds 1.00$  until 1914. When Britain tried to return to this exchange rate in the 1920s, it nearly ruined the economy. The currency devalued to  $\$2.80$  in 1949 and  $\$2.40$  in 1967. Since then the British Pound has gradually depreciated as British inflation has exceeded inflation in the United States. The exchange rate is now approaching parity with  $\$1.00 = \pounds 1.00$ . The Pound is likely to remain at a premium to the U.S. Dollar in the near future, though this premium will be small.



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**Figure 18.7. British Pounds per US Dollar, 1790 to 2020**

## **Conclusion**

Now that Brexit is complete and the United Kingdom has left the European Union, the country can chart its own future outside of Europe. Uncertainty over the future has constrained the stock market during the past few years. In March 2020, the FTSE-100 Index was below the level it was at on December 31, 1999 when the century began. Until the United Kingdom can determine its path for the future, its stock market is likely to remain in the trading range it has been in during the past twenty years for the next 10 years. Similarly, 10-year government bond yields have declined from around 5% at the beginning of the century to under 1% today. Neither bonds nor bills are likely to provide a return over 1-2% per annum for the rest of the decade. Unless the United Kingdom can find a new economic purpose during the 2020s, investors are likely to suffer.

## **United States**

### **1. Sources**

We use the GFD-100 Index to calculate returns to stock markets in the United States between 1792 and 2020. The GFD-100 is the most extensive index for United States stocks available anywhere. The GFD-100 index is revised in January of each year. It uses the largest stocks in the United States from 1792 until 1825, the 50 largest stocks from 1825 until 1850 and the 100 largest stocks from 1850 to date. The index is capitalization-weighted and only includes liquid stocks that trade on a regular basis. Stocks from all regional exchanges and the over-the-counter market are used. This gives the index broader coverage than other indices which ignore the financial sector up to 1976.

We use the GFD Indices for Bonds and Bills to calculate fixed-income returns. The GFD Index for Bonds is based upon the returns to the Federal Government's 10-year bond. Before World War I, individual bonds with a maturity of 10-years or more are used to calculate the total return. 3-month Treasury Bills are used for the Bill index. Before 1920, there is no data on the yield for Treasury bills since they did not exist. Therefore, we use the minimum of the Federal government bond that is closest to maturity or the yield on commercial paper in New York City. Since commercial paper was not risk free, using commercial paper to calculate the return to cash yields a higher return than bonds receive, which is in contradiction to the risk-free concept of lower returns resulting from lower risk.

### **2. Real Stock Returns to Stocks, Bonds and Bills**

**Figure 19.1. GFD US-100 Price Index, 1792 to 2019**

Figure 19.1 provides information on nominal returns to stocks in the United States between 1792 and 2019. There was little change in stock prices in the 1800s. During the 1800s, most of the return to equities came through dividends, which were consistently 5% or more until World War II.

Table 19.1 looks at returns after adjusting for inflation. It also provides a measure of the Equity Risk Premium (ERP) and the inflation rate. The return to bonds differed significantly between the 1800s and the 1900s. In the 1800s, bonds provided a positive return every decade, but in the 1900s, bonds provided a negative return after inflation in six of the ten decades. The reason for this is the combination of inflation and Fed intervention. The Fed has not been the best friend of fixed-income investors.

Bondholders received negative real returns for four decades in a row, the 1940s, 1950s, 1960s, and 1970s as rising bond yields reduced bond prices. Because of this, fixed-income investors were little better off after inflation in 1980 than they had been in 1900. Since 1980, however, bondholders have received a positive return, though cash has seen a net loss after inflation. With yields on both bonds and bills currently under 2%, there seems little reason to believe that either bonds or bills will beat inflation in the decade to come. On the other hand, declining bond yields in the 1980s to 2010s generated positive returns to bondholders. Now that the yield on bonds is under 2%, fixed-income investors will no longer be able to benefit from falling interest rates to generate continued positive returns. Instead, fixed-income investors should expect low returns over the coming decade.

Interestingly enough, bonds have outperformed stocks so far during the twenty-first century. This is because bondholders have benefitted from the capital gains produced by falling interest rates. With bond yields under 2%, this is unlikely to continue. Although the bond yield can provide an accurate measure of the return to fixed-income investors over the next decade, no similar measure exists for shareholders. The return to equities will depend upon the business cycle. Since the equity risk premium has been around 3% historically, you would expect no more than a 5% return to equities over the next ten years. Since equities have provided double-digit returns after inflation in three of the last four decades, it will take time for investors to adjust to the prospect of lower returns.

<b>Years</b>	<b>Stock Price</b>	<b>Stock Return</b>	<b>Bond Return</b>	<b>Bill Return</b>	<b>ERP</b>	<b>Inflat</b>
<b>By Decade</b>						
1791-1799	-6.15	-0.65	-1.62	2.03	0.98	
1799-1809	1.5	8.93	9.76	5.75	-0.68	
1809-1819	-5.15	1.17	6.54	5.26	-4.54	

1819-1829	2.78	8.79	8.66	6.53	0.11
1829-1839	-3.3	3.17	0.11	2.45	2.75
1839-1849	1.45	9.35	12.02	8.86	-2.14
1849-1859	-2.68	5.21	4.06	3.86	1.01
1859-1869	-0.11	8.21	2.96	0.91	4.59
1869-1879	4.87	12.76	9.57	7.24	2.62
1879-1889	0.99	6.62	6.13	3.38	0.42
1889-1899	4.23	10.24	3.68	2.44	5.68
1899-1909	3.7	9.02	-0.82	0.71	8.88
1909-1919	-5.03	0.51	-5.23	-4.76	5.44
1919-1929	9.65	15.56	7.41	5.42	6.81
1929-1939	-1.58	3.96	7	2.97	-2.55
1939-1949	-2	3.68	-2.91	-5.13	6.1
1949-1959	12.06	17.98	-1.99	-0.22	18.16
1959-1969	1.71	5.3	-0.17	1.67	4.91
1969-1979	-4.83	-0.61	-1.32	-0.91	0.65
1979-1989	8.47	12.72	8.15	4.27	3.79
1989-1999	17.57	18.44	5.47	2.19	11.01
1999-2009	-7.3	-5.26	4.21	0.23	-8.21
2009-2019	10	12.77	2.57	-1.29	8.91
<b>By Era</b>					
1792-1848	0.41	5.53	5.42	4.89	0.10
1848-1914	0.83	5.33	4.23	2.6	1.06
1914-1945	-0.24	4.7	0.38	7.66	4.30
1945-1981	1.16	5.35	-1.96	-0.37	7.46
1981-2019	5.1	7.55	5.28	1.13	2.15
<b>To Present</b>					
1791-1899	-0.19	6.07	5.07	4.03	0.95
1899-1999	3.34	7.57	1.3	0.51	6.18
1791-2019	1.58	7.09	3.54	2.27	3.43
1899-2019	2.93	6.8	1.59	0.34	5.12
1949-2019	4.52	7.55	2.12	0.75	5.32
1999-2019	0.88	3.02	3.04	-0.48	-0.03
1919-2019	3.66	7.33	2.48	0.79	4.72
1969-2019	3.91	6.48	3.38	0.79	3

**Table 19.2. United States Real Returns to Stocks, Bonds and Bills, ERP and Inflation by Decade**

The stock market has been moving in 30-year Cycles since the 1890s. Now that the 2010s have finished, we can examine the data and see if this pattern has continued. And it has! Table 19.1 provides the real returns to stocks, bonds and bills in each decade since the 1890s. As you can see, the stock market has provided double-digit returns every 30 years, in the 1890s, 1920s, 1950s, 1980s and 2010s. Each of those decades was preceded by a decade in which there were inferior returns, the 1880s,

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1910s, 1940s, 1970s and 2000s. In fact, both the 1970s and 2000s provided investors with negative real returns over the course of the decade.

Bond returns have shown a declining pattern over the past four decades and this is likely to continue in the 2020s. The 10-year bond is yielding less than 2% today and the return to bonds is likely to be less than 2% in the coming decade. It seems unlikely that returns would turn negative because interest rates would need to rise during the 2020s to give a negative return.

### **3. The Equity-Risk Premium**

Figure 19.4 shows the 10-year rolling Equity Risk Premium from 1792 until the present. There were significant periods in the 1800s where the ERP was negative and bonds outperformed stocks; however, this occurred less often during the 1900s. The periods when the ERP was negative reflected more on the poor performance of stocks during those years than the strong performance of bonds. For the most part, the ERP was consistently positive during the 1900s. The only exceptions were the 1930s and 1970s. The 1950s provided the highest ERPs in history. Because of the bear markets of 2000 and 2008 and the strong performance of bonds, the ERP reached its lowest levels in history during the 2000s and 2010s. The ERP has bounced back and with little chance of fixed-income investors receiving high returns, the ERP should remain positive for the rest of the decade. The ERP will be negative only if stocks produce negative returns in the decade to come.

**Figure 19.2. United States 10-year Equity Risk Premium**

#### 4. Bull and Bear Equity Markets

Using the GFD-100 Index, by our calculation, there have been 24 bull-bear market cycles in the United States since 1792. The longest bear market was the first which lasted from 1792 until 1843, a 50-year bear market. The worst bear market was the 1929-1932 bear in which the market declined by 86%. There have been three bull markets in which prices rose by over 400% in 1921-1929, 1974-1987 and 1990-2000.

Date	Value	Change	Date	Value	Change	Cause
			01/02/1792	4.516		
01/31/1843	1.497	-66.85	08/31/1853	2.584	72.61	Panic of 1837
10/31/1857	1.712	-33.75	07/30/1864	4.092	139.02	Panic of 1857
10/31/1873	2.682	-34.46	05/31/1881	5.189	93.48	End of Civil War, Panic of 18
01/31/1885	3.394	-34.59	6/17/1901	8.53	123.88	Long Depression
11/9/1903	5.85	-31.42	10/9/1906	10.23	74.87	Rich Man's Panic
11/15/1907	6.10	-40.37	11/19/1909	10.6	73.77	San Francisco
10/31/1914	6.63	-37.45	11/20/1916	10.55	59.13	World War I
12/19/1917	6.00	-43.13	7/16/1919	9.64	60.67	Fear of Entering War
8/24/1921	6.26	-35.06	9/7/1929	31.86	408.95	Post-WW I Recession
7/8/1932	4.41	-86.16	9/7/1932	9.31	111.11	Great Depression
2/27/1933	5.53	-40.60	7/18/1933	12.2	120.61	Bank Holidays
3/14/1935	8.06	-33.93	3/10/1937	18.68	131.76	Depression Fears
3/31/1938	8.5	-54.50	11/9/1938	13.79	62.24	Recession of 1937
4/28/1942	7.47	-45.83	5/29/1946	19.25	157.70	World War II approaches
6/13/1949	13.55	-29.61	8/2/1956	49.75	267.16	Post-WWII Recession
10/22/1957	38.98	-21.65	12/12/1961	72.64	86.35	Sputnik
6/26/1962	52.32	-27.97	2/9/1966	94.06	79.78	Steel Strike, Kennedy Panic
10/7/1966	73.2	-22.18	1/5/1973	119.87	63.76	Viet Nam
10/3/1974	62.28	-48.04	8/25/1987	337.89	442.53	OPEC Embargo
12/4/1987	221.24	-34.52	7/16/1990	369.78	67.14	1987 Crash
10/17/1990	294.51	-20.36	3/24/2000	1527.46	418.64	Iraq War
10/9/2002	776.77	-49.15	10/9/2007	1565.15	101.49	Internet Bubble, 9/11
3/9/2009	676.53	-56.78	2/19/2020	3386.15	400.52	Financial Recession
3/16/2020	2397.38	-29.20				Coronavirus

**Table 19.2. Bull and Bear Stock Markets in the United States, 1792 to 2019**

#### 5. Government Bond Yields

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**Figure 19.3. United States 10-year Bond Yield, 1786 to 2020**

Figure 19.3 shows the yield on the 10-year Government bond from 1786 to 2020. During the 1780s, the United States was in default on its bonds. Alexander Hamilton reorganized the debt in 1791 and bond yields showed a declining pattern until World War II. After the war was over with, rising inflation drove bond yields up between 1941 and 1981 when yields reached 15.84%. Since 1981, yields have steadily declined, hitting a low of 0.318% on March 9, 2020. Although yields are unlikely to go much below that level, they will likely remain in the 0.5-2% range for the rest of the decade. In real terms, government bond yields are likely to remain negative.

The stock dividend yield and the yield on government bonds are compared in Figure 19.4 which provides over 200 years of history. With one small exception in the early 1800s, the dividend yield exceeded the government bond yield from the 1790s until the 1950s. After 1957, rising bond yields pushed the spread upward until interest rates peaked in 1981. The spread declined from 1981 to the present as bond yields declined. The dividend yield now exceeds the government bond yield by the greatest amount since the 1950s. The yield on government bonds is likely to remain below 1%-2% over the next decade, and if this remains true, the dividend yield will continue to exceed the government bond yield.

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**Figure 19.4. United States Stock Dividend Yield Minus Government Bond Yield**

**Stock Market Capitalization and Government Debt as a Share of GDP.**

Government debt is now about 100% of GDP and has generally been climbing since the 1970s. During the 1800s and 1900s, government debt was driven by war. Government debt increased during the Revolutionary War, Civil War, World War I and World War II, then declined after each war. As GDP grew, nominal government debt declined as a share of GDP.

On the positive side, the stock market's capitalization exceeds the government's debt. As Figure 19.5 shows, the government's deficit and stock market capitalization were inversely related during most of the 1800s and 1900s. The declines in Federal debt after the Civil War, World War I and World War II were accompanied by growth in the stock market's capitalization. Since the 1970s, however, both the government's deficit and stock market capitalization have grown, though stock market capitalization has grown faster.

**Figure 19.5. United States Stock Market Cap and Government Debt Relative to GDP, 1792 to 2019**

## 14. Conclusion

The United States is entering a new decade and it will be interesting to see how the stock market performs in the 2020s relative to the 2010s. Declining bond yields have produced capital gains for fixed-income investors for almost 40 years now, providing them with high returns. With yields under 1%, this trend must come to an end. Returns have fallen from 12% in the 1980s to 8% in the 1990s to 6% in the 2000s and 4% in the 2010s. The returns in the 2020s are likely to be around 2%. Returns to bills is likely to be even less.

This means that returns to equities will depend upon the behavior of the stock market. With the historical equity risk premium around 3-4%, returns of around 5% are likely in the coming decade. Returns were negative in the 2000s, but double-digit in the 2010s. With all measures of the stock market at historical highs, it seems unlikely that double-digit returns are likely in the 2020s. As long as interest rates remain low, and this seems likely, the stock market should continue to grow.

## World

### 1. Sources

Global Financial Data's World Index extends from the beginning of stock markets in Amsterdam in 1602 to the present day. Until now, no one has calculated a World Index that precedes 1900 and no one has calculated an index which is reweighted on a regular basis. Now, an index that provides a complete history of global equity markets is available. GFD also provides world bond indices that can be compared to the global equity indices, and calculates global sub-indices that include the World excluding the United States, the World excluding the US and UK, a European Index, and an index for Emerging Markets. Without these global composites, it is impossible to understand the behavior of stocks, bonds and bills over the past 400 years.

### The Six Eras

Global Financial Data divides the past four centuries of the stock market into six eras: Mercantilism (1602-1792), the Transportation Revolution (1792-1848), Free Trade (1848-1914), World War (1914-1945), Keynesianism (1945-1981) and Globalization (1981-). The stock market and fixed-income markets were fundamentally different during each of those eras affecting equity and bond returns, the dividend yield and the equity risk premium.



Data from 1601 to 1815 is market-cap weighted by company. The index includes 38 companies from the United Kingdom, 3 from France, 3 from the Netherlands and 29 from the United States. We have data on the price, dividends and shares outstanding for each of the 73 companies. If any of those three variables was unavailable, we excluded the company from the index.

Beginning in 1815, we use indices from each country as the basis for the index and weight each country according to actual or estimated market caps for that country. The market caps are revised every five years, and these are used to weight each country in the index for the next five years. We use the market caps on December 31, 1914 for the weights between 1915 and 1919, the market cap on December 31, 1919 for the weights between 1920 and 1925, etc. Price and return indices are monthly in periodicity using end-of-month values. All values were converted to British Pounds for the data through 1815, and all data after 1815 were converted to United States Dollars. Data for the price indices, return indices, and stock market capitalization that were used to calculate these indices are available from Global Financial Data.

Twenty-four countries are included in the developed indices: Australia (1825-), Austria (1925-), Belgium (1900-), Canada (1825-), Denmark (1875-), Finland (1915-), France (1718-1793, 1801-), Germany (1835-), Hong Kong (1965-), Ireland (1800-), Italy (1925-), Japan (1915-), Luxembourg (1930-), Netherlands (1601-1794, 1915-), New Zealand (1865-), Norway (1915-), Portugal (1980-), Russia (1865-1928), Singapore (1965-), Spain (1915-), Sweden (1870-), Switzerland (1915-), United Kingdom (1692-) and the United States (1792-). All other countries were treated as emerging markets and excluded from the index. Tsarist Russia before 1918 is treated as a developed market and data for the Russian Federation after 1991 is treated as an emerging market. Twenty-six countries are used in the emerging market indices increasing the total number of countries that are included in the All-World index to fifty.

A graph of the index for the twenty-four developed markets is provided in Figure 20.1. Since these are market-cap weighted indices, a few countries figure prominently in the calculation of the index. Figure 20.1 shows the market cap of countries between 1900 and 2000. The United States clearly represents the largest portion of the market cap. Britain represented a large portion of the market cap until the 1950s and between those two countries, the United States and the United Kingdom represented 60% to 70% of the market cap during most of the twentieth century.

**Figure 20.1. Market Capitalization Weights by Country 1900 to 2018**

### Total Returns

Table 20.1 presents the returns to stocks and bonds over the past 400 years during different periods of time. Data are available for equities beginning in 1602 and for bonds beginning in 1700.

Period	Stock Price	Dividends	Stock Return	Bonds	Equity Premium
1602-1792		1.20	5.85	7.12	
1792-1848		0.32	5.12	5.45	5.52
1848-1914		1.87	4.54	6.50	3.50
1914-1945		1.62	5.01	6.71	4.02
1945-1981		5.69	4.33	10.26	1.74
1981-2019		7.35	2.88	10.43	6.87
1700-1800		0.28	4.92	5.21	5.93
1800-1900		1.33	4.81	6.21	4.59
1900-2019		4.51	4.06	8.75	3.98
1602-2019		2.15	5.08	7.33	
1700-2019		2.17	4.56	6.83	4.78
1792-2019		2.94	4.43	7.51	4.35
1914-2019		5.06	4.00	9.26	4.27

**Table 20.1. Global Returns to Stocks and Bonds, 1602-2019**

Between 1602 and 2019, stocks had capital gains of 2.15% per year, paid dividends of 5.08% and provided a total return of 7.33%. Between 1700 and 2019, stocks had annual capital gains of 2.17%, dividends of 4.56% and a total return of 6.83%. Bonds returned 4.78% per annum which makes the equity risk premium 1.96% over the past 319 years. The equity risk premium has risen over time and peaked during the period of rising interest rates between 1945 and 1981. It has dropped back to 3.33% since then.

Changes in the Equity Risk Premium can be explained by changes in the relative risk of stocks and bonds over time. During the 1700s both government bonds and the mercantilist monopolies were managed by the government, so there was little difference in the risk profile of stocks and bonds. Consequently, the equity risk premium was lowest in the period of mercantilism. The equity risk premium was at its highest during the period of rising bond yields between 1945 and 1981 when Keynesian policies influenced interest rates and markets through regulation and nationalization. Since 1981, declining interest rates have generated high returns to bonds and closed the gap between the returns to stocks and bonds. Since financial repression has pushed down interest rates in Europe and the United

States over the past ten years, bond returns are likely to remain low, and the equity risk premium will depend upon changes in the return to equities.

Returns varied greatly during the six eras. The period of Globalization since 1981 has provided the highest capital gains of any period in history. The worst performing period was the period of the Transportation Revolution when Finance and Transportation stocks dominated stock markets. Although stocks have provided double-digit returns over the past 75 years, such high returns seem unlikely in the future. Similarly, although bonds have consistently provided returns over 4% during the past 300 years, returns closer to 2% are likely in the future.

## 2. Real Returns to Stocks, Bonds, Bills, ERP

### **Figure 20.2. GFD Developed World Price Index in USD, 1602 to 2019**

Although the first stock markets were established in 1600, stock markets as we know them today weren't really established until the 1800s when shares in hundreds of corporations became available to investors. In the early 1800s, the number of companies that traded in the United Kingdom and the United

States grew, quickly reaching over 100 companies. When railroads went public in the 1830s and 1840s, not only did the number of listed companies increase, but the market capitalization of the companies grew dramatically. By the 1850s, railroads represented over half of the total market capitalization in both countries.

The price index for the Developed World is provided in Figure 20.2 and the price index for the Developed World excluding the United States is provided in Figure 21.2. The two graphs are very similar, showing that global stock markets have been integrated since the late 1600s. As the telegraph was introduced in the 1860s, telephones in the late 1800s and communication satellites in the 1970s, global financial markets have become more integrated and today an event in one market can trigger a response in another market within minutes.

Total Returns to Stocks Bonds and Bills in US Dollars by decade after adjusting for inflation is provided in Table 20.2. The 1720s was the worst performing decade of the past three centuries, primarily because the South Sea Bubble occurred in 1719. After adjusting for dividends, only two other decades provided a negative real return to shareholders, the 1910s and the 2000s, so negative returns in a decade occur about once in a century.

There appears to be a 30-year cycle in the returns to equities. The best performing decades during the past century were the 1920s, 1950s, 1980s and 2010s. Returns in the decades that followed those four were positive, but below the returns in the previous decades. The worst performing decades were the decades that preceded the best performing decades, the 1910s, 1940s, 1970s and 2000s. Using this evidence, we would expect that the 2020s will provide a lower return than the 2010s, but the returns will still be positive and probably greater than the returns to either bonds or bills.

Fixed-income instruments perform the best in decades of falling inflation and interest rates, and worse in decades of rising inflation and interest rates. This has been true for the past 300 years, and there is no reason why this should change. Information on the Equity Risk Premium (ERP) is provided in the final column. The ERP has been negative in 9 of the 30 decades that are covered. The 2000s produced the lowest ERP in almost 300 years.

<b>Years</b>	<b>Stock Price</b>	<b>Stock Return</b>	<b>Bond Return</b>	<b>Bill Return</b>	<b>ERP</b>	<b>Inflation</b>
<b>By Decade</b>						
1699-1709	5.44	13.14	4.96	5.43	7.79	
1709-1719	21.15	27.78	13.85	6.21	12.23	
1719-1729	-16.95	-12.89	1.81	3.18	-14.43	
1729-1739	2.02	6.87	5.91	6.38	0.91	
1739-1749	-1.32	2.94	2.13	3.01	0.79	
1749-1759	-3.34	0.4	0.5	3.04	-0.09	
1759-1769	2.17	6.66	3.17	3.42	3.39	
1769-1779	-3.27	1.19	-0.04	4.21	1.22	
1779-1789	3.12	8.05	6.4	4.77	1.55	
1791-1799	-3.41	1.28	-1.12	2.34	2.43	
1799-1809	3.1	8.7	8.91	5.16	-0.19	

1809-1819	-1.09	3.48	5.87	4.72	-2.25
1819-1829	3.32	7.68	11.41	5.86	-3.34
1829-1839	-1.65	4.83	2.32	2.20	2.45
1839-1849	1.62	5.76	9.35	7.94	-3.28
1849-1859	2.24	5.16	4.07	3.47	1.05
1859-1869	-1.22	4.68	0.91	0.81	3.73
1869-1879	2.33	8.06	8.57	6.50	-0.47
1879-1889	1.89	6.46	5.78	3.04	0.64
1889-1899	2.19	6.71	3.92	2.19	2.68
1899-1909	-0.42	4.02	0.75	0.63	3.24
1909-1919	-7.26	-3.06	-8.83	-4.29	6.34
1919-1929	6.08	11.94	5.59	4.87	6.00
1929-1939	-0.94	3.68	6.35	2.67	-2.51
1939-1949	-3.52	0.69	-3.92	-4.63	4.80
1949-1959	10.44	15.68	-1.76	-0.20	17.76
1959-1969	2.22	5.49	-0.15	1.50	5.66
1969-1979	-2.89	0.9	-1.1	-0.82	2.02
1979-1989	10.5	13.91	7.31	3.83	6.15
1989-1999	8.08	9.86	4.99	1.97	4.65
1999-2009	-4.55	-2.37	3.91	0.21	-6.04
2009-2019	5.05	7.96	2.18	-1.17	5.65
<b>By Era</b>					
1792-1848	0.41	5.53	5.42	4.89	0.10
1848-1914	0.83	5.33	4.23	2.60	1.06
1914-1945	-0.24	4.7	0.38	7.66	4.30
1945-1981	1.16	5.35	-1.96	-0.37	7.46
1981-2019	5.1	7.55	5.28	1.13	2.15
<b>To Present</b>					
1699-1799	0.16	5.09	3.68	4.19	0.20
1799-1899	1.26	6.14	6.06	4.17	0.88
1899-1999	2.06	6.15	0.8	0.51	4.60
1699-2019	1.09	5.59	3.46	2.72	1.66
1799-2019	1.52	5.82	3.37	2.06	2.34
1899-2019	1.73	5.56	1.17	0.34	3.56
1919-2019	2.9	6.62	2.27	0.79	3.91
1949-2019	3.97	7.17	2.15	0.75	3.37
1969-2019	3.07	5.89	3.42	0.79	1.25
1999-2019	0.14	2.67	3.04	-0.48	-1.55

**Table 20.2. Global Real Returns to Stocks, Bonds, Bills and ERP in USD, 1719-2019**

What does this mean for investors in the 2020s? If the cycle were to continue in the next decade, you would expect two things. First you would expect positive returns to equities in the coming decade, though lower returns than in the 2010s. Each of the decades following a double-digit return in the 1900s, 1930s, 1960s and 1990s provided positive returns. Although double-digit returns seem unlikely in the

2020s, it is possible.

On the other hand, if you look at returns to the World Excluding the United States, you get distinctly different results. The only two decades with double-digit returns were the 1950s and 1980s. During both of those decades the Equity Risk Premium exceeded 10%.

Bond returns have shown a declining pattern over the past four decades and this is likely to continue in the 2020s. The 10-year bond is yielding less than 2% today and the return to bonds is likely to be less than 2% in the coming decade. It seems unlikely that returns would turn negative because interest rates would need to rise during the 2020s to produce a negative return.

### 3. Equity Risk Premium and Inflation

#### **Figure 20.3. GFD World Index Equity Index – US 10-year Bond Equity Risk Premium**

The equity risk premium is the difference between the return to risky stocks and the return to risk-free bonds. These returns are illustrated in Figure 21.3 which shows the difference between returns to GFD's World Index and the return to the GDP-weighted GFD Bond Return Index. 10-year periods during which bonds outperformed stocks (in red) are clearly the exception to the rule. Equities have outperformed bonds over 10-year periods over 75% of the time.

During the past 100 years, there were two main periods when bonds outperformed stocks, in the 1930s and in the 2010s. Bonds outperforming equities was more common in the 1800s, especially between the 1810s and the 1860s when bonds outperformed stocks about half of the time, but since 1900, this has been rare.

It is interesting to see that the return to equities increased relative to the return to bonds between the 1880s and 1920s. There was a pause during the 1930s, an up-cycle between 1940 and 1960 and a down cycle between 1960 and 1980. Since the 1980s, there has been no pattern in the equity risk premium.

#### 4. Bull and Bear Equity Markets

Table 20.2 provides a list of the global bull and bear markets that have occurred in world stock markets between 1600 and 2018. GFD defines a bull market as a 50% increase in the price of equities and a bear market as a 20% decline in the price of equities. It should be remembered that the data from the 1600s represents the behavior of only one stock, the Dutch East India Co. Overall, there were six bear markets in the 1600s, five bear markets in the 1700s, only two bear markets in the 1800s, seven bear markets in the 1900s and so far, only three bear markets in the 2000s. The correlation in the performance of the underlying markets has increased over time.

Month	Change	Month	Change	Cause
12/31/1602		04/30/1607		65.15 Spanish State Bankruptcy
07/31/1607	-31.76	06/30/1614		82.24 Failure of Genoese Banks
12/31/1617	-45.39	11/30/1622		65.34 30-years War
11/08/1625	-21.12	08/31/1649		301.56 30-years War
08/31/1665	-44.37	08/31/1671		68.63 Second Anglo-Dutch War
06/30/1672	-47.30	02/28/1688		93.26 Third Anglo-Dutch War
10/09/1696	-46.71	10/28/1700		175.66 Nine Years War
02/28/1701	-36.25	04/29/1704		106.66 Death of Charles II
03/31/1712	-39.95	12/31/1719		721.74 War of the Spanish Succession
01/29/1762	-89.28	05/31/1768		85.53 South Sea Bubble
10/31/1784	-37.35	03/31/1792		74.04 French Revolution
05/31/1797	-41.37	12/31/1809		81.63 Napoleonic War
07/31/1812	-35.11	07/31/1845		102.06 Railroad Mania
11/30/1848	-32.47	8/31/1912		126.28 World War I
7/31/1921	-39.44	8/31/1929		203.83 Great Depression
6/30/1932	-75.42	2/28/1937		197.55 1937 Recession
5/31/1940	-39.75	5/31/1946		81.71 Post WWII Recession
9/30/1949	-26.41	1/31/1969		503.60 Vietnam War
6/30/1970	-24.63	2/28/1973		64.73 OPEC
9/30/1974	-43.39	4/27/1981		116.51 Second Oil Crisis
8/12/1982	-26.56	8/27/1987		318.87 1987 Crash
10/26/1987	-23.70	1/4/1990		50.92 Iraq War
9/28/1990	-25.90	7/20/1998		170.11 Asian Crisis

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10/8/1998	-20.05	3/27/2000	58.49 Internet Bubble, 9/11
10/9/2002	-51.41	10/31/2007	139.07 Real Estate Bubble
3/9/2009	-59.07	2/12/2020	253.61 Coronavirus
3/18/2020	-30.91		

**Table 20.2. Global Bull and Bear Markets, 1602 to 2019**

It is interesting to note that the market bottom in 1932 was 35% below the market top in 1719. The longest and deepest bear market in world history followed the 1719 Mississippi-South Sea Bubble when the market declined by 89% between 1719 and 1762. The longest bull market occurred between 1791 and 1845, which ended in the railway mania of the 1840s. The 1929 to 1932 decline was the second worst bear market in history, during which the market declined by 75%, primarily because of the large decline in the stock market in the United States. Surprisingly, the bear market in 2007 to 2009 was the third worst bear market in the past 400 years. This also emphasizes how severe the 2008 bear market was and the fact that global bear markets with a decline over 50% are rare events.

The bull market leading up to the 1719 peak was the strongest bull market in history with prices rising 721% between 1712 and 1719. The market rose 702% between the market bottom of 1974 and the market top in 1989; however, if you use data from MSCI for their Developed World Index, the market declined 23.7% between August 27, 1987 and October 26, 1987, then rose 50.92% by January 4, 1990, barely qualifying the 1987 to 1990 rise as a separate bull market. If you adjust for inflation, you get different results as well. Inflation reduces the 1949 to 1968 increase from 495% to 302% and reduces the 1974 to 1989 rise from 702% to 222%. Definitions count.

And the prediction for the coming decade?

The 2020s have begun with the Coronavirus Bear Market. The bear markets that began in 2018 in emerging markets and Europe has spread to the rest of the world. How long and how deep the bear market of 2020 will be remains to be seen.

Our prediction is that the stock market still hasn't fully incorporated low government bond yields into the market. With little prospect of inflation, there is no reason for bond yields to rise. Instead, bond yields are likely to continue their decline in the 2020s.

## 5. Fixed Income Markets

Since there is no global currency that global bonds are issued in, we use the yield on US government bonds as a proxy for fixed income because the World stock market index is calculated in US Dollars. One way of measuring bull and bear markets in fixed income is to compare the return on short-term bills or 2-year Notes with the yield on the 10-year government bond. Figure 21.4 shows the path of bond yields over the past 700 years using data from Italy (1311-1508), Spain (1509-1598), the



Netherlands (1599-1702), Britain (1703-1907), Germany (1908-1913), Britain (1914-1918) and the United States (1919-). This graph uses the yield on the lowest yielding bonds at each point in history over the past 700 years to illustrate the long-term trend in bond yields throughout the world.

**Figure 20.4 Long-term Bond Yields, 1311 to 2019**

The spread between the dividend yield on developed world stocks and the U.S. 10-year bond is illustrated in Figure 20.5. The graph looks very similar to the graph for the United States because the U.S. represents such a large portion of stocks traded in the developed world. The dividend yield exceeded the yield on government bonds until around 1957. The bond yield was greater until the 2008 Financial Crisis, and since then the spread has fluctuated depending upon the yield on government bonds. This pattern is likely to continue for the rest of the decade.

**Figure 20.5. World Stock Dividend Yield Minus US Government 10-year Bond 1925 to 2020**

## 6. Stock Market Capitalization and Government Debt

Global Stock market capitalization increased dramatically between 1980 and 2000, rising from around 30% of global GDP to over 100% during the Dot.com bubble that culminated in 1999. During most of the twentieth century, market capitalization was around 30% of world GDP. It declined during World War I when governments redirected capital to government bonds and many stock markets, such as Germany's and Russia's closed down during the war. There was a rally during the bull market of the 1920s, mainly driven by growth in the American stock market which grew to equal America's GDP by 1929, but this was followed by a steady decline in the 1930s and 1940s. The S&P 500 fell over 85% between 1929 and 1932, wiping out the growth in the 1920s. Capitalization grew until the 1937 recession hit, then declined throughout the 1940s.

Government officials learned from World War I when stock markets closed worldwide. Two things differed when World War II began. First, global stock markets and forex markets were not as integrated in 1939 as they were in 1914. The fear that people in other countries would sell securities and redeem the capital in another country was unfounded. Governments also learned to control pricing to limit the decline in the price of securities. What this did, however, was to freeze trading and some stock exchanges, such as Berlin, just froze up as the value of shares fell below the minimum price they were allowed to trade at. As during World War I, resources were redirected to government bonds as governments controlled industry, few consumer goods were produced and new companies did not list on the exchanges.

Stock market capitalization as a share of GDP fell to its lowest levels in the twentieth century after World War II ended in 1945. Either the war reduced the value of many industries which were destroyed during the war, or European governments nationalized utilities, steel, banks and other "essential" industries leaving fewer firms available for public investment. Governments rationalized that they had effectively controlled these firms during World War II, so there was no reason why they shouldn't control them to help the economy grow after the war. Reality soon proved them wrong and as world trade grew after the war, private companies grew in number and in size as well. By the end of the 1960s, market capitalization as a share of GDP grew to 50%, twice what it had been at the end of World War II. Stock market capitalization in countries like France fell below 10% of GDP.

Market capitalization declined once again in the 1970s as inflation, OPEC and slower growth reduced the capitalization of the stock market in Europe, Japan and the United States. The nadir was reached in 1981 when interest rates hit double-digit levels in the United States. The failure of Keynesian policies was recognized and the world began to move toward more open markets. By the end of the

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1980s, Communism had fallen and countries in Europe, China and the rest of the world began privatizing their economy. Japan's bubble made the first push to raise capitalization to over 50% of GDP and the privatization of the former Communist governments and the internet bubble pushed stock market capitalization to over 100% of GDP by 1999, a quadrupling of the capitalization/GDP ratio since 1981.

During the twenty-first century, capitalization has varied depending upon the behavior of the market, plummeting after the dot.com bubble crashed, rising again during the housing bubble, falling again when the housing bubble crashed, and rising since then to bring the Market cap/GDP ratio back over 100%. Whether this market cap/GDP can maintain its position at 100% of GDP during the 2020s, or it crashes once again remains to be seen.

### **Figure 20.6. World Market Capitalization as a Percent of World GDP**

## **7. Conclusion**

This report has taken an unprecedented look at financial markets over the past 400 years to study the patterns not only in the world stock market index, but in the factors that contribute to changes in the world stock market. This coverage not only enables us to have a better understanding of what factors drove the global stock market in the past, but what could drive the stock market in the decade to come.

Part of our goal is to look at the relative returns of stocks and bonds to see which is likely to provide the higher return during the coming decade. In many countries in the world, bonds have outperformed stocks during the first 20 years of this century, and it is important to know whether this trend will continue.

Our analysis has concluded that returns to fixed income in the 2020s is likely to be low. The current yield on the 10-year bond provides a good prediction of the return that investors are likely to receive in the next 10 years. The return to bonds has been declining during the past 40 years. With bond yields negative in nominal terms in much of Europe and in Japan, and positive in nominal terms, but negative in real terms in the United States and other Anglo countries, it seems unlikely that bonds will return much more than 2% per annum in the coming decade. Unless the world sinks into a bear market during the coming decade, stocks are likely to outperform bonds.

Financial markets have been driven by the Federal Reserve and other central banks since the collapse of financial markets in 2007-2009. Although a prediction of declining bond yields is consistent with the trend in interest rates during the past 700 years, interest rates have been driven down to historic lows by the Federal Reserve and European Central Bank which continue to intervene in markets whenever it looks like there could be a recession. How long the Federal Reserve, European Central Bank and Bank of Japan can continue to keep financial markets on their current path is uncertain. Historically, the goal of the Federal Reserve has been to promote growth while limiting unemployment and inflation. The Fed has been very successful in doing this during the past ten years. Unemployment and inflation both remain low, so the Fed has been able to focus more on managing financial markets as a symbol of the future health of the economy. It remains to be seen how well the Fed will handle the coronavirus crisis.

Given this, the question is by how much will equity markets rise or fall in price during the coming decade? Can the Fed continue to achieve the steady growth in the economy and financial markets that prevailed in the 2010s? The bull markets in the 1990s and 2000s ended in bubbles. How successfully will the markets recover from the impact of the coronavirus?

The World Index plunged over 50% in 2000-2002 and 2007-2009. The current bear market began in 2018 in Europe and Emerging Markets and spread to the rest of the world during the coronavirus pandemic of 2020. One of the key questions is how leadership in global markets will change once the current bear market is over with. Will leadership remain in the United States, or will it shift to Europe or Asia or the Emerging Markets? The market cap of Apple, Microsoft, Alphabet, Amazon and Facebook is worth more than every stock exchange in the world except for the United States and Japan. The World x/USA and Emerging Market indices are still below their levels in 2008. This leaves room for growth in world stock markets in the years to come.

Overall, the evidence for a continued bull market once the coronavirus collapse has passed remains strong. Although bonds are unlikely to return much more than 2% in the coming decade, stock market returns of at least 5%-6% seem likely during the coming decade. The forecast for the global stock market in the next few years is for good, but not spectacular, returns.