INVESTING IN TIMES OF CRISIS

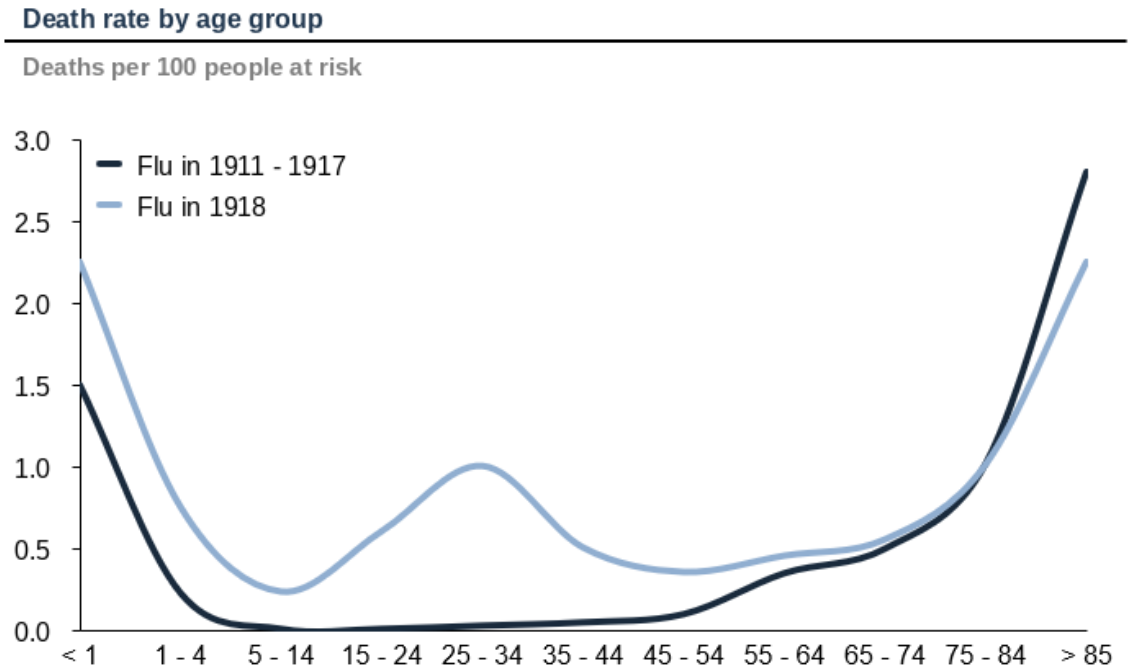
April, 2020

Dear investors,

In an attempt to draw parallels and understand the potential implications for our investment decisions at this time of pandemic caused by Covid-19, we decided to look for a historical perspective on how the capital markets reacted in other periods of great crisis.

It is important to clarify that we are neither analyzing nor comparing the terrible humanitarian consequences of each of these past crises with the current one. What will become evident, however, is our society's enormous capacity to overcome adversity and return to the path of economic growth.

The Spanish flu infected one in four people worldwide and is estimated to have killed around 2% of the world's population (equivalent to 160 million people in today's numbers). Unlike the waves of flu in previous years, the 1918 flu struck young people aged 25 to 34, the main age group in the workforce, disproportionately hard:[1]

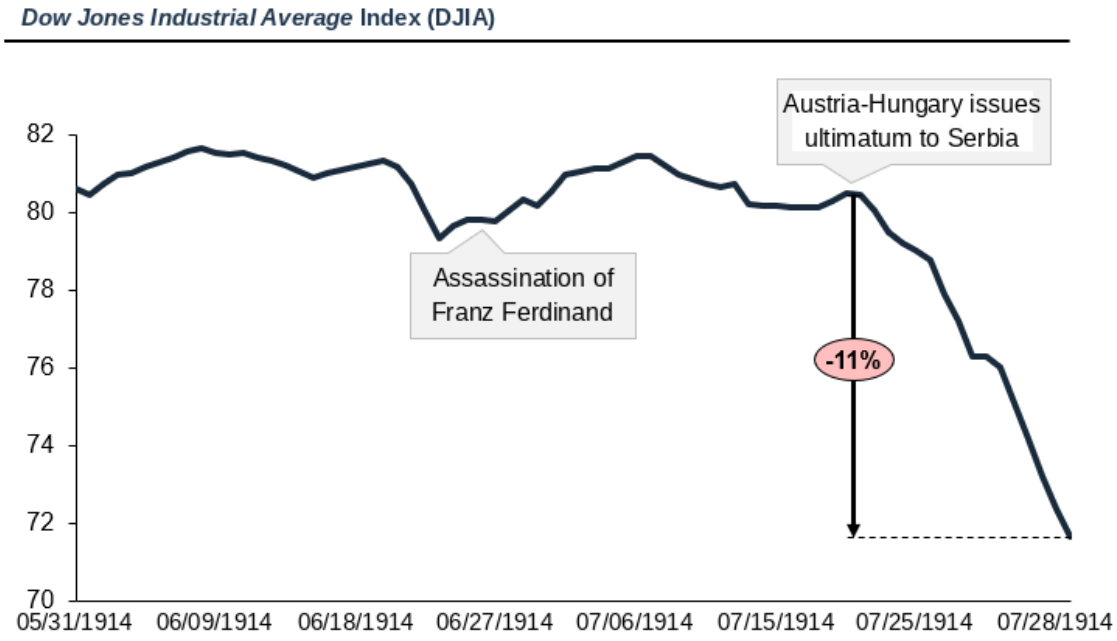


[1] Taubenberger JK, Morens DM (January 2006). "1918 Influenza: the mother of all pandemics". Emerging Infectious Diseases. 12 (1): 15–22.

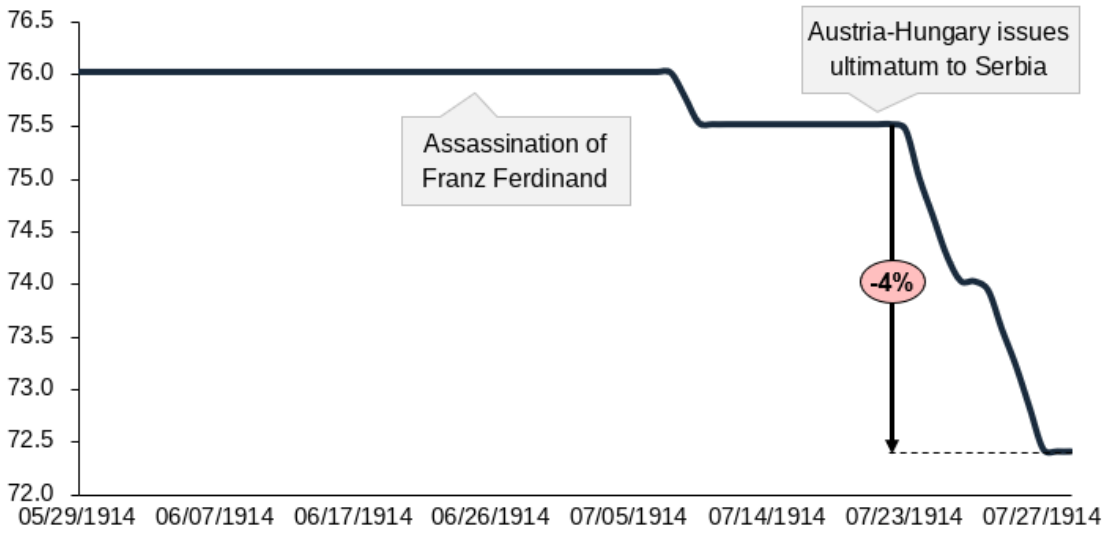
As if that were not enough, this pandemic occurred between 1918 and 1920, at the end of the First World War, in which around 20 million people perished, civilians and military personnel alike. Entire countries were left in ruins. In terms of the magnitude of the loss of human life, this period is perhaps surpassed only by the Black Death, which peaked in Europe between 1347 and 1351.

The assassination of Archduke Franz Ferdinand in June 1914 was the trigger for a series of events that culminated in the Austro-Hungarian Empire's declaration of war on Serbia on July 28. Germany declared war on Russia on August 1, and within a few days the European nations were at war.

For almost a month after the Archduke's assassination, the financial markets did not react. Neither the Dow Jones Industrial Average (DJIA) stocks nor German government bonds seemed to price in the prospect of war. It was only when Austria-Hungary issued an ultimatum to Serbia that the markets panicked and started selling.



German imperial fixed-rate bond (3%)

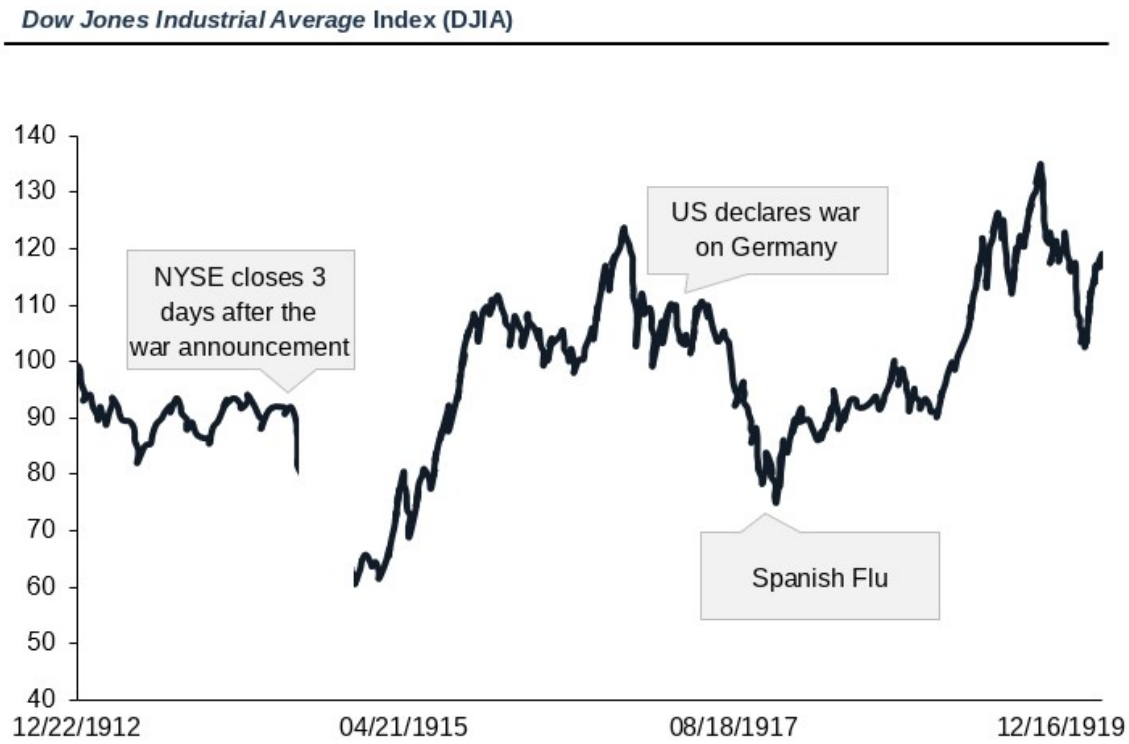


With the panic, the impact on global stock exchanges was immediate: all of the main European exchanges and many exchanges outside Europe closed, something that had never happened before. Other crises had led to the closure of the stock market in the United States or in other countries, such as the Revolution of 1848 in France or the Panic of 1873 in New York, but the world's main stock markets had never closed simultaneously.

The NYSE remained closed between July 30 and December 12, 1914.

Throughout Europe, the problem of catastrophic declines in share prices was solved by placing a floor on share prices. Initially, stocks and bonds were not allowed to trade below the price at which they had traded on July 31, 1914. Governments also imposed capital restrictions, limiting or preventing large capital outflows from the continent for the rest of the war.

The Times of London began printing share prices in London and Bordeaux on September 19 and in Paris on December 8, 1914. In January 1915, all shares were allowed to trade on the London Stock Exchange, albeit with price restrictions. The St. Petersburg Stock Exchange reopened in 1917, only to close two months later because of the Russian Revolution. The Berlin Stock Exchange did not reopen until December 1917.



Obviously, it was a period of great volatility, in which the DJIA fell from a level of around 90 points to ~60 at its low (a decline of ~33%). Those who remained calm and had capital to invest during this period, and did not make hasty decisions to sell, hardly lost money. The chart above does not include any dividends paid. Assuming dividends were reinvested, an investor's return between January 1914 and January 1920 would have been 11.5% per year.

From a historical perspective, an investment in the DJIA in June 1914, on the eve of the war, held until today, in the middle of the Covid-19 pandemic and a widespread fall in stock markets, would have provided a return of 9.8% per year in dollars (with dividends reinvested), or almost 20,000 times the capital invested. In real terms, this is a gain of 6.5% per year above inflation over the period. It is worth remembering that this investment would also have gone through several other severe crises, such as the crash of 1929, the Second World War, the Cold War, the oil crisis, Black Monday, the September 11 terrorist attack and the global financial crisis of 2008.[2]

The Second World War was the deadliest conflict in human history. Marked by 70 to 85 million deaths, most of them among the civilian population, it witnessed massacres, genocides (including the Holocaust), mass bombings, premeditated death by starvation and disease, and the only use of nuclear weapons in a war to date.

It is considered to have begun on September 1, 1939, with Germany's invasion of Poland, and to have ended on August 15, 1945, with the surrender of Japan following the atomic bombings of Hiroshima and Nagasaki.

[2] https://dqydj.com/dow-jones-return-calculator/

***Dow Jones Industrial Average* Index (DJIA)**



As we can see in the chart above, the DJIA tracked sentiment about the course of the war: between 1940 and 1941, when everything indicated that the Axis powers would prevail, the unfolding of events led the index to fall by around 33%. When the situation reversed, the index embarked on a rally in which it more than doubled over a 4-year period. A pre-war investment of US$1,000 in June 1939 would have turned into US$2,900 by June 1950, an average real return of 4.8% above inflation over the period.[3]

Governments and stock exchanges had learned their lessons from the First World War. When the Second World War began, the London Stock Exchange closed for only one week, and the New York Stock Exchange never closed, except on August 15 and 16, 1945, when the NYSE closed to mark the end of the war. The Berlin Stock Exchange remained open during the Second World War, although the minimum price policy and capital restrictions prevented share prices from falling until the devaluation of 1948.

Finally, we offer a Brazilian perspective, presenting what was perhaps the worst period to date for our stock markets.

On the morning of March 16, 1990, one day after taking office as president, Fernando Collor de Mello announced a series of provisional measures in an attempt to contain hyperinflation, which in 1989 had reached almost 2,000%.

The most striking feature of this plan was the confiscation of savings: of all the money deposited, only 50,000 cruzados novos could be converted into cruzeiros and withdrawn, while the rest would be frozen for 18 months. At the commercial dollar exchange rate on the Monday following the announcement of the plan, the 50,000 cruzados novos would be equivalent to just over one thousand dollars.

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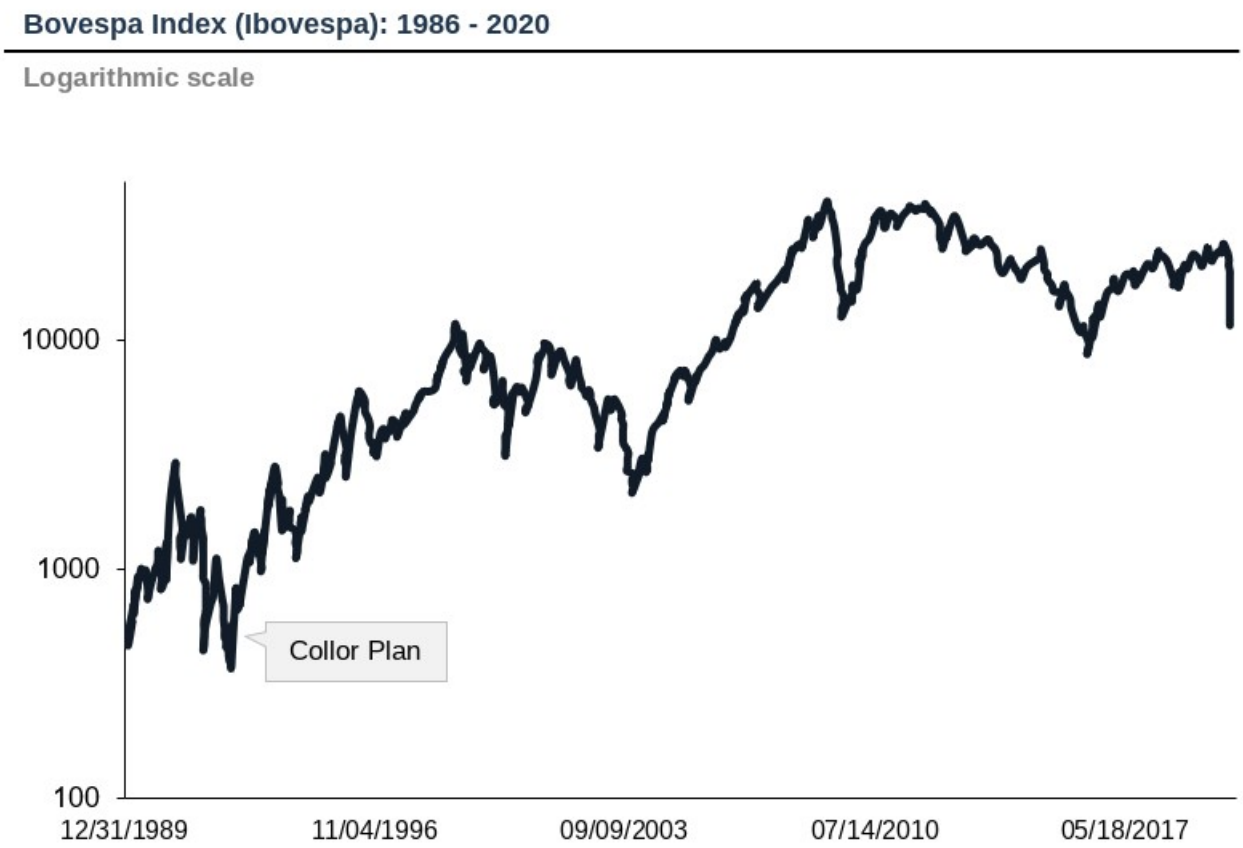
Uncertainty about the future and the need to withdraw money to cover the amount frozen by the Government led to a series of curious events in the trading sessions that followed.

Because of the lack of liquidity, in the trading session on Monday the 19th, the now-defunct Rio de Janeiro Stock Exchange did not record a single trade! Likewise, Bovespa had only 9 trades (curiously, 8 of them in Paranapanema shares, which fell 49.7%). On that day, the Ibovespa fell 12.1%.

On Tuesday, with a slightly higher number of trades – 36 in all –, the Ibovespa recorded its largest daily decline up to that point, of 20.9%. But it was the following session that went down in history as the index's largest daily decline: a fall of 22.3%, with 142 trades and still very low financial volume of Cr$1.76 million. For comparison, the session before the announcement of the Collor Plan recorded financial volume of NCz$1.33 billion, with 4,795 trades.

In just 3 days, the Ibovespa fell 46% and, in dollars, it fell an incredible 72.7% for the year (the best reference given the hyperinflation, which was not brought under control and rose 1,700% over the year).

GDP fell 4.3% in 1990, according to IBGE – which at the time used a slightly different methodology to calculate the national accounts.



By way of illustration, consider a very "unlucky" investor who had invested in the Bovespa index before the announcement of the Collor Plan, buying the index at 1,000 in dollars, and sold it now, in the middle of the Covid-19 pandemic, with the Ibovespa close to 12,000, also in dollars: he would have earned a nominal return

of 8.6% per year in hard currency. It is not a return to be proud of, but we are talking about getting in and out at the worst possible moments.

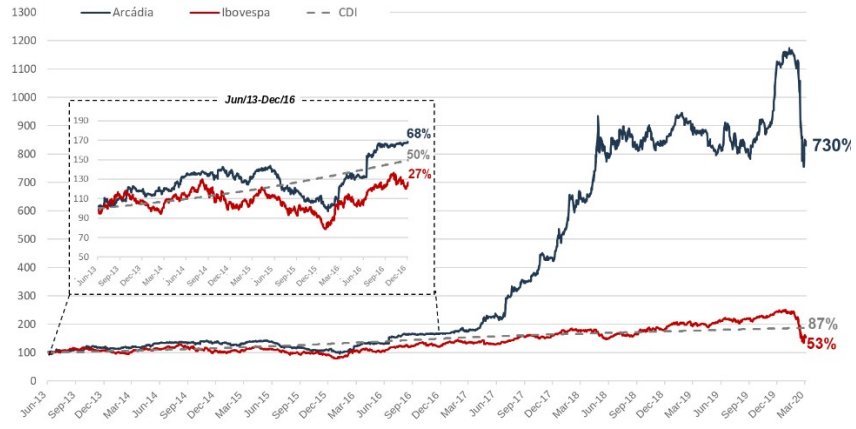
When we invest in the stock market, we are, in a way, investing in the human capacity to innovate and generate prosperity for society. The excellent appreciation of stock indexes over the last 100 years has been accompanied by a significant improvement in the population's quality of life. Today, a middle-class person lives better than the richest people lived 100 years ago.

We are fully aware of how unpredictable the developments of the current crisis are, and we hope we can emerge from it as quickly as possible. But we are quite confident that the future of society and of our investments will be better than the scenario we were in even before the Covid-19 crisis appeared – without having to wait 100 years for it.

"The present is the past rolled up for action, and the past is the present unrolled for understanding"

Will & Ariel Durant, The Lessons of History, 1968

Historical cumulative return[4]



Indicators:

Current net assets:
R$66.7 million

12-month average net assets:
R$58.1 million

Cumulative return:
730.1%

12-month return:
-6.2%

36-month return:
359.8%

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year		Since inception	
													Arcádia	Ibov	Arcádia	Ibov
2013	-	-	-	-	-	2.2%	6.7%	(5.2%)	8.8%	8.3%	(1.0%)	(0.3%)	**20.2%**	8.2%	**20.2%**	8.2%
2014	(4.5%)	2.9%	2.2%	(0.9%)	4.2%	7.7%	1.2%	0.9%	(1.2%)	(1.2%)	6.2%	(1.7%)	**16.0%**	-2.9%	**39.4%**	5.0%
2015	(4.4%)	(3.6%)	3.4%	5.1%	1.3%	(4.2%)	(10.6%)	(2.9%)	0.2%	(8.7%)	0.5%	3.5%	**-19.7%**	-13.3%	**12.0%**	-8.9%
2016	(9.7%)	2.8%	20.9%	4.7%	1.8%	(0.7%)	16.1%	7.8%	(0.3%)	(1.0%)	1.6%	0.6%	**50.3%**	38.9%	**68.3%**	26.5%
2017	2.0%	3.7%	1.4%	2.6%	20.4%	1.7%	27.9%	9.4%	8.7%	8.9%	14.1%	(1.2%)	**151.7%**	26.9%	**323.7%**	60.5%
2018	22.1%	23.9%	0.8%	2.4%	29.7%	(8.4%)	7.9%	5.1%	(7.8%)	6.5%	(4.7%)	0.9%	**98.8%**	15.0%	**742.3%**	84.6%
2019	10.7%	(1.7%)	(3.4%)	(1.2%)	(5.7%)	(1.5%)	3.6%	1.0%	(7.8%)	14.0%	0.5%	25.0%	**33.1%**	31.6%	**1,021.5%**	142.9%
2020	2.7%	(4.2%)	(24.8%)	-	-	-	-	-	-	-	-	-	**-26.0%**	-36.9%	**730.1%**	53.4%

[4] Arcádia began on June 27, 2013 as an "investment club" and, on September 27, 2019, it was converted into an "equity investment fund." Returns shown from inception as a club on June 27, 2013 through March 31, 2020