VERIPATH
FARMLAND FUNDS

Veripath Q3 2022 Newsletter

Veripath would like to take the opportunity to continue the macro focus of the last two quarters' newsletters rather than being strictly agriculture-centric. Given the state of the developed world, it could well be argued we must all be at least partial macro investors now.

In that frame of mind, recent events in the UK, US and Canada drew us to the image below. It is hard to beat as both an amusing and perceptive representation of how G7 governments are supposedly fighting inflation with expansive fiscal policy and contractionary monetary policy. Or to translate, with the short-term political goal of a retaining power and the long-term economic goal of heading off an inflationary conflagration of their own creation, or more likely just shifting the blame for it.

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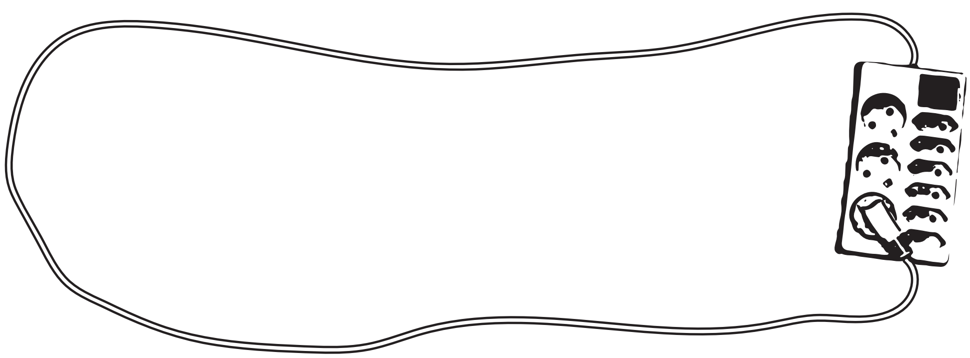
Figure 1: Simultaneous expansionary fiscal policy and contractionary monetary policy explained



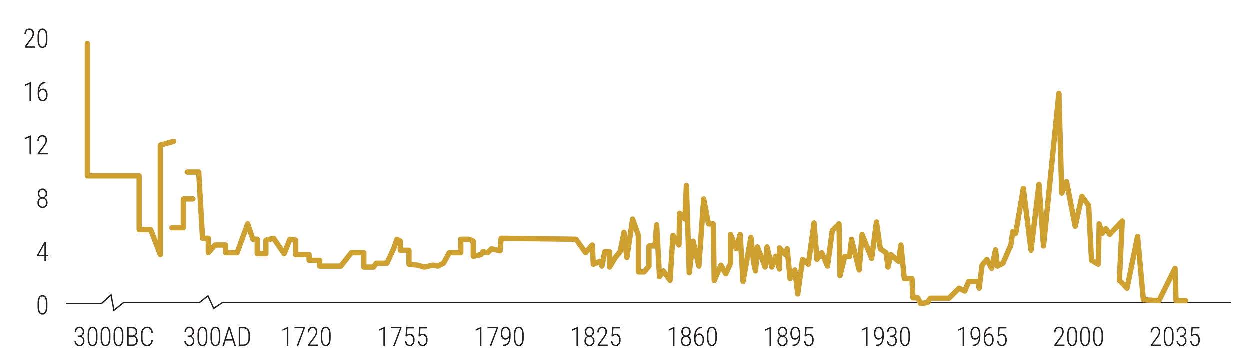
Perhaps there is even something more cynical than simply magical thinking in this approach – insulating the public sector while raising real interest rates pushes the cost of fighting inflation disproportionately onto the private sector. Something to contemplate. Now let's do a quick review of some of the key distortions plaguing the developed world and ask some questions about how reversion to the mean might look.

> *"The most important thing to remember is that inflation is not an act of God, that inflation is not a catastrophe of the elements or a disease that comes like the plague. Inflation is a policy."*
> — Ludwig von Mises

GLOBAL DEBT – THE CONSEQUENCES OF ALL TIME HIGH LEVERAGE AND RISING NOMINAL RATES

Just how low (artificially suppressed) has the price of money been for the last 2 decades? What are the consequences of a return to the long-term 5%-7% mean?

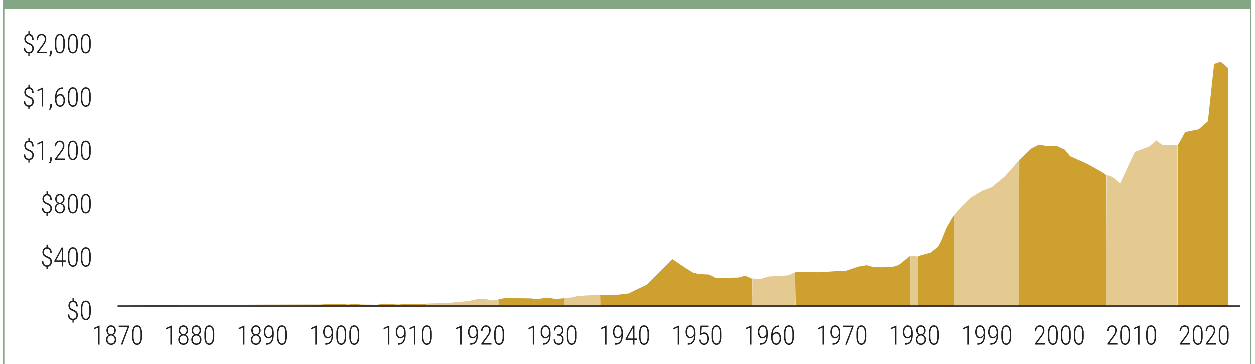
Figure 1a: 5,000 Years of Short-Term Interest Rates (%)



Source: "A History of Interest Rates", BOE, "The Price of Time", FT

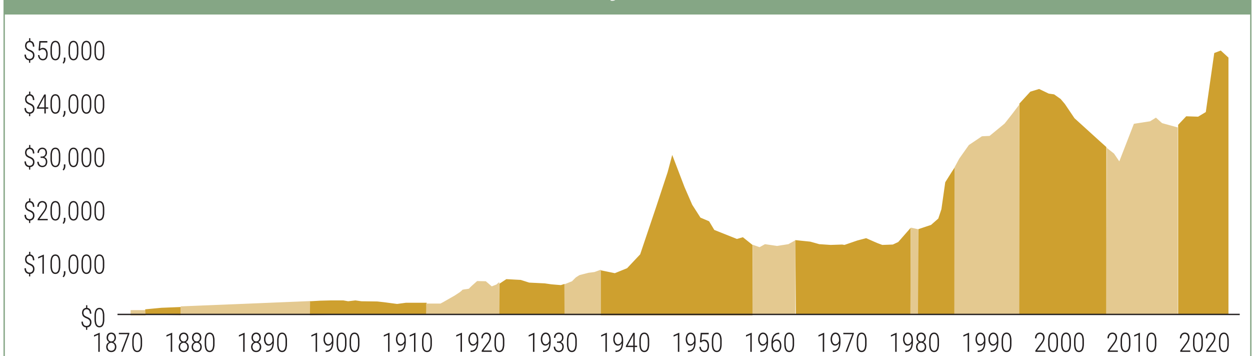
Can economies that grow arithmetically support governments that grow exponentially? Real GDP per capita in Canada has been stagnant for almost a decade yet the same cannot be said for federal government spending. Just how fast is Canadian government debt growing on top of the economy and is this sustainable?

Figure 1b: Canadian Federal Government Gross Debt from 1870 to 2022 in billions 2022 dollars.



Source: Fraser Institute, Canada Department of Finance

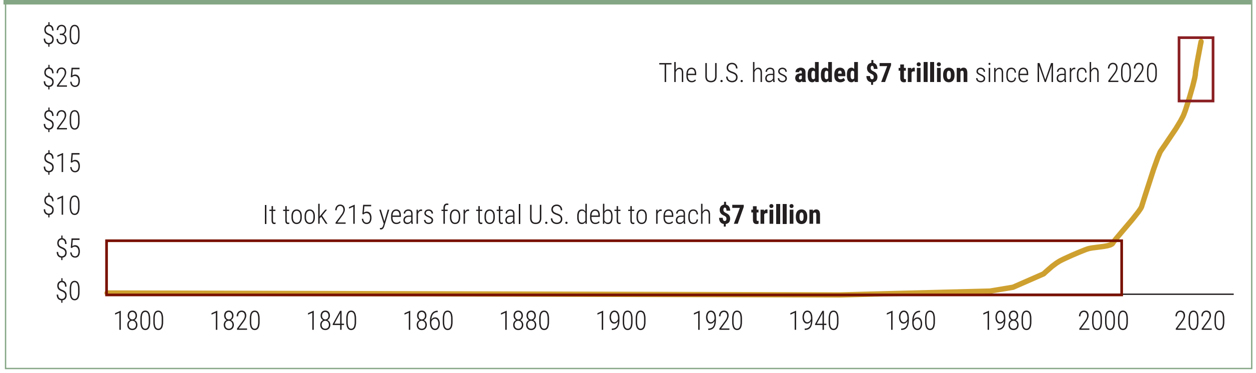
Figure 1c: Canadian Federal Government Gross Debt per person from 1870 to 2022 in 2022 inflation-adjusted dollars.



Source: Fraser Institute, Canada Department of Finance

Just how fast is US government debt growing?

Figure 1d: US Federal Government Debt Since Foundation

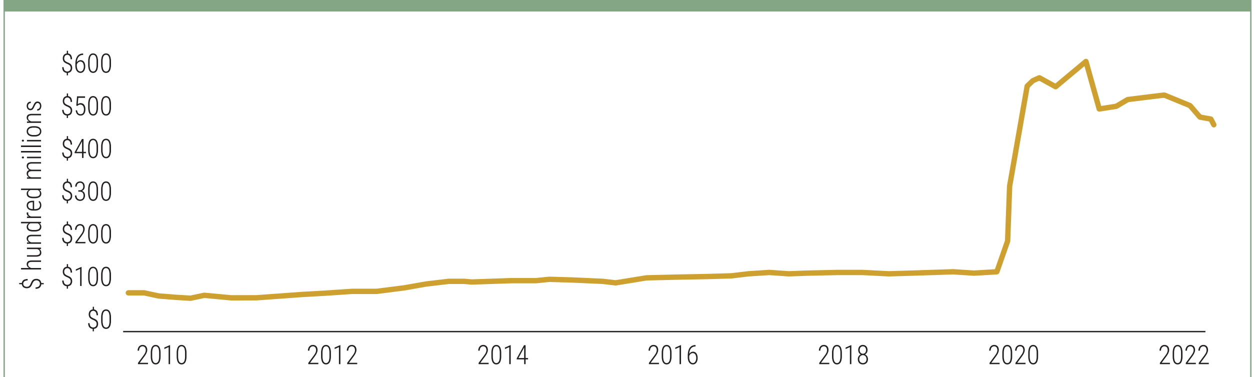


Source: Heritage Foundation

The Bank of Canada has so far withdrawn very little of the COVID-driven excess money supply from the economy. What will the withdrawal of the remaining ~CAD$400 billion in stimulus look like – for residential real estate prices, the TSX or consumer lending rates?

> *"The truth is like a lion; you don't have to defend it. Let it loose; it will defend itself"*
> - Augustine of Hippo

Figure 1e: Bank of Canada's Assets (billions CAD$ month end)



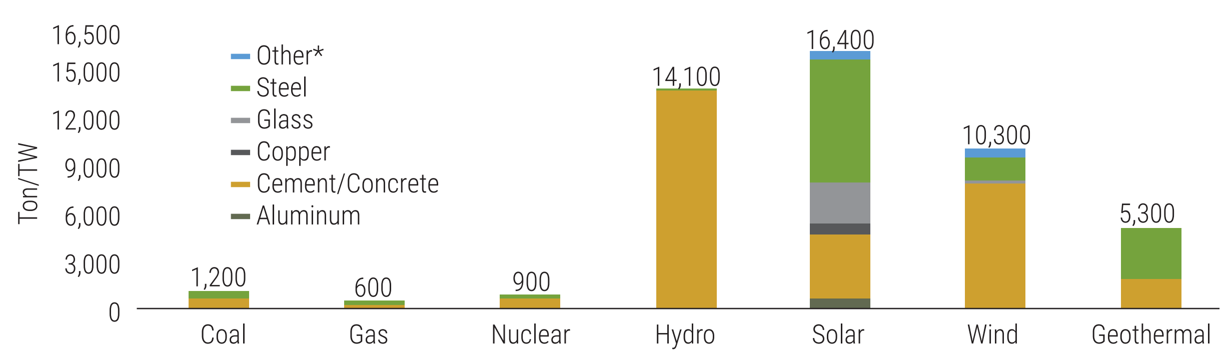
Source: Bank of Canada

ENERGY TRANSITION IN THE WEST – SOME OBSERVATIONS

Does the G7 have the capability, will and capital to produce the materials necessary to meet the 2050 Net Zero targets as currently envisaged?

> *"He that would make his own liberty secure, must guard even his enemy from oppression; for if he violates this duty, he establishes a precedent that will reach to himself."*
> – Thomas Paine

Figure 2a: Tons Base Materials Input per 1 TW of Generation

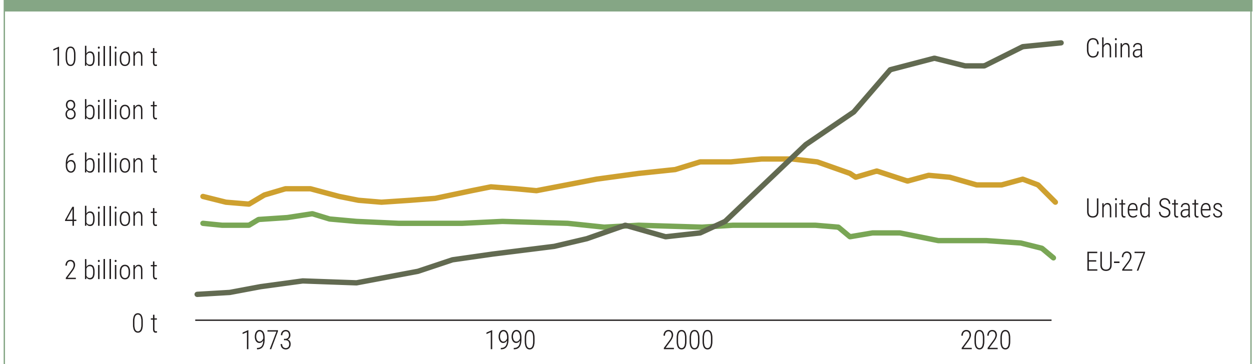


Notes: Other includes iron, lead, plastic, and silicon – DOE 2015

Will it matter in the face of a multi-polar world of "***onshoring***" and increasingly overt geopolitical conflict where China is unlikely to continue even attempting to reduce the emissions trajectory highlighted below. Couldn't it even be argued that for China it is strategically incentivised to encourage the G7 to pursue these targets and to publicly promise to comply with their own carbon undertakings, while continuing to rely on the same coal-heavy, base-load generation approach? Or, in fact, perhaps even to increase the use of coal, oil and natural gas as long-term G7 policies strand and therefore discount these energy sources in developed markets?

> *"The things that we love tell us what we are"*
> - Thomas Aquinas

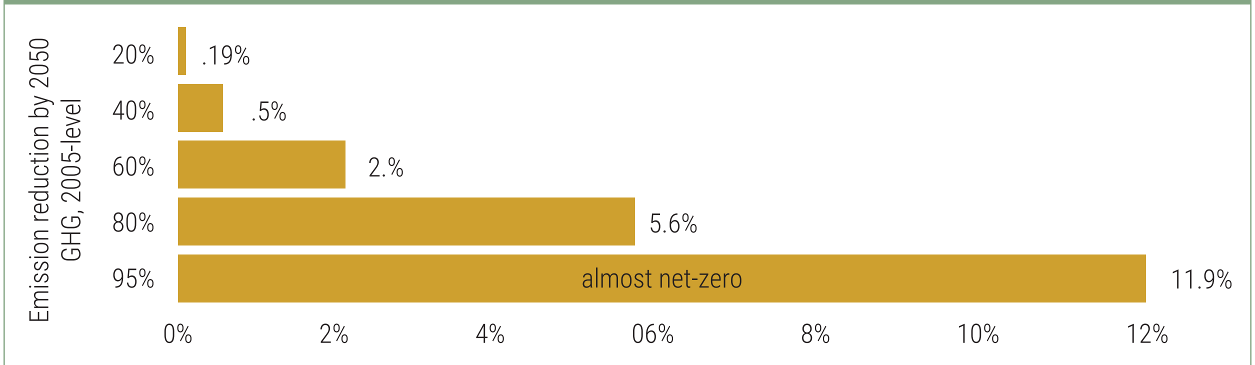
Figure 2b: Annual CO2 Emissions from Burning Fossil Fuels for Energy and Cement Production



Source: Our World in Data

Putting the physical constraints aside, Net Zero 2050 will be inflationary as it is hard to imagine the capital requirements being voluntarily funded from increased taxes or private investment – i.e., recourse to stealth taxes via fiscal deficits funded via money printing can be expected. In practice, it is even more likely to be stagflationary given the amount of stranded energy production capital is casually being contemplated.

Figure 2c: Net Zero 2050 (Annual Cost % GDP versus Estimated Emissions Reduction from 2005 level)

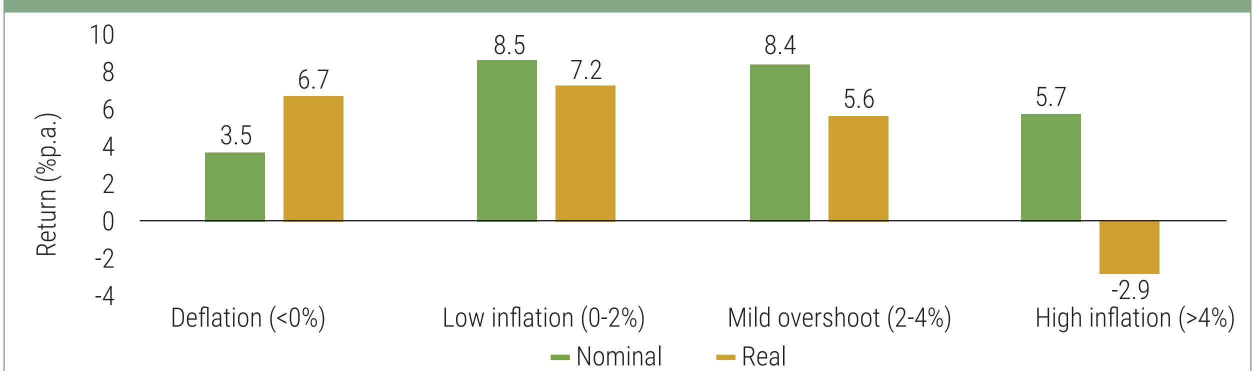


Source: Bjorn Lomborg, Bank of America

PORTFOLIO CONSTRUCTION IN A CORRELATED AND STAGFLATIONARY ENVIRONMENT

Do public equities hedge inflation? The chart below shows average annual nominal return (green bars) and real return (yellow bars) on the 60/40 global equity/bond portfolio across inflationary periods. The sample period is 1875-2021. The 60/40 portfolio excels in consistent low inflation periods – it materially underperforms in period of high inflation (inflation >4%).

Figure 3a: Nominal and real 60/40 Returns Across inflation Regimes (1875-2021)



Source: Robeco

Given that the last appearance of stagflation was almost 50 years ago, investors have forgotten that few asset classes perform well in that climate. An environment of poor economic growth and high inflation takes careful thought to generate real returns – rather than the common practice of unwittingly leveraging beta that has worked for the last 20 years.

> *"Madness is the exception in individuals but the rule in groups."*
> \- Fredrich Nietzsche

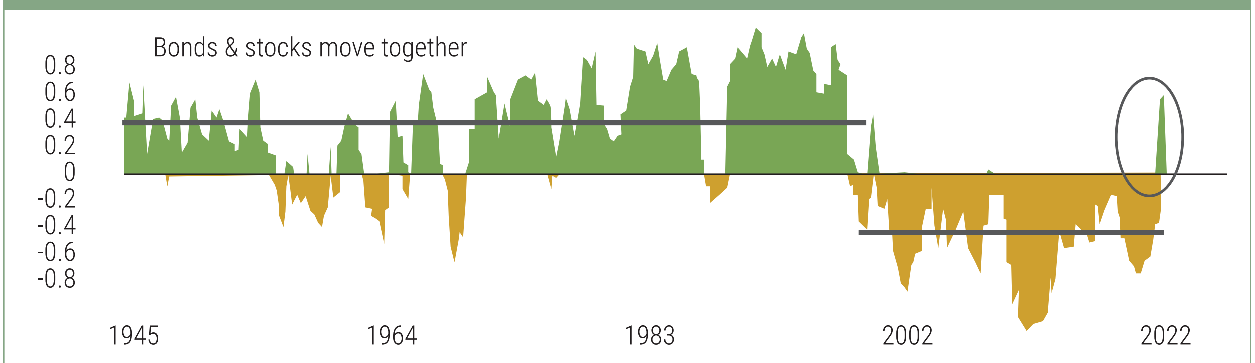
Figure 3b: Global Asset Performance by Environment

	Sharpe Ratio			Excess Return (Ann)		
	Stagflation	Other Periods	All Periods	Stagflation	Other Periods	All Periods
Frequency of Environment	18%	82%	100%	18%	82%	100%
Assets						
Inflation-linked Bonds	1.02	0.05	0.57	4.5%	2.2%	2.6%
Gold	0.67	0.10	0.23	17.6%	1.8%	4.5%
Broad Commodities	0.58	0.17	0.28	10.5%	2.4%	4.1%
Nominal Bonds	-0.20	0.63	0.44	-1.2%	3.5%	2.5%
Corporate Spreads	-0.66	0.33	0.18	-3.1%	1.8%	1.0%
Real Estate	-0.68	0.63	0.38	-13.8%	11.8%	7.3%
Global 60/40 Portfolio	-0.70	0.82	0.49	-6.6%	6.5%	4.1%
Equities	0.72	0.67	0.39	-10.2%	8.6%	5.1%

Source: Bridgewater

Bonds don't hedge equities in an inflationary world and this loss of correlation materially damages returns. Unfortunately these periods of high positive correlation can last decades based on historical precedents. How long will this recent correlation behaviour continue and if it continues are you hedged?

Figure 3c: Rolling 24 month correlation between US bonds and equities

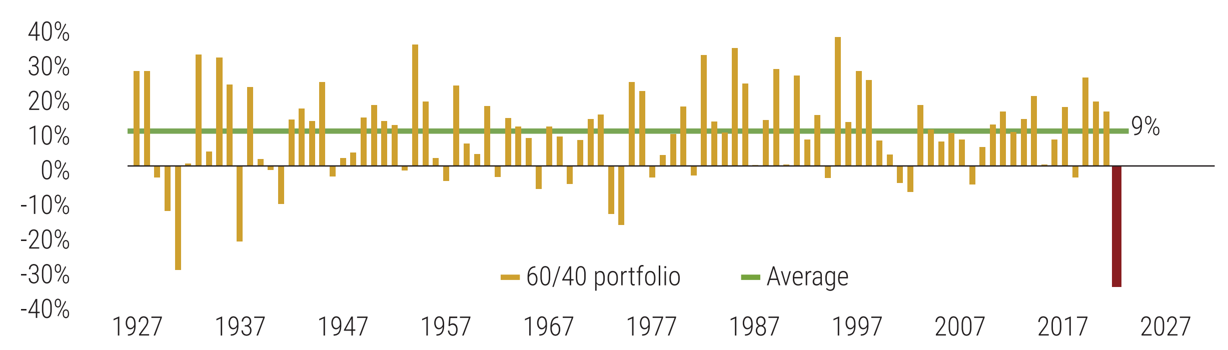


Source: BofA Research Investment Committee, Global Financial Data

The change to high, positive cross correlation has clearly caught traditional portfolios severely unprepared. Year-to-date 2022 losses are some of the most dramatic on record for both their magnitude and their pervasive nature.

> *"One of the great mistakes is to judge policies and programs by their intentions rather than their results."*
> — Milton Friedman

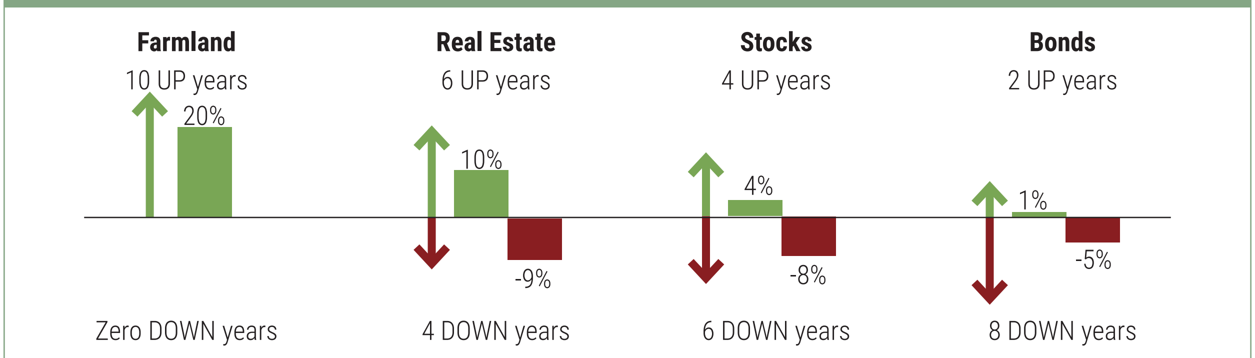
Figure 3d: 60/40 Portfolio worst YTD return in part 100 years (2022 YTD annualized)



Source: BofA Investment Strategy, Global Financial Data

Meanwhile, farmland hedged stock and bond stagflation and correlation risk of the 1970s and Canadian farmland with its strong value proposition (low productivity adjusted prices) and low sector leverage appears to be providing similar portfolio insurance today (see Veripath's recent quarterly return data for an example).

Figure 3e: Farmland versus Stocks, Bonds and Stagflation (10 year up/down profile – 1970s annual returns)



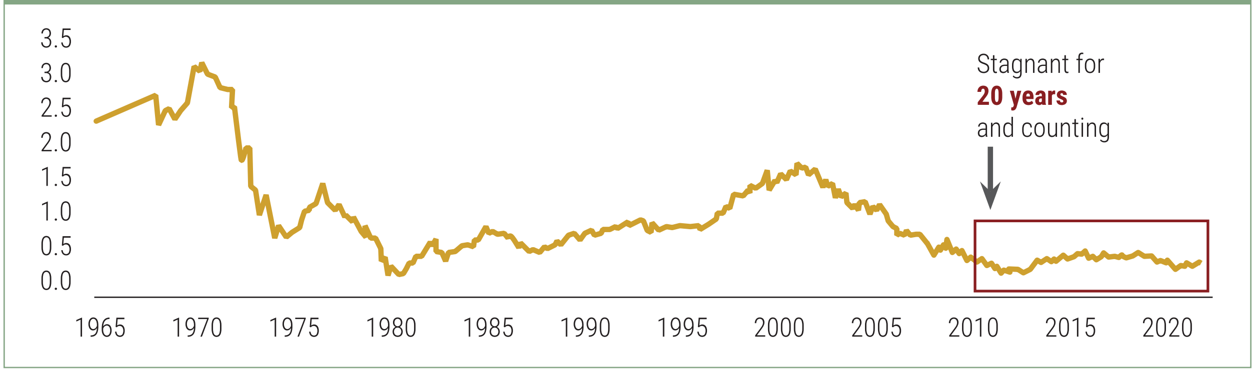
Source: FCC, CPI-Statistics Canada, SP500-10yr Bonds-Macrotrends, FTSE REIT-Nareit, Veripath analytics

THE IMPORTANCE OF REAL ECONOMIC GROWTH PER CAPITA VERSUS NOMINAL AND AGGREGATE

Real versus nominal versus per capita matters. GDP, wages, economic growth, stock market returns and many other items are invariably reported in nominal terms. Obviously, inflation adjusted purchasing power is what matters in the real world and when that lens is used matters have been far less rosy over the last two decades than we are led to believe. How long can stagnant income growth continue in the West without serious political consequences?

> *"The assumption that spending more of the taxpayer's money will make things better has survived all kinds of evidence that it has made things worse."*
> - Thomas Sowell

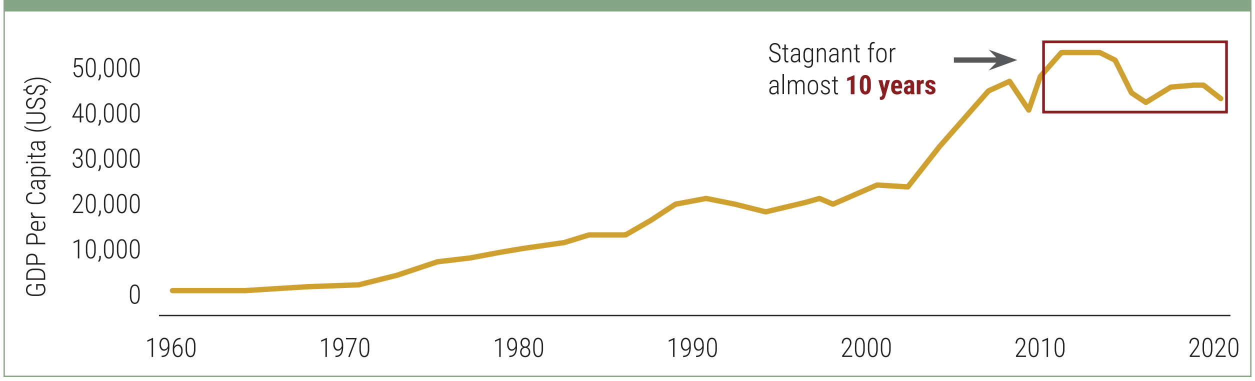
Figure 4a: US Production Workers Hourly Wages in Gold



Source: BLS, "Priced in Gold" website

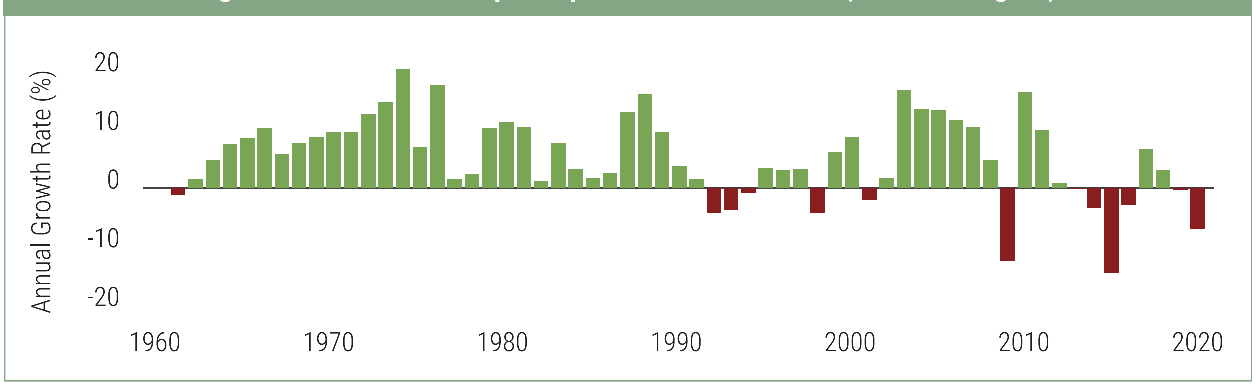
Even ignoring the impact of inflation and just working in nominal USD$ terms, Canadians' incomes have been stagnant per capita for almost a decade (since 2015). Certainly, the political class tries constantly to pull us back to thinking in nominal, aggregate GDP terms but it is real, GDP per capita that reflects our standard of living, and that data is not encouraging.

Figure 4b: Canadian GDP per Capita Measured in USD$



Source: World Bank

Figure 4c: Canadian GDP per Capita Measured in USD$ (annual change %)



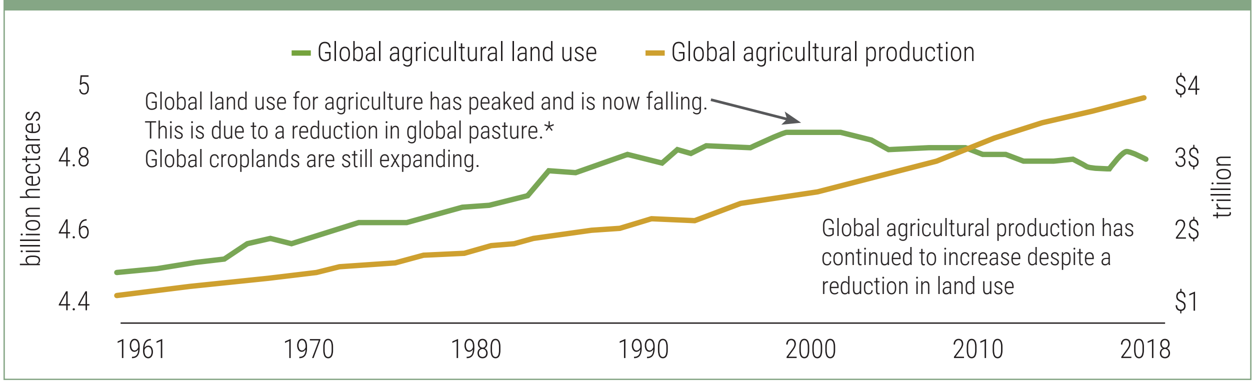
Source: World Bank

PERHAPS WE SHOULD CONSIDER THANKING FARMERS RATHER THAN DEMONISING THEM

Just how efficient is agriculture? The short answer is extremely. No other industry has generated such consistent, reliable production growth coupled with underlying efficiency in the use of inputs and resources. Yet, efficient, high output, western farming seems to be attracting a large amount of negative government attention these days and perhaps is even being intentionally demonised to lay the groundwork for some productivity destroying regulatory changes. Remember that agriculture is the industry that feeds and clothes us, it is not some irrelevant producer of fashionable consumer trinkets. The relentless increase in global agriculture output from a largely static land base is what has kept the growing population of the planet alive. To blithely risk dramatic reductions in agriculture output is to implicitly court famine. While I'm loathe to conclude it, there is a conspicuous element of Malthusian thinking at the heart of these efforts to "reimagine" farming.

"There have always been ignorant people, but they haven't always had college degrees to make them unaware of their ignorance. Some people imagine that they are well informed because they have memorized a whole galaxy of trendy dogmas and fashionable attitudes."
— Thomas Sowell

Figure 5a: Global agricultural land versus food production

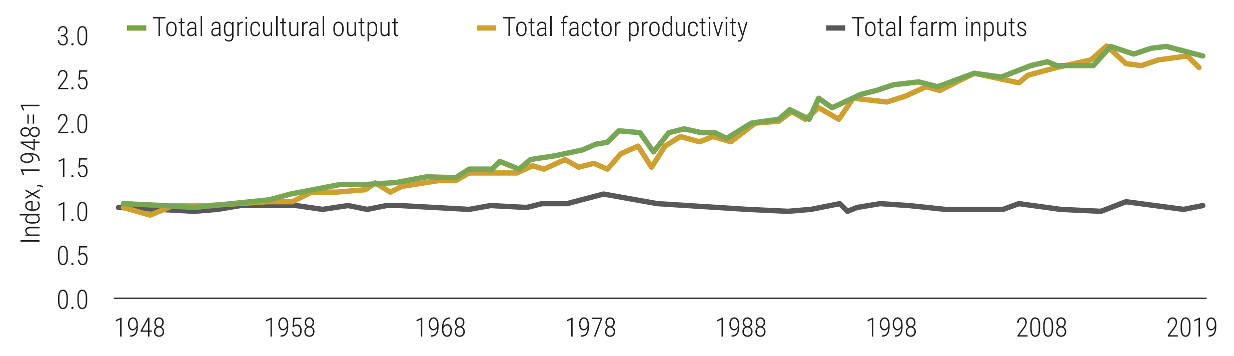


Source: Our World in Data

Using the US as a specific example, farm output grew by 175% between 1948 and 2019, growing at an average annual rate of 1.4% while input use increased only 0.06% annually. Also, total input growth improved from 0.13% per year in 2000-07 to -0.06% per year in 2007-19. Impressive and consistent productivity improvements year after year. Productivity trends in Canada and Europe would look very similar.

"It is the mark of an educated mind to be able to entertain a thought without accepting it."
— Aristotle

Figure 5b: US Agricultural Productivity (outputs, inputs, and total factor from 1948-2019, 1948 = 1)



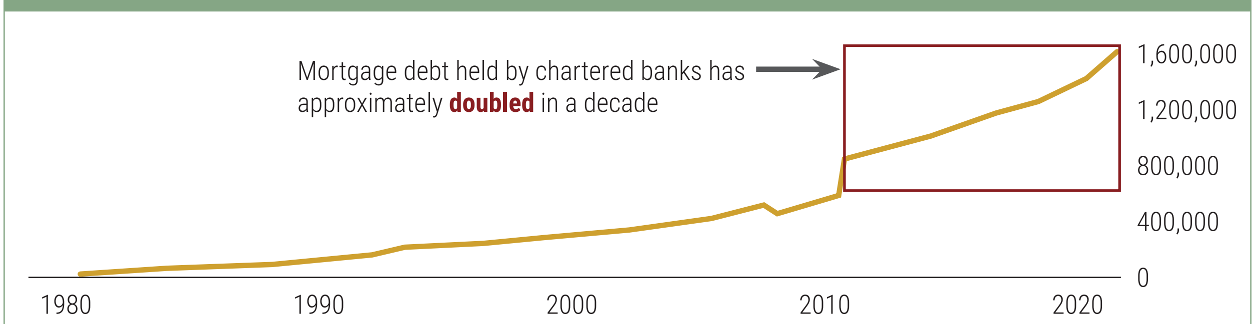
Source: USDA Economic Research January 2022

CAN THE CANADIAN ECONOMY WITHSTAND THE REAL RATES REQUIRED TO CONTROL INFLATION

> *"Going back can sometimes be the quickest way forward."*
> - C.S. Lewis

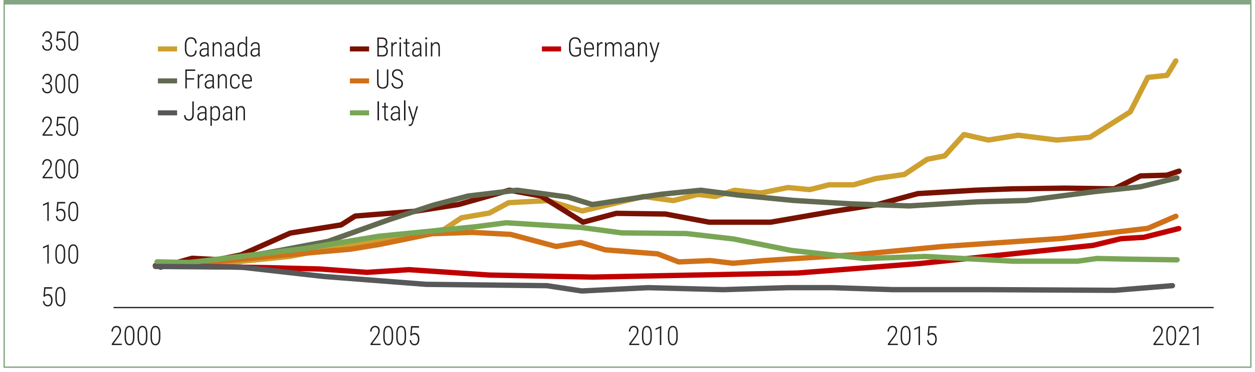
Is it plausible that the Canadian residential real estate markets or the bank and REIT dominated TSX can emerge unscathed from the rates a full unwind of the Bank of Canada's massive balance sheet would trigger (see Figure 1e above)? According to UBS, Canada's two largest residential real estate markets, Toronto and Vancouver, are in the "***bubble***" territory and Toronto has the dubious distinction of being the most overpriced in the world by their estimates (see Figure 6c). Can the Bank of Canada orchestrate its desired ***"soft landing"*** given these extremes?

Figure 6a: Canadian Mortgage Debt
(outstanding balance of Canadian residential mortgage debt held by chartered banks)



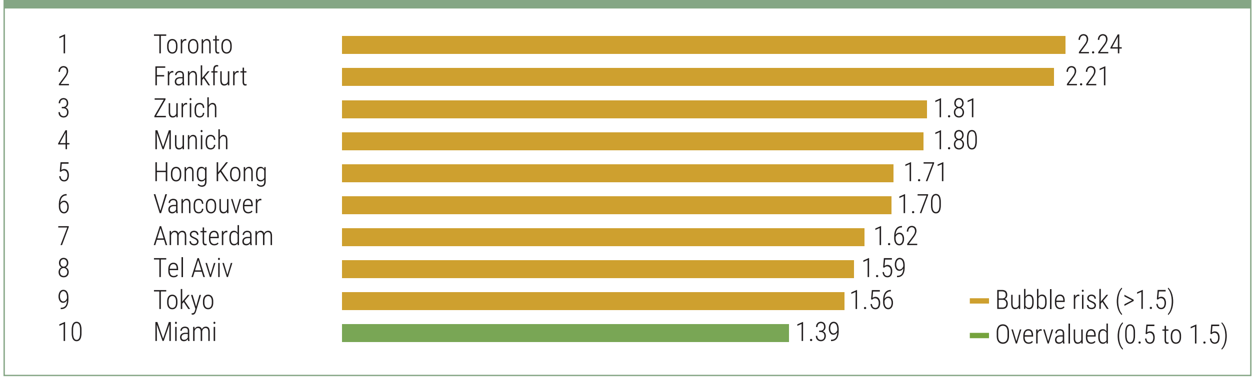
Source: Bank of Canada

Figure 6b: G7 Countries, Real House Prices (2000 average = 100)



Source: Federal Reserve Bank of Dallas

Figure 6c: UBS Global Real Estate Bubble Index 2022



Source: UBS

CONCLUSION

I will leave you with a final, non-economic thought. *"What Orwell feared were those who would ban books. What Huxley feared was that there would be no reason to ban a book, for there would be no one who wanted to read one. Orwell feared those who would deprive us of information. Huxley feared those who would give us so much that we would be reduced to passivity and egoism. Orwell feared that the truth would be concealed from us. Huxley feared the truth would be drowned in a sea of irrelevance. Orwell feared we would become a captive culture. Huxley feared we would become a trivial culture. In 1984, Huxley added, "people are controlled by inflicting pain. In Brave New World, they are controlled by inflicting pleasure. In short, Orwell feared that what we hate will ruin us. Huxley feared that what we love will ruin us." – Neil Postman*

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About Veripath

Veripath is a Canadian alternative investment firm. Members of Veripath's management team have been investing in farmland since 2007. Veripath is focused on risk first and invests in a way that seeks to reduce operational, weather, geographic and business-related risks while capturing the pure return from land appreciation for its investors. Our goal is to partner with farmers for the long-term using innovative lease arrangements and/or land-unit swaps to give certainty to farming operations.