VERIPATH
FARMLAND FUNDS

Veripath Q1 2022 Newsletter

> *"Inflation is taxation without representation."*
> – Milton Friedman

Throughout this update you will find four themes woven into the narrative – the three inflation lags – monetary, agricultural and Net Zero 2050 – and the spectre of G7 over-indebtedness. These four forces combined represent an unfolding and perhaps irresistible basis for 1) continued inflation even in the face of assertive central bank rate policies and 2) stagnation as elevated debt levels act as a drag on real economic growth. Stagnation coupled with inflation is better know as stagflation. Stagflation is of course a very challenging investment climate in which to invest, and few portfolios are structured or have factors to hedge or even better to provide real returns in it.

> "Demand elasticity is a measure of how sensitive the demand for a product or service is to changes in the price of that product or service. The formula for demand elasticity is: Elasticity = % Change in Quantity / % Change in Price. How does demand elasticity work? Let's assume that when gas prices increase by 50%, gas purchases fall by 25%. Using the formula above, we can calculate that the demand elasticity of gasoline is: Elasticity = -25% / 50% = -0.50. Thus, we can say that for every percentage point that gas prices increase, gas demand decreases by half a percentage point."
> *Source: Investing Answers*

IS THE DEMAND ELASTICITY IN THE FARMLAND SPACE YOUR LONG-TERM ALLY AGAINST STAGFLATION: Demand elasticity is one of those simple yet largely ignored concepts with which farmland investors are going to become very familiar and with which we predict pleased over the next decade.

Why? A simple question – what is more inelastic, demand for food, or demand for fertiliser and fuel? Globally this question can be resoundingly answered as food. While this may seem counter-intuitive to us well-fed inhabitants of the developed world you must consider the ~4 billion people in the emerging world who are effectively at or near minimum calorie levels. The "spread" between the two demand curves is going to be a material driver of farm operating margins as the current inflationary (more likely stagflationary) conditions persist.

The calculation of elasticity of demand is sensitive to a myriad of variables and varies by local income, economic and structural conditions and as such I would describe its determination as more of an art than a science. Therefore, the purpose of the following table is to provide only the general magnitude of the demand elasticities of input and outputs in the agriculture space. The data shows that demand for key crop inputs is much more elastic than the demand for the outputs (in this example wheat). This would support the conclusion that current market disruptions from the war in Ukraine should tend to increase farm operating margins. In the long-term, we expect the market to re-calibrate supply and distribution networks to eliminate current shortfalls.

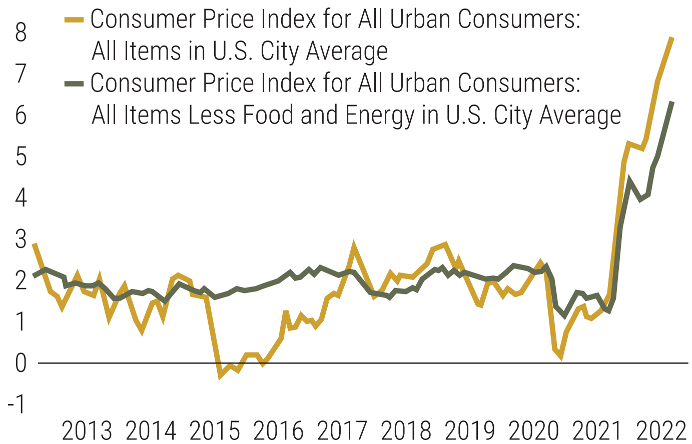
Table 1: Estimates of Elasticity of Demand of Critical Agricultural Inputs versus Wheat

	Short Term (<1 year)	Price Increase for 10% Demand Reduction
Fertilizer	-1.30	7.7%
Diesel	-0.36	27.8%
Gasoline	-0.26	38.5%
Wheat	-0.04	250.0%

Sources: USDA, Molly Espey – Journal of Energy, Korea Department of Energy, various, Veripath analysis

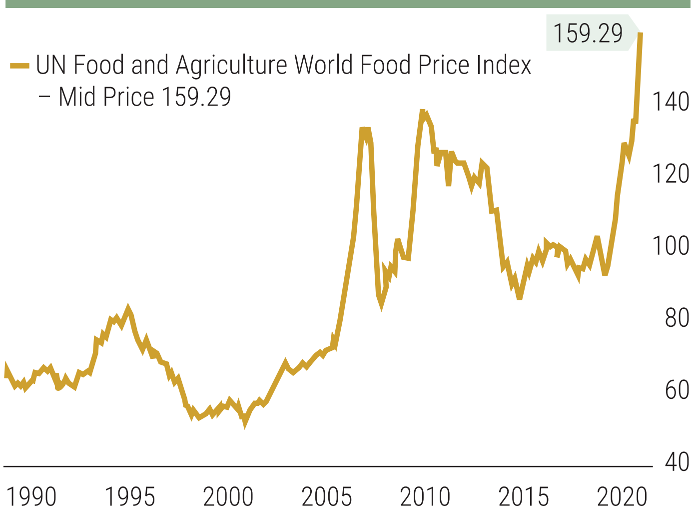
FOOD PRICE INFLATION: Western politicians have been quick to lay the blame for inflation on COVID supply chain interruptions and now on the war in Ukraine – ie anywhere but where the blame truly lies which is in the mirror. The data shows that the war in Ukraine cannot possibly be responsible for current inflation numbers (though certainly its forward impact will be negative) and a simple correlation analysis, country by country, of fiscal deficits/money supply expansion versus inflation shows that it was reckless fiscal and monetary policy which triggered the current developing inflationary wave. While the problem has most certainly been building for decades, the recent accelerations in the rate of money supply expansion have pushed conditions to a tipping point.

Figure 1: Global Food Prices



Source: FAO

Figure 2: US CPI – All Items, – All Items Less Food And Energy

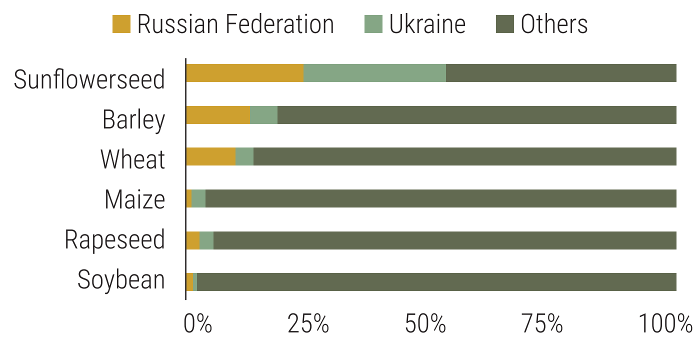


Source: US Department of Labor Statistics

According to the inflation measuring app Truflation which measures actual prices online – US inflation is 13.9% and climbing. Intuitively does that feel more realistic than 7.9%?

WAR IN UKRAINE – THE AGRICULTURAL PERSPECTIVE: Russian and Ukraine combined are massive producers of agricultural commodities. It goes without saying that the invasion of Ukraine and the resulting sanctions against Russia will be felt in the agriculture sector.

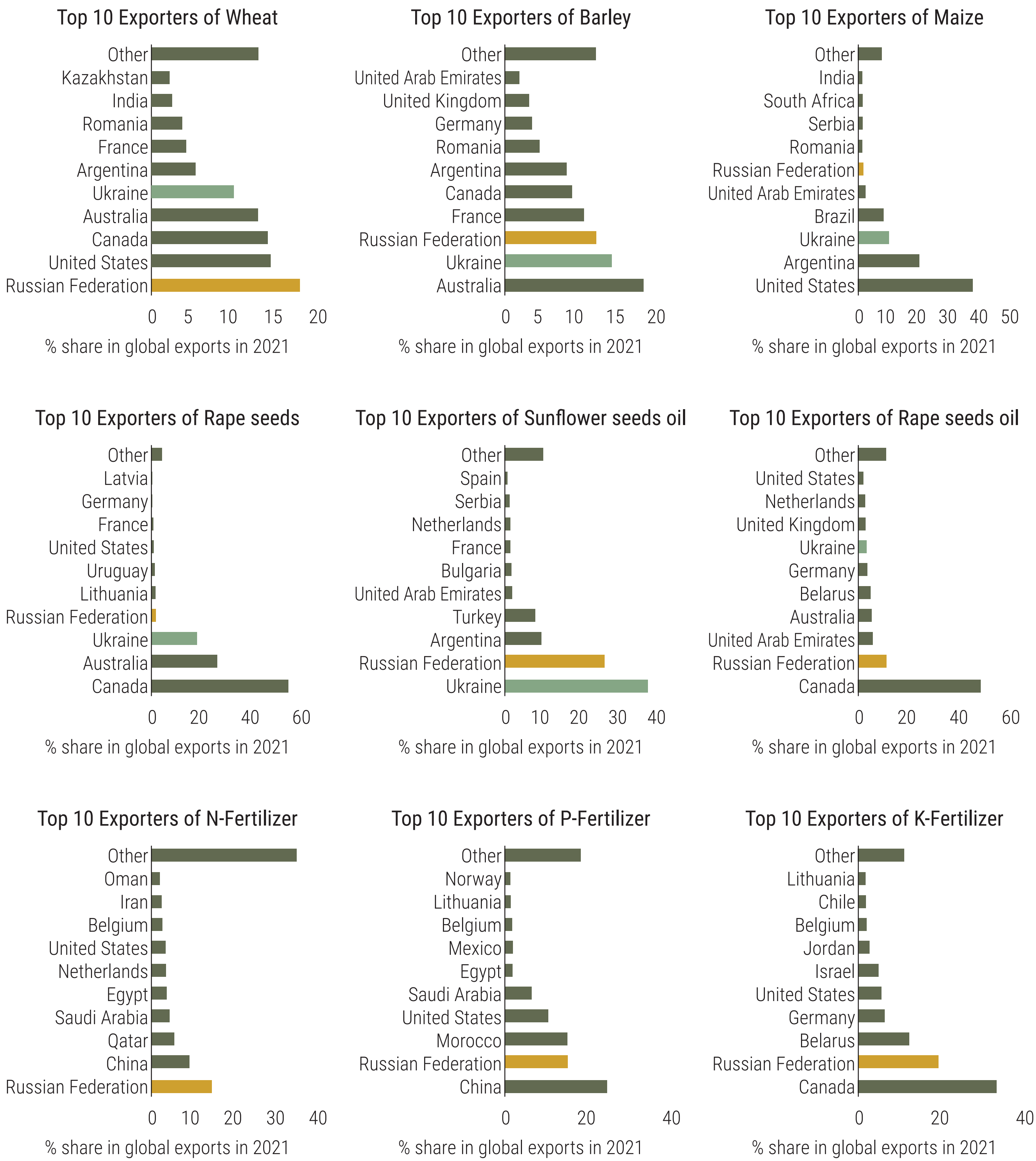
Figure 3: Share in Global Production of Selected Crops:



Source: FAO, XCBS system

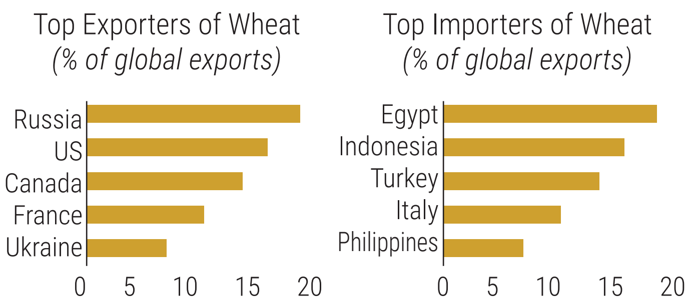
Bias and Investing: The availability heuristic is a cognitive bias in which you make a decision based on an example, information, or recent experience that is that readily available to you, even though it may not be the best example to inform your decision (Tversky & Kahneman, 1973). It is common for people to overestimate the risk of certain events (such as plane crashes, shark attacks, and terrorist attacks) while underestimating the risk of others (such as car crashes and cancer). For example, many people are more wary of travelling by plane than by car, and may even opt to drive rather than fly when possible, out of concern for personal safety. In reality, it has been calculated that driving the distance of an average flight path is 65 times riskier than flying itself (Sivak & Flannigan, 2003). Fear of shark attacks is another common public safety concern, despite actual attacks being incredibly rare. The International Shark Attack File estimates that the risk of death due to a shark attack is over 1 in 3.7 million (to put this into perspective, being fatally struck by lightning, another extraordinarily rare occurrence, is about 47 times more likely) ("Risk of death," 2018).

Figures 4-12: Russian and Ukraine by Crop Types



Source: FAO, Trade Data Monitor

Figure 13: Ukraine and Russia's Footprints in the Global Wheat Markets



42% of Ukraine's wheat exports go to Indonesia and Egypt

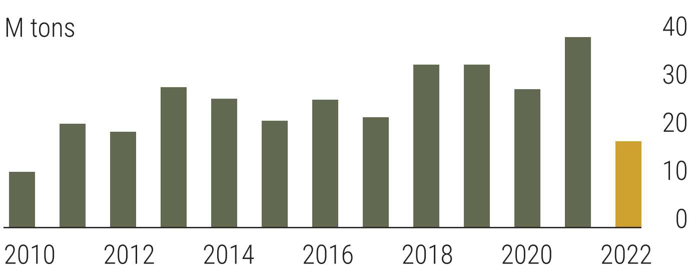
~50% of all Russia's wheat exports go to Egypt and Turkey

As of February 22, 2022, wheat was trading at **$8.44** per bushel, a 9.75% increase since the beginning of the month

Source: OEC Trading Economics

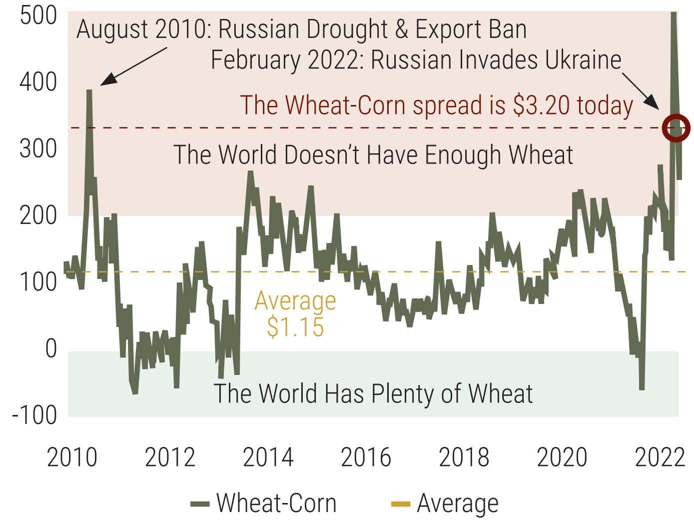
> *"The career of a politician mainly consists in making one part of the nation do what it does not want to do, in order to please and satisfy the other part of the nation. It is the prolonged sacrifice of the rights of some persons at the bidding and for the satisfaction of other persons. The ruling idea of the politician - stated rather bluntly - is that those who are opposed to him exist for the purpose of being made to serve his ends, if he can get power enough in his hands to force these ends upon them."*
> – Auberon Herbert

Figure 14: Ukraine Corn Crop (Production Estimate)



Source: USDA, UrkrAgro Consult

Figure 15: Wheat Corn Spread Since 2010

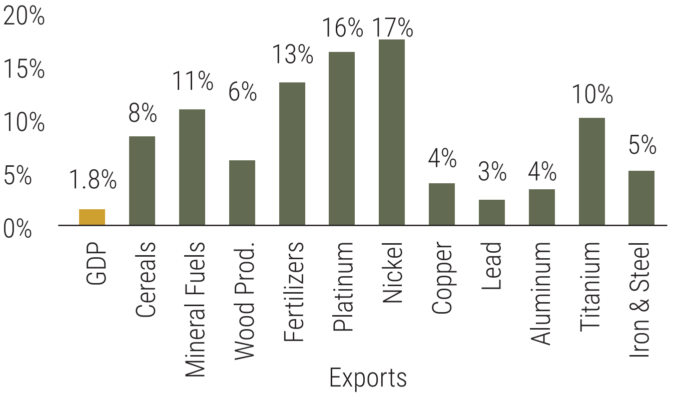


Source: Peak Trading Research

WAR IN UKRAINE – THE NON-AGRICULTURE PERSPECTIVE: Outside of agriculture commodities, Russia has a very large presence in a broad range of critical energy and metal commodities. Russia's position in the energy markets is well understood at this point, its supply in other core commodities has been discussed much less and represents an equally serious long-term issue. A supplier of Russia's magnitude in all such critical commodities from energy to iron cannot be easily or permanently disconnected from global supply chains for long without grave consequences for prices and the smooth functioning of the world's manufacturing base. Substitution for mission critical commodities like nickel or titanium or fertilizer may prove even more difficult, if not impossible, compared to the energy complex. To replace that supply with more geopolitically reliable sources will require a sea change in the attitudes of the political class to domestic resource development.

> *"When the government makes loans or subsidies to business, what it does is to tax successful private business in order to support unsuccessful private business."*
> – Henry Hazlitt

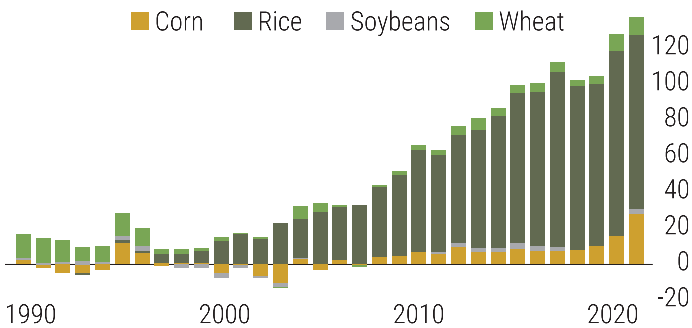
Figure 16: Russian Exports of Critical Commodities as Percent of Global Supply



Source: OECD, Macro Hive

GLOBAL SUPPLY AND DEMAND CONDITIONS IN AGRICULTURE HAVE BEEN TIGHTENING FOR YEARS: China is the world's largest agricultural commodity importer and holds some of the largest stockpiles of such goods. Recently it has been ramping up its imports and for example imported 28 million metric tonnes of corn from Ukraine in 2021 versus 11 million in 2020.

Figure 17: China Food Trade (Net imports million tonnes)

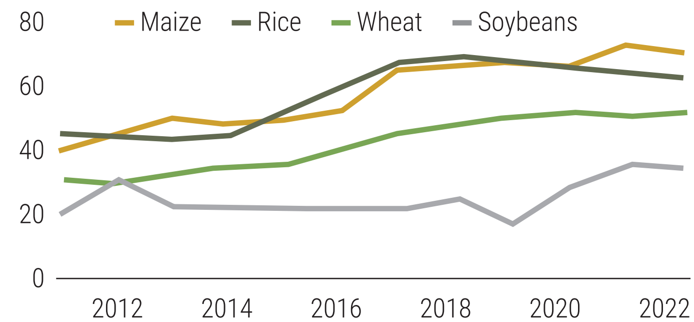


Source: FAO, FT

China appears to be stockpiling across the entire agricultural commodity complex. According to data from USDA, China is projected to have ~70% of global corn reserves, ~60% of rice and ~50% of wheat in 2022 – for approximately 20% of the world's population. Tangentially I might add that building strategic commodity reserves is a good way to reduce your holdings of US dollars without attracting attention.

We will see more inventory builds across the entire commodity spectrum as the dollar's role as a reserve asset is reduced by the United States' nervous geopolitical competitors.

Figure 18: China's Share of Global Grain Stocks (percent, crop year)



Source: Nikkei analysis from USDA data

I wanted to share a insightful observation from Crescat Capital which I will paraphrase – The US has a 1940s debt problem, a 1970s inflation problem and 1990s financial asset valuation problem. The foundation to all three of these problems is leverage and the resolution appears to me to require the *de facto* default/delevering of western debt positions via inflation. When even the advocates of free spending at the World Bank think you have a problem – you have a problem...

> *"Public debt has surged during the current global economic crisis and is expected to increase further. This development has raised concerns whether public debt is starting to hit levels where it might negatively affect economic growth. Does such a tipping point in public debt exist? How severe would the impact of public debt be on growth beyond this threshold? What happens if debt stays above this threshold for an extended period of time? The present study addresses these*

> *"If liberty means anything at all, it means the right to tell people what they do not want to hear."*
> — George Orwell

"Facts do not cease to exist because they are ignored."
– Aldous Huxley

questions with the help of threshold estimations based on a yearly dataset of 101 developing and developed economies spanning a time period from 1980 to 2008. The estimations establish a threshold of 77 percent public debt-to-GDP ratio. If debt is above this threshold, each additional percentage point of debt costs 0.017 percentage points of annual real growth. The effect is even more pronounced in emerging markets where the threshold is 64 percent debt-to-GDP ratio. In these countries, the loss in annual real growth with each additional percentage point in public debt amounts to 0.02 percentage points. The cumulative effect on real GDP could be substantial. Importantly, the estimations control for other variables that might impact growth, such as the initial level of per-capita-GDP." Source World Bank

There is much intentional obfuscation about the levels of G7 sovereign indebtedness. Once the magnitude of the problem is understood the question becomes *de facto* or *de jure* default – which do you prefer or more importantly which do politicians with an eye on being re-elected prefer? US debt exceeds $30 trillion or around 40% of global GDP. This is a sobering number. US federal borrowing increased $7 trillion during COVID alone. Canadian governments – at all three levels – federal, provincial, and municipal – have also engaged in a massive fiscal spending spree over the last 24 months. One of the greatest in Canadian history and more ominously with no signs of slowing down based on provincial and federal budgets.

"Mere inflation-that is, the mere issuance of more money, with the consequence of higher wages and prices - may look like the creation of more demand. But in terms of the actual production and exchange of real things it is not."
– Henry Hazlitt

Table 2: Total Indebtedness of Canada's Government (CAD$ 4.1 trillion)

	Debt as % of GDP	Govt debt as % of GDP	Private debt as % of
Japan	444.7	237.1	207.6
Canada	356.1	89.9	266.2
France	351.4	98.4	253
US	318.7	106.9	211.8
UK	310.8	86.8	224
Italy	301.6	135.5	166.2
South Korea	283.7	37.9	245
China	258.4	50.6	207.8
Australia	236.9	41.4	195.5
Germany	215.8	61.7	154.1
Russia	211.4	14.6	196.8
Turkey	200.1	30.2	170
Mexico	170.1	35.4	134.7
Brazil	157.5	87	70.5
South Africa	128.5	56.7	71.8
India	122.9	68.1	54.8
Argentina	108.4	86.1	22.3
Indonesia	70.3	30.1	40.2
Average	235.96	75.24	160.72

Source: Icecap Asset Management, IIF

Over-extended sovereign debt levels are not consequence free despite what politicians want to believe. There is a large body of research to support the conclusion that above a certain level government debt acts as a serious brake on growth. The OECD is predicting exactly that for Canada – that Canada will be the worst performing advanced economy (real growth of 0.7% per annum) over the 2020-2030 period out of 38 comparable countries. Between 2030-2060 the OECD forecasts this poor performance to continue with only 0.8% real growth (among the worst again).

The appeal of the Canadian agriculture space is that its growth drivers are determined by global incremen-

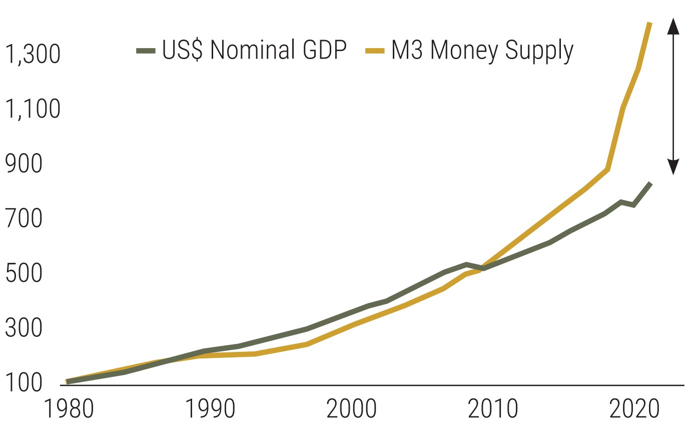
"Government is the only institution that can take a valuable commodity like paper, and make it worthless by applying ink."
– Ludwig Von Mises

tal demand for food – insulating it in large part from Canadian growth fundamentals. This would argue for investors that require defined Canadian exposures in their portfolios, to skew their allocations to agriculture and agriculture linked return factors.

The other problem with a massive acceleration in spending – when it is funded via Central Bank money printing – it is highly inflationary. It follows that conditions have been set for low growth and high inflation – better known as stagflation. Inflation is starting to be discussed as a problem however the issues are twofold. It remains to be seen if governments and central banks have the resolve to 1) reset residential real estate and stock market values downwards, but more insidiously 2) as the money has already been printed, an inflation lag may await us.

The inflation lag has been seen in many other highly inflationary episodes where the money supply is expanding rapidly without any apparent negative consequences, then later in the process inflation catches up to the money supply trend and even tends to overshoot. The inflation driven by the lag is difficult to eliminate with rate hikes as it is a mean reversion effect that is highly resistant to prevailing rates – the money has been printed – prices tend to reset higher regardless of rates. Certainly, macro conditions seem to suggest such a lag has developed in the market and that is cause for concern:

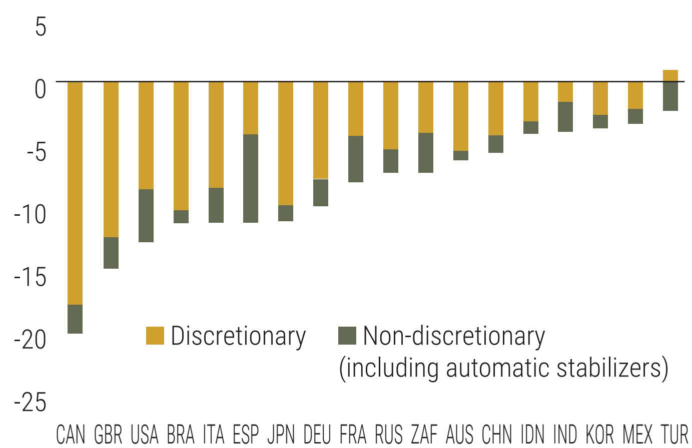
Figure 19: US$ Nominal GDP and M3 (slipped 1 year) 1980 = 100



Source: FRED, Goldmoney

Not to continue to berate the Canadian political class but Canada's monetary and fiscal behavior has been nothing short of reckless. It could be argued without excessive risk of being accused of being hyperbolic that Canada's monetary/fiscal response to COVID may have bankrupted us – it was the most extreme in the G20 by a wide margin.

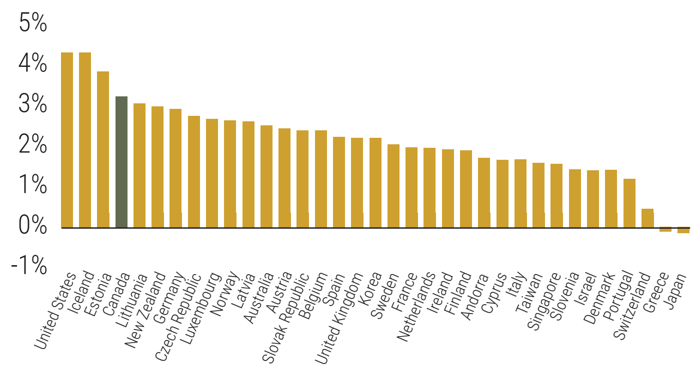
Figure 20: G-20 Fiscal Response to COVID as Percent GDP



Source: Fraser Institute

As much as politicians may desire this not to be the case, to paraphrase both Milton Friedman and Bill Clinton's strategist James Carville "*inflation is the money supply stupid*". Roughly speaking those countries which overspent are facing the highest inflation rates (and I might add have built the largest inflation lags).

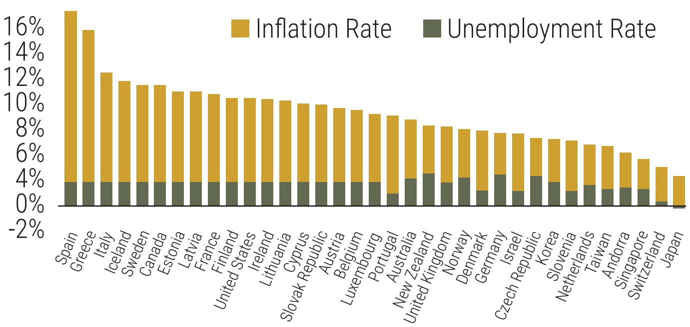
Figure 21: Inflation Rate for Industrialized Countries 2021



Source: IMF, Fraser Institute

With inflation comes economic disruption and pain for those whose assets don't hedge inflation and whose costs are disproportionately exposed to it – i.e. the lower and middle classes. The "*misery index*" is a concept that is meant to capture this idea – simply the unemployment rate added to the inflation rate. Canada shamefully leads the way of G7 countries in this category.

Figure 22: Misery Index for Industrialized Countries, 2021



Source: IMF, Fraser Institute

What does inflation look like to those who cannot hedge it with asset holdings? It looks like the table below – relentless and large increases in the day to day costs of life with no offsetting gains. Inflation is truly the destroyer of the middle class.

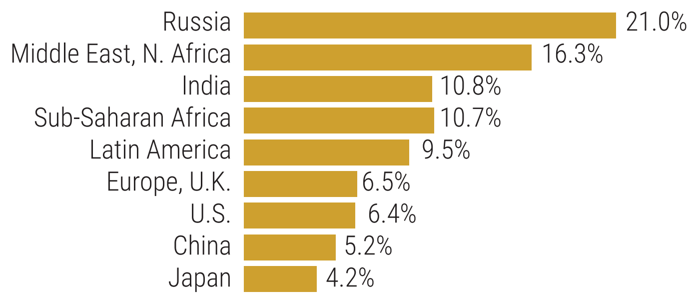
Table 3: Sample price change since January 2021

Coffee	92%
Natural Gas	81%
Crude Oil WTI	66%
Used Cars	45%
Hotel Prices	37%
Gasoline	36%
Agricultural Commodities	25%
Lumber	21%
Rent	13%
CPI	8%

Source: Bloomberg, Crescat Capital

The next contributor to this current inflation burst after the inflation lag and increase in permanent fiscal deficits is the move to Net Zero 2050. There is a growing recognition, that Net Zero 2050 will be "funded" via inflation – more accurately the capital will be confiscated via inflation. It is hard to see how the magnitude of the capital commitments proposed will allow any other options and still maintain political support for the goal. For example, the table below is an estimate of the impact of EU households:

Figure 23: Net Zero 2050 Annual Cost per EU Family (Euros 8,400) Investment as a percent of 2021-2050 GDP



Source: McKinsey

To put the size of this cost into focus, according to McKinsey:

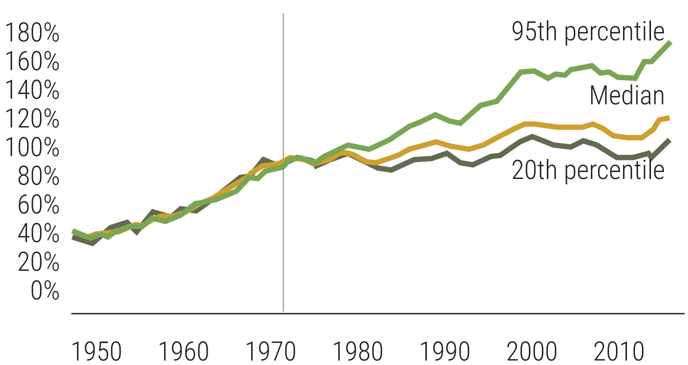
- Annual cost of €940 billion is more than the entire EU spends on education (€654 billion)
- More than collectively spent on environment (€110 billion), recreation, culture, and religion (€162 billion), housing (€81 billion), defense (€164), police, courts and prisons (€234 billion)
- Equal to what EU spends on health (€983 billion)

At current historic levels of indebtedness there does not appear to be a funding mechanism which could support these costs without serious political ramifications (tax increases, service/entitlement cuts). Fiscal deficits funded with central bank balance sheet expansion will be used based simply on expediency. In effect Net Zero 2050 as currently contemplated in the G7 is a massively inflationary force that has yet to impact the already highly inflationary macro conditions present in the west. A steady state increase to inflation of 3% has been forecast by Bank of America (see Veripath Q4 2021 newsletter for detailed analysis –)

Add that on top of current inflation levels approaching 10%, an inflation lag that has not yet mean reverted and you have headline numbers well above 10% for a decade. How this is sustainable or how it will be resolved remain to be seen.

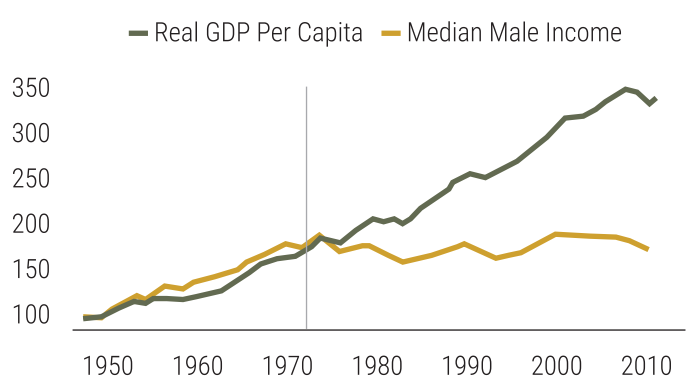
The "financialization" of the modern western economy is often mentioned in passing. Financialization as part of a vast increase in the monetary base in the west has driven prices of financial assets in the FIRE economy (finance, insurance and real estate) to historic levels. But what have been the second order less obvious effects that the US default on the gold standard in 1971? The answer depends on where you are situated economically in this financialized world.

Figure 24: Rural Family Incomes between 1947 and 2016 as % of 1973 level



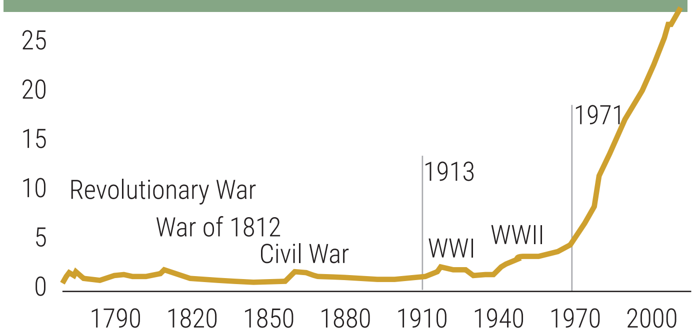
Source: US Census Bureau, CBPP

Figure 25: Real GDP per Capita and Median Male Income



Source: FRED

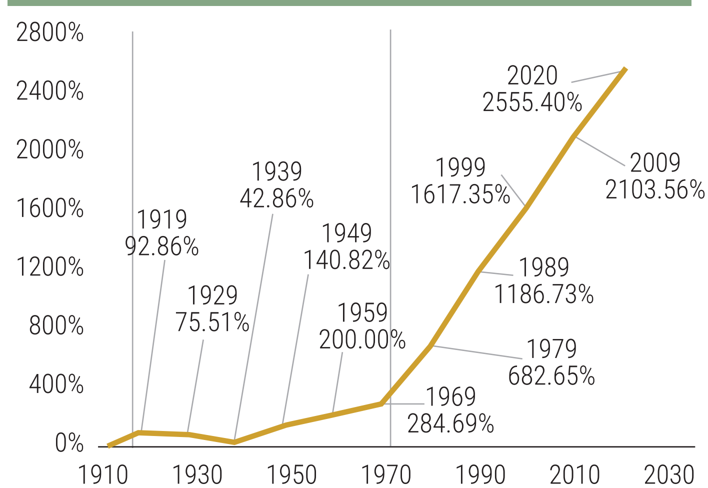
Figure 26: CPI US – 1775-2012 (level 1775=1) Cumulative Inflation Prior to 1913 and 1971



Source: Bureau of Labor Statistics, Reinhart and Rogoff (2009), 1913 creation of US Federal Reserve, 1971 default on gold convertibility

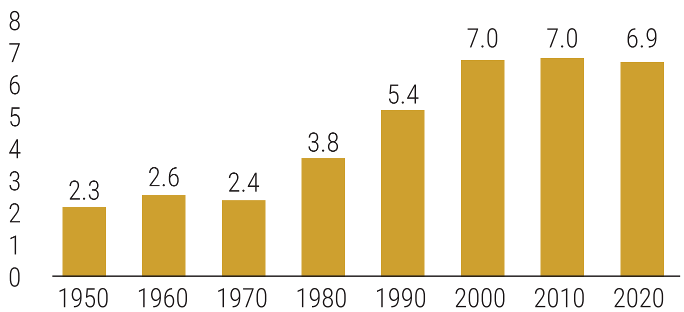
> *"The whole gospel of Karl Marx can be summed up in a single sentence: Hate the man who is better off than you are. Never under any circumstances admit that his success may be due to his own efforts, to the productive contribution he has made to the whole community. Always attribute his success to the exploitation, the cheating, the more or less open robbery of others. Never under any circumstances admit that your own failure may be owing to your own weakness, or that the failure of anyone else may be due to his own defects."*
> – Henry Hazlitt

Figure 27: Cumulative US Inflation Post 1913 and 1971



Source: FRED

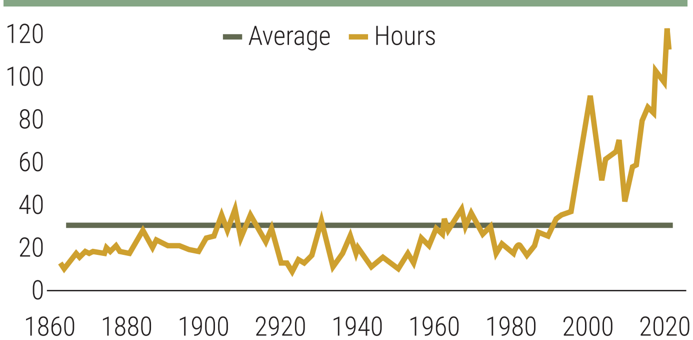
Figure 28: Years of Saving at Average Income for the Average House



Source: FRED, Mark Ross

> *"If you don't want a man unhappy politically, don't give him two sides to a question to worry him; give him one. Better yet, give him none. Let him forget there is such a thing as war. If the government is inefficient, top-heavy, and tax-mad, better it be all those than that people worry over it. Peace, Montag. Give the people contests they win by remembering the words to more popular songs or the names of state capitals or how much corn Iowa grew last year. Cram them full of non-combustible data, chock them so damned full of 'facts' they feel stuffed, but absolutely 'brilliant' with information. Then they'll feel they're thinking, they'll get a sense of motion without moving. And they'll be happy, because facts of that sort don't change."*
> – Ray Bradbury

Figure 29: Working Hours to buy S&P 500 (1860-2020)



Source: Bureau of Labor Statistics

2021 Quick Carbon Facts (Source Refinitiv):

- Size of global traded carbon market - $851 billion
- Growth in value of traded global markets for carbon - 164%
- European Union's Emissions Trading System (EU ETS) percent of global traded value - 90%
- Closing prices per tonne in the EU ETS - 80 euros
- Voluntary carbon market record monthly turnover - $1 billion

> *"He knows nothing; and he thinks he knows everything. That points clearly to a political career."*
> – George Bernard Shaw

SUMMARY: Fiscal and monetary conditions in the G7 remain overly expansionary and proposed Net Zero 2050 targets are added inflationary fuel and growth downside in the form of stranded capital. Stagflation? If stagflation is in our future, then your investment in farmland with Veripath should prove rewarding. Farmland did particularly well in the previous bout of stagflation because, as we believe, it is a highly unique non-depleting commodity production asset that discounts an infinite series of commodities, with long-term inelastic demand, low stock to flow and which are consumed.

> *"Whomsoever controls the volume of money in any country is absolute master of all industry and commerce and when you realize that the entire system is very easily controlled, one way or another, by a few powerful men at the top, you will not have to be told how periods of inflation and depression originate."*
> – James Garfield

VERIPATH FARMLAND FUNDS

Q1 | 2022 OVERVIEW AND UPDATE

Veripath is structured to allow investors to cost effectively allocate a portion of their investment portfolios to farmland without the need to take on the complex responsibilities of ownership of the land. We aim to provide competitive risk adjusted returns linked to Canadian farmland price disparities and overall agricultural commodity demand. Canadian farmland continues to demonstrate all the compelling financial characteristics which drew us to the asset class – low volatility, consistent nominal rates of return, and low correlation to public equities and long-term interest rates.

VERIPATH FARMLAND LP

OVERVIEW

Assets Under Management (AUM)	$79M
Formal Launch Date	March 2019
Number of Acres	34,729
Geographic Diversification	21 RM's
Operational Diversification	18 Operators
NAV – Series W	$1.2102/unit
NAV – Series P	$1.1743/unit
NAV – Series A	$1.1663/unit
NAV – Series W2	$1.1998/unit

ASSET ALLOCATION (%)

RM 255,256	14.2%	RM 19,51	8.8%
Killarney/West Lake MB	13.1%	RM 487,488,520	7.1%
RM43,45	12.6%	RM 155	4.1%
RM 12	11.5%	RM 229,230	3.5%
RM 222,251,252	9.7%	RM 95	3.5%
RM 7	9.4%	RM 261	2.5%

2021 CARBON CAPTURE UPDATE[1]

Direct seeded acres (portfolio percent)	93%
Carbon capture (tons)	10,003
Passenger vehicle equivalents	2,167
Implied value (CAD$)	$500,150

VERIPATH FARMLAND (UR) LP

OVERVIEW

Assets Under Management (AUM)	$45M
Formal Launch Date	October 2020
Number of Acres	10,967
Geographic Diversification	5 RM's
Operational Diversification	5 Operators
NAV – Series W	$1.1525/unit
NAV – Series P	$1.1451/unit
NAV – Series A	$1.1409/unit
NAV – Series W2	$1.1507/unit

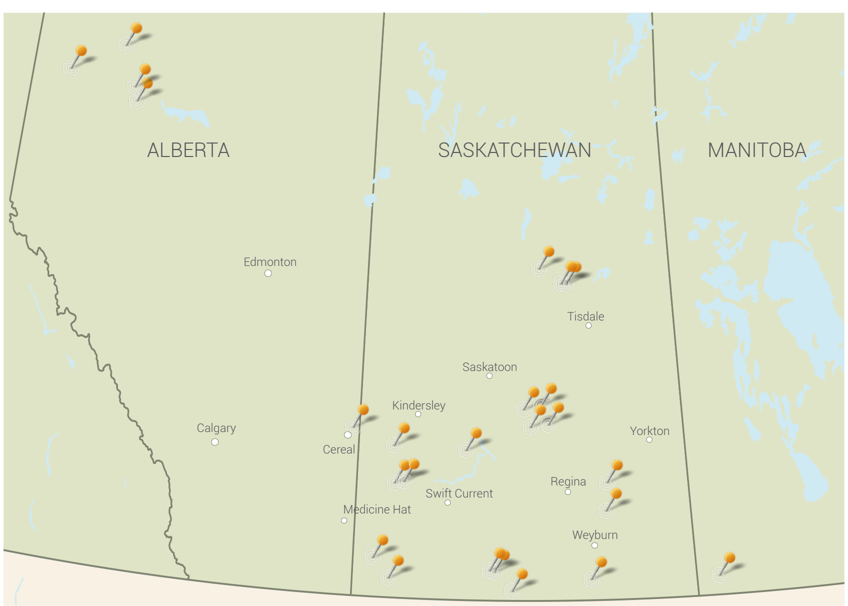
ASSET ALLOCATION (%)

RM 17	46.6%
RM 130	35.8%
RM 3	14.6%
RM 21	3.0%

2021 CARBON CAPTURE UPDATE[1]

Direct seeded acres (portfolio percent)	100%
Carbon capture (tons)	3,619
Passenger vehicle equivalents	784
Implied value (CAD$)	$180,950

LAND HOLDINGS MAP[2]



DISCLAIMER

This document is for informational purposes only concerning Veripath Farmland LP and Veripath Farmland (UR) LP ("Veripath"). This document does not constitute or form part of any offer or invitation to sell or issue, or any solicitation of any offer to purchase or subscribe for, any securities, nor shall any part of this document form the basis of, or be relied on in connection with, any contract or investment decision in relation to any securities. This document does not constitute any form of commitment, recommendation, representation, or warranty on the part of any person. No reliance should be placed on the completeness of the information contained in this document. This document is not intended to be a comprehensive review of all matters concerning Veripath. Past performance does not guarantee future results. Formal launch date is the date of the founder first closing.

The AUM is calculated as of April 27, 2022 and includes all assets contracted for acquisition under a binding contract (and takes into account management's expectation as to the debt/equity financing for such acquisitions). Number of acres includes farmland contracted for acquisition which is under a binding contract. NAVs are calculated as of the date at which the NAVs are published following the quarter end.

Veripath Farmland LP and Veripath Farmland (UR) LP have retained Qwest Investment Fund Management Ltd. to provide certain of its services, including oversight and approval of net asset value (NAV) calculations, subscription and redemption processes, as well as access to Fundserv Inc.'s platform.

1. Numbers are estimates for illustration purposes only. Based on remote satellite sampling of portfolio tillage practices, 93% of the farmland was assumed to be direct seeded (no-till/reduced-till). Direct seeding is estimated to capture a ~0.33 tons/acre of carbon annually in the low case, subject to soil type. Carbon price is assumed at $50/ton.

2. Veripath Farmland (UR) LP invests in all of Canada (excluding SK and MB) and Veripath Farmland LP invests just in SK and MB.

VERIPATH
FARMLAND FUNDS

#300, 4954 Richard Rd SW,
Calgary, AB T3E 6L1
www.veripathpartners.com

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.