

The other side of the fence

How does agriculture stack up as an investment?

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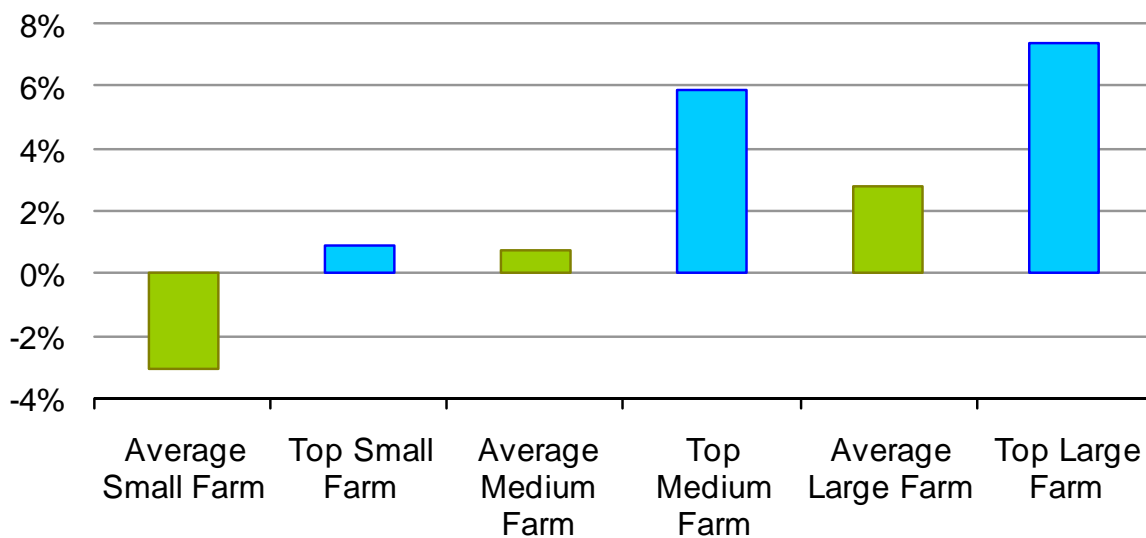
A lot of farmers that I talk to suspect that the grass is greener on the other side of the fence, and that perhaps they'd have been better off selling the farm and putting all their money into shares. So what I've endeavoured to do in this analysis is look at whether this is true or a false perception.

In working through my analysis I hope that it helps you to consider, on a more informed basis, whether you should start diversifying your investments by allocating more of your capital off farm or perhaps retiring from farming altogether and allocating all of your capital to non-farm investments. At the very least it will help you appreciate the opportunity cost of the equity you have invested in the farm.

There are no unqualified answers to these questions. The answer depends very much on your individual circumstances and you'll have to make some big assumptions about what the future holds. When it comes to predicting what commodity prices, farm property values, interest rates and share market returns will do, no one knows and you should treat any oracles with suspicion. In what I'm presenting I've relied on past performance, which I think is a good a predictor as any, but beware history doesn't necessarily repeat itself.

So how does farming compare to other investment options? Figure 1. shows the returns for small, medium and large farms. It also compares the top quarter of farms in each size bracket to the average. These results are the average of the three financial years from 2003/03 to 2004/05 of the 1,370 or so farmers in ABARE's annual farm performance survey.

Figure 1. Return on total assets from farming



Source: ABARE Farm Surveys average of 2002 to 2004

From Figure 1. we can see:

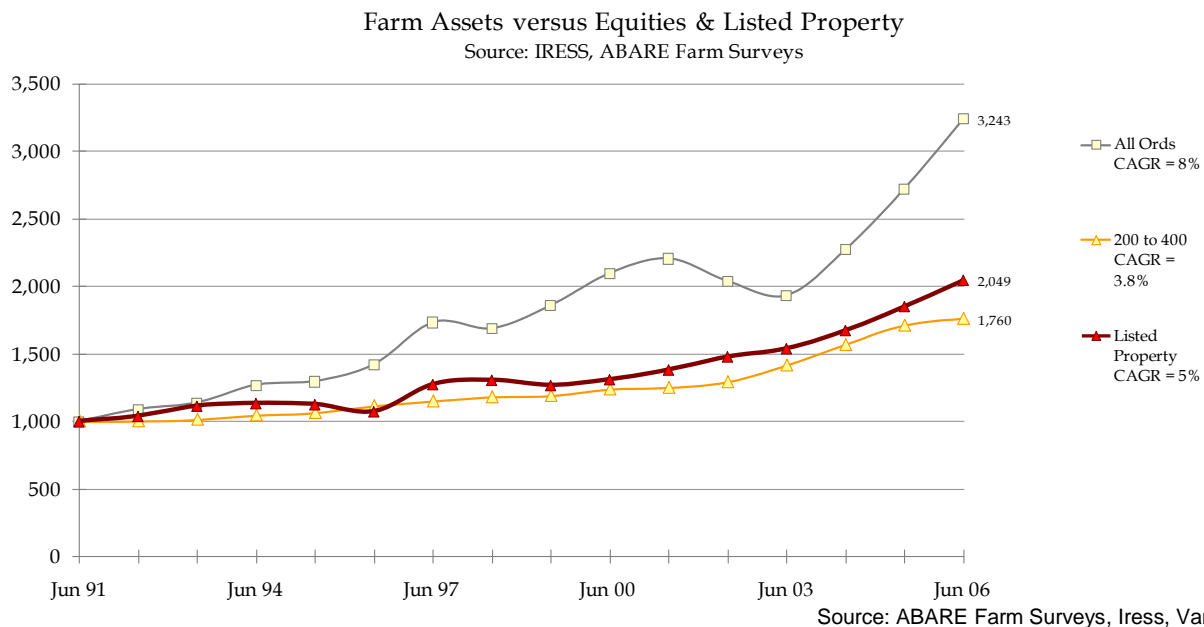
- There is a very large range in the performance of farms, with the top quartile generating returns well above average.
- Operating returns increase with scale. Indeed, across all regions and industries farm returns tend to increase with scale.
- However scale alone is not a determinant of success with the best small and mid sized farms out performing mid ranking large farms.

So are these returns good? A useful benchmark is the returns that could be obtained elsewhere. However to make such a comparison we need to look at total returns. What is missing from Figure 1. is the wealth created from capital appreciation. We should also consider a longer time frame and adjust for different levels of risk.

One approach to making “like for like” comparisons is constructing value accumulation indices. These indices combine financial returns from two sources; capital gains and dividends where the dividend is the free cash available for the business owner to withdraw. To ignore the capital gains, as we did in Figure 1., is akin to assessing shares simply on the basis of their dividend yield. What happens with shares is often the opposite; people talk about the increase in a share’s price and overlook the dividends.

Considering capital gains first, Figure 2. compares the growth of \$1,000 invested in the assets of a cropping farm¹ to the capital growth of \$1,000 invested in the listed property and the All Ordinaries Index.

Figure 2. Capital appreciation of Cropping Farms, Listed Property & Shares



¹ The value of the farm assets is sourced from ABARE’s farm surveys and is based on the respondent’s estimate of the value of the farm’s total assets. Real estate represents, on average, around 80% of total assets. Comparison of the estimated value of the real estate component of total assets to available transaction data shows that movements in the assessed value closely track changes in actual sale prices but with less volatility. Farmers participating in the survey appear to underestimate increases and decreases in farm property prices.

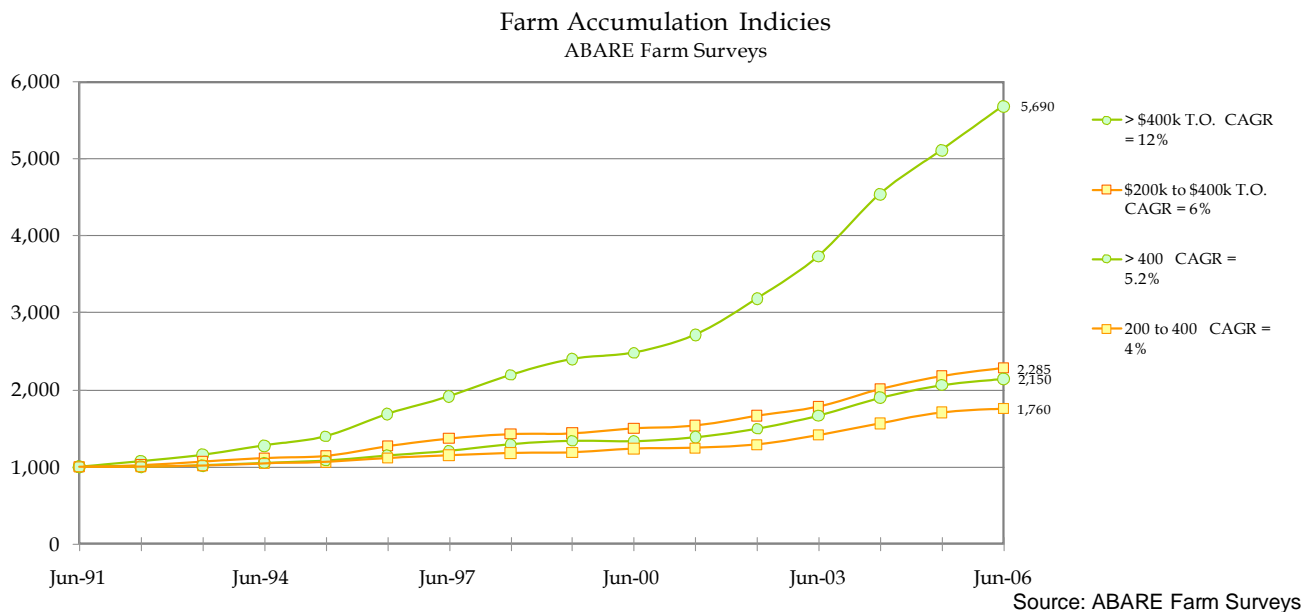
The growth in value of farm property and listed property has been similar over the last 15 years. Listed property has averaged 5.0% while mid-sized² cropping farms have averaged 3.8%. In comparison the capital gain from an investment in Australian shares has been stronger, averaging 8%.

Having identified the increase in the value of the underlying income producing assets, the next step is to identify the value of dividend or yield that they produce. For different classes of listed securities this can easily be done by considering an accumulation index. Accumulation indexes assume that the dividend is reinvested in additional units of the security thereby increasing the value of the investment. Over time this gives rise to a compounding effect as over time dividends are received on dividends.

Producing an accumulation index for an investment in a farm business is a somewhat theoretical exercise. Unlike listed securities, where you can reinvest your dividends in additional units of the security, you can not run a dividend reinvestment plan on a family owned farm. Farm businesses are typically far less liquid investments where one or two people control all of the shares.

Nevertheless, for the sake of comparing the wealth created by these different investment opportunities this analysis assumes that you can reinvest the free cash or dividends from the farm into further shares in the business. To arrive at a dividend that is equivalent to that earned on listed securities it has been assumed that the family members working in the business have been paid award labour rates, that the business is un-g geared and that the depreciation charge for tax assessment is identical to the actual net capital expenditure^{3, 4}.

Figure 3. Accumulated Total Returns from Large & Average Cropping Farms



The analysis shows that \$1000 invested in a mid-sized cropping farm would have accumulated to a value of \$2,285. The underlying asset has increased in value by an average compound annual growth rate of 4% while the “dividend” or free cash produced by the business adds an additional 2% to the

² Mid sized farm is defined as turnover between \$200,000 and \$400,000. A large cropping farm is defined as turnover greater than \$400,000.

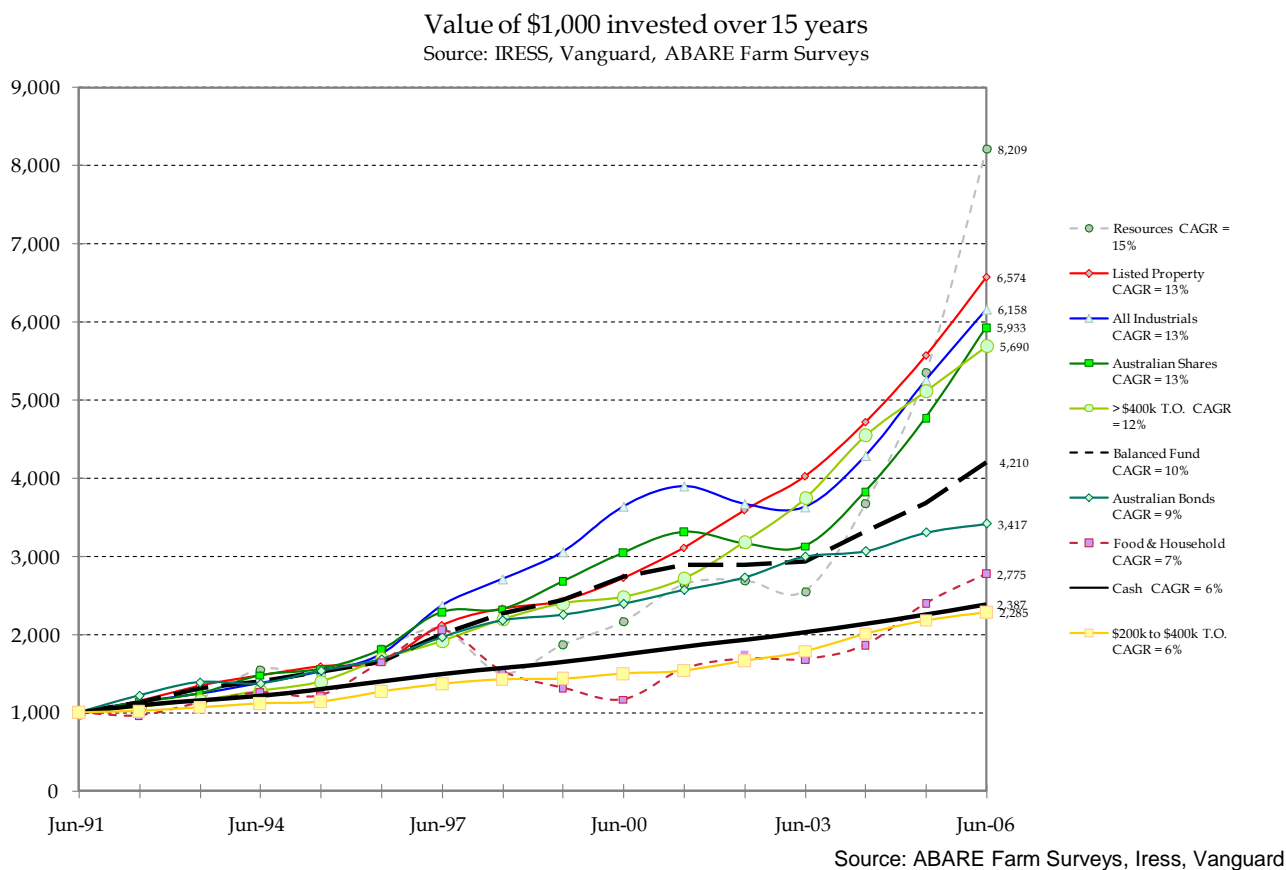
³ The ability to accelerate depreciation for tax purposes may result in an over estimation of actual economic depreciation and therefore understate farm performance.

⁴ The perspective assumed is that of someone with a choice of investing in an ungeared portfolio of securities weighted to track their indices or an ungeared farm business. The level of gearing has a significant impact on farm performance. The returns are assessed on pre-tax basis and therefore attribute no value to the imputation credits of Australian tax paying companies.

return resulting in an aggregate compound annual growth rate of 6%. For the largest third of cropping farms in the survey based on turnover, \$1,000 would have accumulated to \$5,690 providing a compound annual return of 12%

Having constructed the two theoretical farm accumulation indexes, the performance of farming as an investment can be compared to other asset classes⁵. Figure 4. compares mid-sized and high turnover cropping farms to Cash, Bonds, Listed Property, Shares, and several specific classes of shares that make up the All Ordinaries. Also included is a typical balanced portfolio made up of a combination of these asset classes⁶.

Figure 4. Accumulation Indices of various investments



What the analysis shows is that investing in an average mid-sized cropping farm, provides returns similar to having your money in the bank earning the cash rate, and a much lower return than most other investment opportunities. In contrast a high turnover cropping farm compares well to other investment opportunities producing similar returns to Australian shares.

The variation in performance highlights an important consideration in comparing the returns of investment in these different asset classes and that is their comparative risk. You can see from this chart that up until June 03 resources shares were one of the worst investments, however by June 06 they were the best. This highlights an important investment principle - the more volatile the returns the

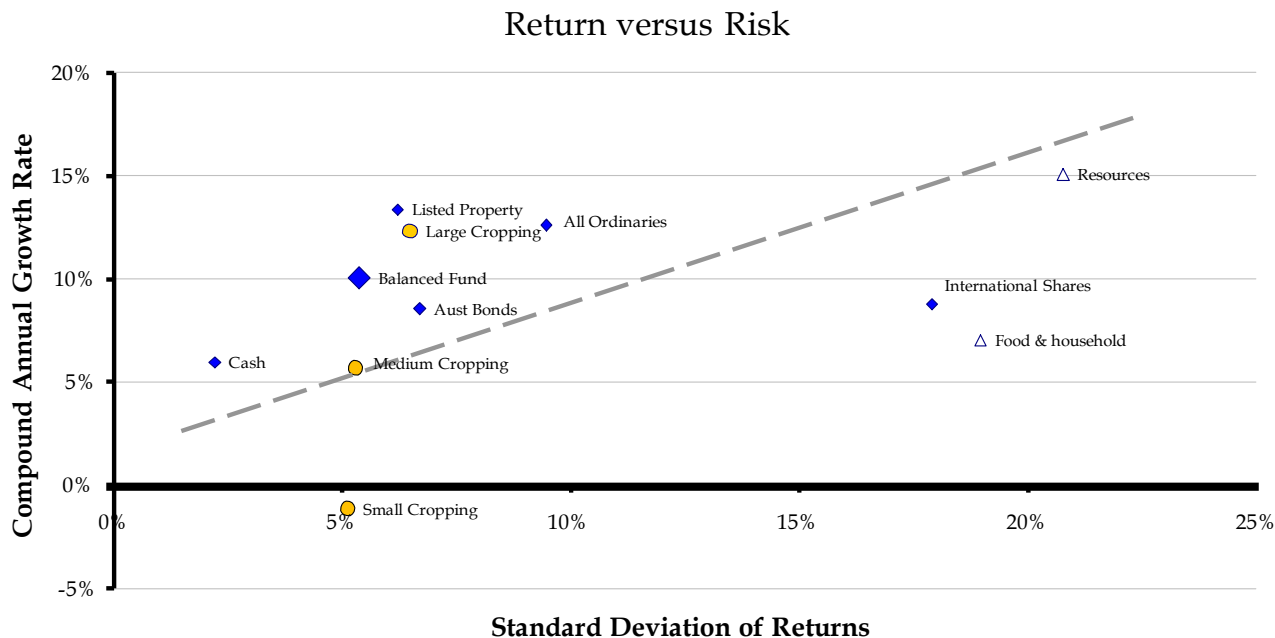
⁵ The accumulation indexes were sourced from IRESS (All Industrials Accumulation Index, All Ordinaries Accumulation Index, Property Trusts Accumulation Index) and Vanguard (MSCI World ex-Australia Net Total Return Index, UBS composite Bond Index, UBS Composite Bond Index).

⁶ The Balanced portfolio is composed of 40% income and 60% growth assets. Specifically: 20% cash, 20% bonds, 20% Australian shares, 20% international shares and 20% listed property.

greater the reward that investors expect. The volatility of the annual returns from an investment can be measured by their standard deviation which provides a measure of their dispersion about the mean⁷.

Figure 5. takes average returns from the chart above and plots them against their volatility over the 15 years. It show that the returns from top farms are similar to the All Ordinaries, however they are less volatile which make it a more attractive investment. The returns from an average mid-sized farm are lower than the All Ordinaries however given their much lower volatility they are still a relatively attractive investment.

Figure 5. Risk versus Return of various investments



Source: ABARE Farm Surveys, Iress, Vanguard

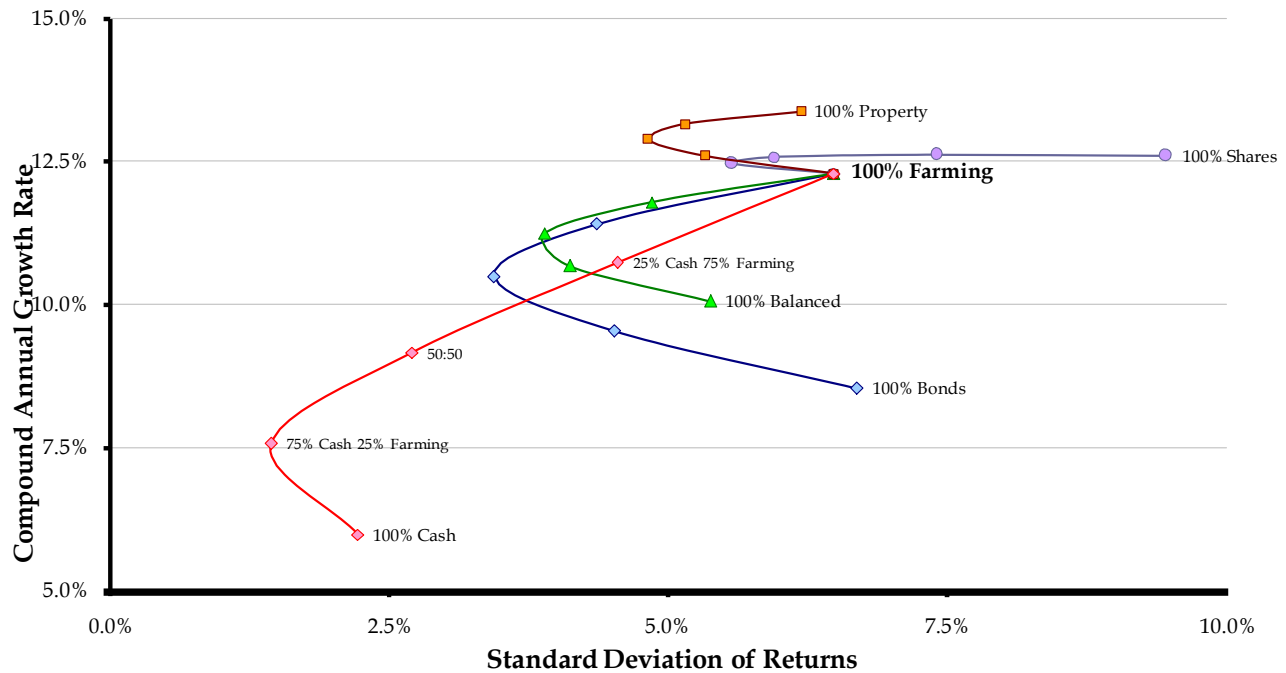
In considering the measures of risk presented here it is important to note that it is the risk associated with an investment in the average of all farms in each category. However this is consistent with the asset classes farm performance is being compared to as, for example, it's the risk of the aggregate of the stocks that compose the All Ordinaries Index that is presented⁸. The risk for an individual farm is likely to be higher just as the risk for an individual company share would be higher than the aggregate of the stocks that compose the All Ordinaries Index.

The following chart has in its centre the returns (compound annual growth) and risk (standard deviation of returns) of the large cropping farm. Radiating out from it are various combinations of off farm investments. Taking an off farm investment in cash as an example, the first point out represents 25% cash and 75% farming, the next 50:50, the next 75% cash and 25% farming and the last 100% cash (the farm has been sold and the money in sitting a high yield cash account).

⁷ Note that this sort of analysis is often very sensitive to start and finish points and there is a trade off between taking a longer time series to negate such sensitivity and the past losing its relevance as a predictor of future market conditions. The returns from Government Securities, for example, are particularly high compared to more recent performance due to the high interest rate environment of the late eighties.

⁸ Note: The two farm classes are based on an arithmetic mean of the individual farm's performance, while the listed security indexes are based on weighted means which biases performance to that of the larger securities.

Figure 6. Effect of diversification of Risk & Return



Source: ABARE Farm Surveys, Iress, Vanguard

What Figure 6. shows is that over the last 15 years having 50% of your assets in shares or listed property would not have produced a significantly higher return, however it would have significantly reduced the volatility of your returns, i.e. your risk.

Closing comments

So the answer to the question – would you have been better off selling the farm and putting it all into something else:

- o No, not if you are generating returns better than industry average. You have been generating a similar return to investing in Australian shares but probably with less risk.
- o Maybe, if you've been generating around industry average returns. Your returns might not have been quite as high as other investments but they are likely to have been less risky. So whether you would have been better off in a financial sense will depend on your propensity for risk and how long your investment horizon is.
- o If you are generating below average returns from operations and capital growth then, so long as the past repeats itself over the next 15 years, you would be better off investing elsewhere.

Note:

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