Houset Allocation

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Your client's most valuable physical asset is likely the home in which they live and the ground on which it stands. Regardless of the lovely landscaping and charming neighbors, this poorly diversified and illiquid asset should concern you because it has an enormous impact on their long-term financial health and their personal risk management strategy. Think about it for a moment. While it would be highly imprudent to incur 10-1 leverage to invest in any one stock or bond, this is routinely done in the residential real estate market.

Shouldn't the rules of diversification apply to the largest physical asset on your client's financial balance sheet?

If you are willing to think about this issue from an asset allocation perspective, then Table #1 and Table #2 helps by displaying the risk and return parameters from Canadian residential real estate versus the stock market during the last 25 years. The housing numbers are based on indices provided by The Canadian Real Estate Association's MLS service and the stock market indices are courtesy of Ibbotson Associates. Although I have a number of methodological concerns with the way the MLS index is constructed, the general picture for the risk and return from the 19 cities displayed in Table #1 is quite reliable. Table #2 gets a bit technical by computing the correlations between the returns on the 19 housing indices and the 2 stock market indices. In general, the correlation numbers range from +100% to -100% and are meant to measure the extent to which prices in different geographic regions "zig and zag" together.

For example the average house in Toronto (loosely defined) increased by 5.75% per annum during the last 25 years and the volatility of the investment return, which is a measure of the possible range, was 10.8%. In comparison, Vancouver increased by 3.68% per annum, but was more volatile with an 11.1% standard deviation. Regina had the lowest volatility at 2.8%, but the annualized investment return was only 2.96%. In contrast to the return from residential real estate, the total return from TSE/TSX index was 8.64% per annum with a volatility of 16.46% and the total return from the SP500 (in CAD) was 13.85% with a volatility of 16.46%. The stock market is obviously more volatile than any of the major Canadian cities but the returns from the stock market have been much higher as well.

Of course, all of these return calculations ignore leverage which is standard in housing purchases, but can also be used equally effectively with equity-based investments. More importantly, the housing numbers displayed in Table #1 ignore the consumption dividends that come from imputed (i.e. not having to pay) rents, which makes the true aggregate return from real estate higher. But at the same time we also ignored property taxes, unavoidable insurance and maintenance fees as well as real estate commissions and the cost of mowing the lawn.

My intention here is <u>not</u> to “race” houses against stocks, since I believe the former is largely consumption while the latter is mostly investment. The main point is that regardless of whether you or your clients believe residential real estate is a good investment – which is getting harder to believe at current valuation levels -- owning just one is risky and violates most of what portfolio theory has taught us over the last 30 years.

In fact, using the numbers in Table #1 and Table #2 – by treating them like any other asset class – the ideal portfolio approach would be to allocate approximately 4% of your wealth to Toronto housing, 2% in Vancouver housing, 6% in Regina housing, etc, in addition to the usual percentages allocated to Canadian and international stocks. Interestingly, given the low correlations between Canadian residential housing and

global stock markets -- and in contrast to the 30 or so stocks needed to diversify idiosyncratic equity risk -- I find that four or five well placed houses across Canada are enough to create a balanced housing portfolio.

So, what are those of us who can't afford to own a portfolio of houses supposed to do to manage this risk?

Well, a variety of clever solutions have been proposed around the world during the last few years, some of which are slowly making their way to Canada. Here is a bird's eye view of how they would work.

Residential REITS.

Imagine that one of your clients owns a house in a pricey region of Toronto, while another client lives in the suburbs of Vancouver. Both of them have a relatively large mortgage and have 'invested' a large fraction of their wealth in a personal residence. Wouldn't it be nice if you could broker a binding legal arrangement between these two clients – or any other ones in your book of business -- to share these gains and losses? Thus, if and when the client in Toronto decided to sell their house the Vancouver-based client would be entitled to part of the gains (or losses). The reason this risk-sharing arrangement adds value is that according to Table #2 the correlation between these two markets is only 34%. I.e. they do not "zig and zag" in lockstep. In fact, these two markets are relatively more segmented than the TSX index versus the SP500.

Now, while this idea might sound awkward and impractical, scale this up and let's examine the implications. A client could agree to own the majority of their house – say 50% to 70% -- while the remaining 50% to 30% would be owned by a collection of distant neighbors, friends and business acquaintances. This agreement could be structured as a mutual fund trust. The fund would own a large number of different

houses – instead of a large number of different stocks – and your client could then purchase units in their neighbor's or cousin's house, if they so desire.

This concept is similar to commercial REITS, except that I am proposing the same for a personal residence. Your client could sell a fraction of their house into a so-called housing REITS and gain some immediate cash to either make home improvements, lessen their mortgage debt burden and then diversify their wealth. If-and-when they sell the house, the ownership fraction would determine how to allocate the sale proceeds.

In fact, as this idea catches on you will likely find many institutional investors such as pension funds and endowments with long-term horizons showing an interest in your client's house, since they too would like to diversify out of their concentrated real estate holdings and into investments that do not zig and zag together.

Although this concept is far from a commercial viability in Canada, similar ideas have been implemented in the UK and Australia during the last few years. Another intriguing concept is the equity-based mortgage.

Equity-Based Mortgages:

Similar to the housing REITS, an equity-based mortgage substitutes a bank loan for an ownership stake. The way it works can be illustrated with an example. When your client purchases a house for $500,000 and then only have $200,000 for a down payment, then can borrow the remaining $300,000 from the bank. Under conventional mortgage terms, then would have to make payments of $2,500 each month for thirty years, after which the house would be completely yours free and clear. However, under equity-based mortgage, the bank would allow them to make a reduced monthly payment of only $1,700, but in exchange would demand an ownership stake in the home. The actual fraction they would be entitled to would depend on prevailing market conditions as well as interest rates, and even your credit rating. This means that when the client

sells the house the bank would be entitled to a fraction of the proceeds which might be more of less than what would be required under a conventional mortgage.

Once again, these are not yet available in Canada, but a close cousin is, and they are called Reverse Income Mortgages.

Reverse Income Mortgages:

Reverse Mortgages are offered by a variety of financial institutions in Canada – to the tune of 6000 served already -- but most of your clients will probably have to wait a while before they qualify, since they are only open to people above 62 years of age.

Here is how they work. If your client's home is fully paid-up and they would now like to release or redeem some equity without having to sell the house, a reverse mortgage allows them to borrow money secured against the home, albeit at a higher rate than long-term mortgages. But in contrast to home equity lines of credits, the twist is that your client never has to pay the money back while they are alive!

So, for example, a $500,000 house might entitle the owner to a life-long annuity payment of $2,000 per month for the rest of their life. The income received generates a debt on the right hand of the personal balance sheet, but the principal and interest on this loan is not due until death, or when they move to another residence. The lender (i.e. bank) is taking the risk that housing prices will decline – and that you will live for a long time – and at the time of sale, they will not be able to recoup their original principal. The risk the bank is incurring is a risk your client is avoiding, which is why these arrangements are limited to a maximum of 40% of the appraised value of the house. The reverse mortgage allows your "house rich and cash poor" client to continue living in their home, and also takes part of the downside risk away from the concentrated real estate holding.

In addition to the above ideas, the final option for managing the concentrated risk of owning just one house is precisely that; an option.

Home Equity Insurance:

You have probably heard of financial call and put options. These are financial contracts that are traded on derivative exchanges which allow the holder to buy and sell stocks, bonds and currencies at fixed prices prior to a fixed date. In fact, many Segregated Funds in Canada have a similar guarantees embedded within them.

And, just as anyone with a large investment in Gold, IBM or the Japanese Yen can purchase a financial put option that will give them the ability to sell that position – anytime they want – for at least some minimally specified price. So, to, the same design can be applied to residential real estate. The homeowner would buy the protection from a financial services company -- similar to P&C insurance that is paid annually -- that insures the value of the house for the time of sale. It might seem far-fetched, but in fact a pilot project of this concept was implemented in Oak Park (Illinois) more than 20 years ago and more recently launched in Syracuse (New York). I know a few entrepreneurs who are planning the same for Canada.

In sum, I like to think of my house – which I only recently purchased -- as a very big and expensive fridge that I plan to use for the next ten to twenty years. It had to be large enough to accommodate my family's growing needs, efficient enough to avoid large electricity bills, and nice enough to hang my children's art work on. But honestly, I never thought of it as a good financial *investment* – especially not in today's market -- but more of a financial *asset*, since I would have a tough time sleeping at night with all the eggs in one fridge.

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Table #1: Total Risk and Return from Residential Real Estate versus The Stock Market during the Last 25 Years.

	Compound Return (p.a.)	Volatility
TORONTO	5.75%	10.83%
MONTREAL	5.18%	6.61%
CALGARY	3.11%	6.50%
EDMONTON	2.74%	5.68%
VANCOUVER	3.68%	11.14%
PEI	3.23%	8.08%
HALIFAX	4.68%	3.82%
OKANAGAN	2.95%	9.51%
KINGSTON	5.38%	6.91%
LONDON	4.53%	7.64%
MISSISSAUGA	5.51%	10.67%
MONCTON	3.98%	4.98%
OTTAWA-CARLETON	5.70%	6.23%
PETERBOROUGH	6.23%	9.23%
REGINA	2.96%	2.81%
SASKATOON	3.04%	3.08%
SAINT JOHN	3.63%	5.27%
ST. JOHN'S	3.59%	3.39%
WINDSOR-ESSEX	4.63%	7.61%
TSE/TSX (CAD Stocks)	8.64%	16.46%
S&P500 (USD Stocks)	13.85%	15.71%

Source: Canadian Real Estate Association, Multiple Listing Service ® system.

Table #2: Do They Zig and Zag Together? The correlation between residential real estate and stock markets during the last 25 years.

	TORONTO	MONTREAL	CALGARY	EDMONTON	VANCOUVER	PEI	HALIFAX	OKANAGAN	KINGSTON	LONDON	MISSISSAUGA	MONCTON	OTTAWA	PETERBOROUGH	REGINA	SASKATOON	SAINT JOHN	ST. JOHN'S	WINDSOR	TSE/TSX	S&P500
TORONTO	100%																				
MONTREAL	69%	100%																			
CALGARY	32%	17%	100%																		
EDMONTON	5%	17%	83%	100%																	
VANCOUVER	34%	37%	41%	33%	100%																
PEI	34%	49%	-12%	-11%	51%	100%															
HALIFAX	18%	57%	-17%	-5%	-5%	18%	100%														
OKANAGAN	-8%	13%	59%	67%	73%	25%	-19%	100%													
KINGSTON	73%	73%	3%	-4%	42%	42%	43%	2%	100%												
LONDON	81%	72%	26%	8%	56%	51%	21%	23%	88%	100%											
MISSISSAUGA	97%	64%	32%	5%	29%	32%	15%	-10%	68%	79%	100%										
MONCTON	27%	33%	-9%	-12%	21%	21%	56%	4%	63%	54%	24%	100%									
OTTAWA-CARLETON	23%	57%	-33%	-12%	1%	29%	84%	-29%	51%	23%	23%	40%	100%								
PETERBOROUGH	84%	71%	21%	9%	35%	31%	27%	-7%	85%	78%	81%	22%	43%	100%							
REGINA	36%	38%	12%	-10%	27%	31%	13%	-1%	20%	25%	34%	9%	16%	24%	100%						
SASKATOON	12%	11%	16%	-9%	6%	20%	13%	5%	1%	3%	14%	5%	-12%	-7%	34%	100%					
SAINT JOHN	40%	48%	-8%	-15%	39%	32%	43%	14%	66%	58%	36%	67%	38%	42%	19%	15%	100%				
ST. JOHN'S	36%	59%	13%	24%	37%	54%	47%	25%	71%	63%	32%	47%	51%	64%	1%	-11%	47%	100%			
WINDSOR-ESSEX	58%	46%	29%	7%	76%	62%	2%	45%	71%	81%	54%	46%	2%	56%	25%	20%	60%	54%	100%		
TSE/TSX (CAD Stocks)	-3%	11%	-12%	-29%	11%	4%	5%	-9%	-2%	3%	-5%	13%	-9%	-12%	24%	29%	16%	-10%	-6%	100%	
S&P500 (US Stocks)	-9%	-20%	-13%	-37%	-22%	-34%	-22%	-28%	-7%	-4%	-8%	2%	-35%	-12%	7%	14%	-8%	-39%	-16%	60%	100%

Source: Canadian Real Estate Association, Multiple Listing Service ® system.