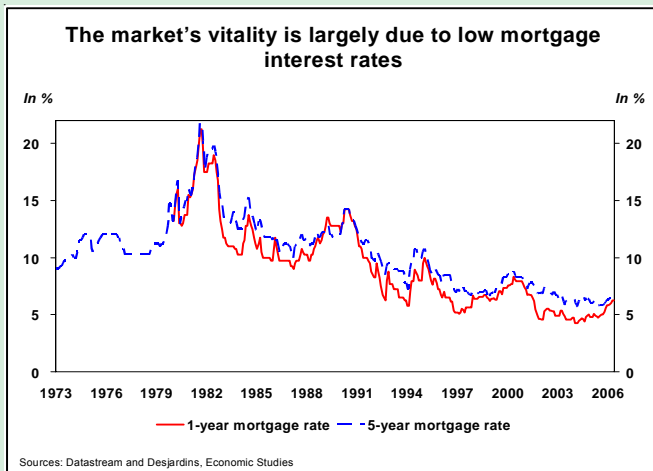


June 22, 2006

## THE EVOLUTION OF HOUSE PRICES IN CANADA REFLECTS THE IMPROVEMENT IN MARKET FUNDAMENTALS

### Summary

Over the last few years, the expanding real estate market has been a real engine for growth in many industrialized economies. Low interest rates and the proliferation of new mortgage products have made ownership more accessible and given owners the opportunity to finance some of their consumption with flourishing net real estate equity. However, in some areas, house price increases have been so intense that they have triggered fears of a speculation bubble in these markets.



Overall, Canada's real estate market is in a sound situation. Historically speaking, the recent increases in real house prices are not extraordinary, and are still quite far from the spectacular growth seen in other industrialized nations since the second half of the 90s. However, this wouldn't be the first time the market experienced ups and downs and the current cycle's longevity, which points to a possible correction, demands that we pay attention to it.

There are many concerns. The upshot is that an abrupt tumble by real house prices could have major repercussions for the entire economy, particularly via the importance of the real estate wealth effect to household consumption. The mortgage market would likely be disrupted, with financial institutions potentially facing considerable losses. Given these possible outcomes, adequately assessing the housing market's current situation is crucial.

In this issue of the Economic Viewpoint, we first look at the Canadian market's current situation. Our estimation model, complemented by the usual measures, shows that the increase in house prices reflects the improvement in market fundamentals, such as low interest rates and the strength of demand in comparison to supply. This does not mean that a slowdown is out of the question. Of course, the Ontario and Québec markets are tending to return to equilibrium, but the situation is more precarious in western Canada, where house prices have been skyrocketing lately.

After several years of expansion, we should certainly expect softer growth by house prices nationwide over the next few years. However, the low interest rates expected mean that the market will not collapse. Instead, we expect a gradual slowdown that will take annual growth by house prices closer to its historical pace, 5%, starting next year. Under these circumstances, the impact on the situation of households and consumer spending should be limited.

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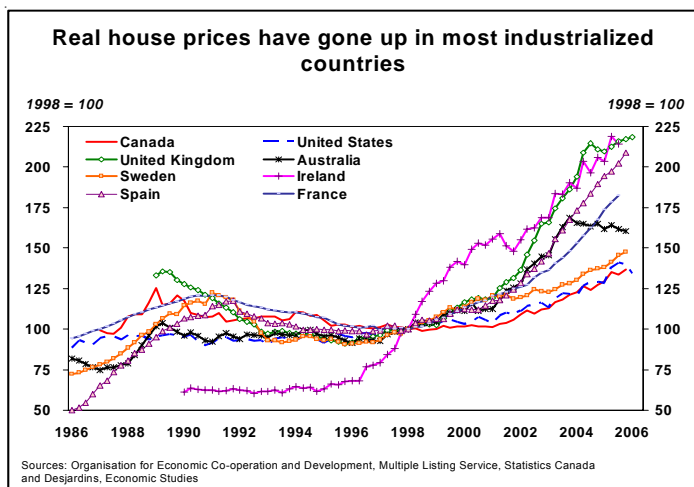
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## The global synch in real estate...

In recent years, the unprecedented increases in house prices seen in a number of industrialized countries have helped to stimulate global economic expansion. The effects on the economy associated with rising house prices have, on one hand, been channelled by a wealth effect expressed as a greater household borrowing and spending capacity. On the other hand, the result was greater job creation in sectors associated with construction and real estate, which helped to bring up incomes and, by ricochet, consumption.

One highlight of recent years has been the synchronization between the real estate cycles of major industrialized economies. In a recent OECD (Organisation for Economic Co-operation and Development) study<sup>1</sup> on house prices, the authors conclude that “The size and duration of the current real house price increases; the degree to which they have tended to move together across countries; and the extent to which they have disconnected from the business cycle are unprecedented.”



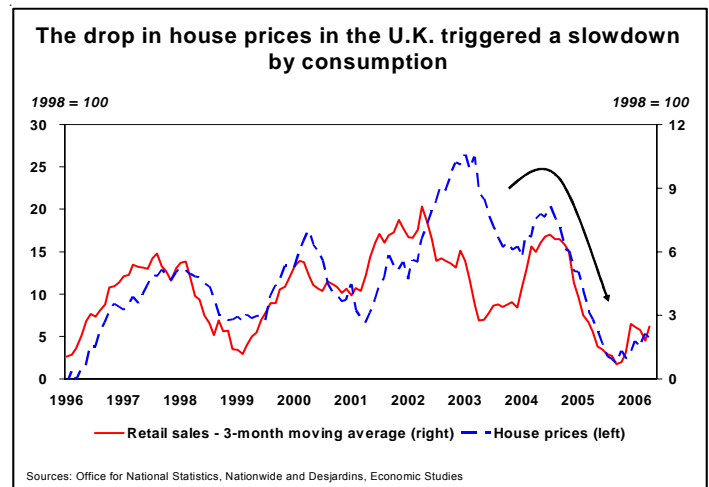
For most countries, the expansion period got underway in the second half of the 90s. The most pronounced increases were posted in the U.K. and Ireland, where real house prices have more than doubled in the last eight years. Other countries in Europe have also seen marked increases since 1998, such as Spain (+108%), France (+82%) and Sweden (+48%). Real house prices rose 67% in Australia from 1998 to 2004, before starting on a downward trend. When it peaked in 2005, the American

<sup>1</sup> Nathalie Girouard et al., “Recent House Price Developments: The Role of Fundamentals,” OECD Economics Department Working Papers, No. 475, OECD, January, 2006.

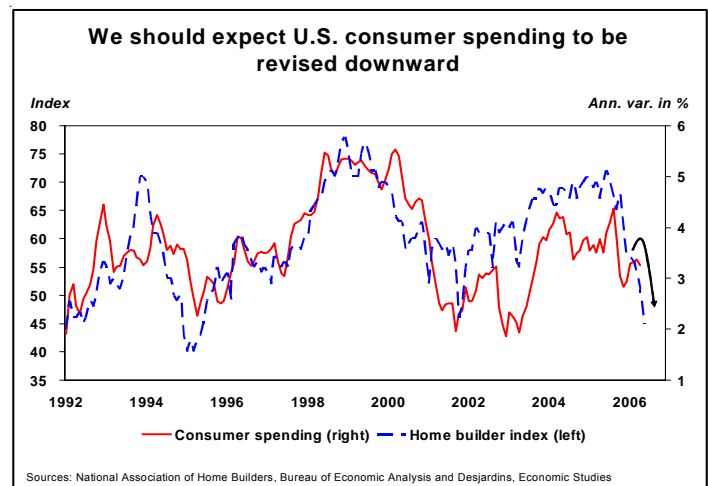
market was up 41% from 1998<sup>2</sup>. The Canadian market posted more modest but still substantial growth of 36% from 1998 to now.

## ... suggesting a potential slowdown in Canada

While house price increases have not been equal across the board, the real estate slowdown seen in a number of countries in the last few years remains a concern. In particular, slower increases in house prices in the U.K. and Australian markets have translated into a net decrease in the pace of consumer spending.



In the United States, the impact of the recent decline in house prices on consumer behaviour is not very

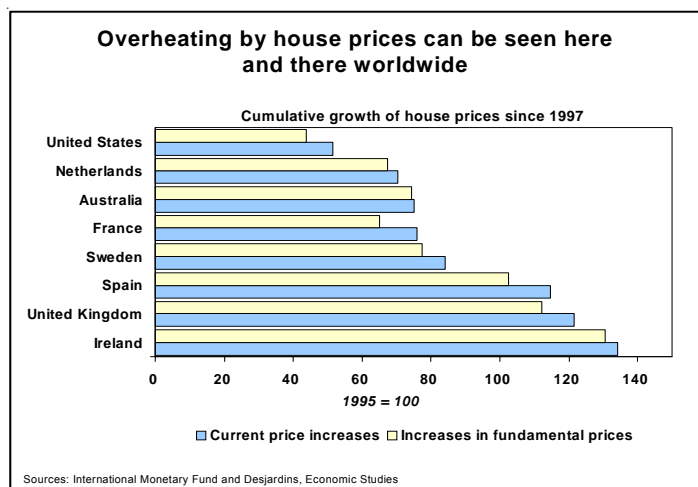


<sup>2</sup> For the purposes of comparison with price indexes in the U.K. and Australia, we weighted the price of new homes (17%) and existing homes (83%) in Canada and the United States according to the standards of the American market, in order to take all prices for homes in these markets into account.

noticeable so far, but the decline by the home builder index indicates that consumer spending is likely to be weaker in the upcoming quarters. The similarity between U.S. and Canadian real estate cycles, which have both seen a real increase of about 40% since 1998, means we must consider the possibility that real estate is topping out in Canada.

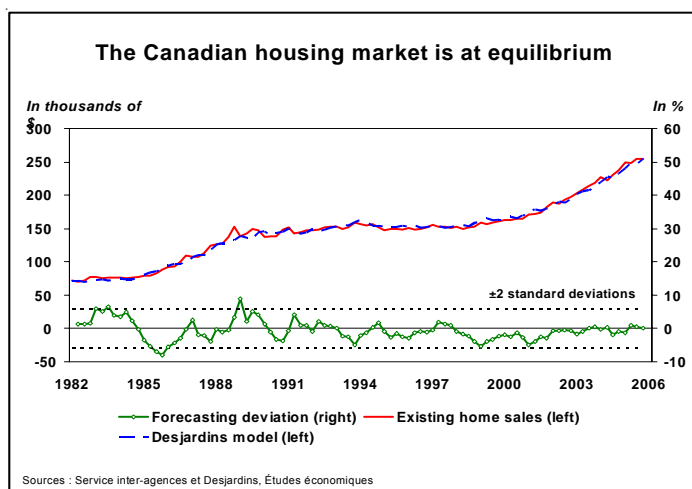
### In Canada, the signs of overheating are mixed

In the last few years, the real estate sector in most industrialized countries has showed signs of overheating. A recent study by IMF<sup>3</sup> shows that a number of Anglo-Saxon countries, including the United States and U.K., but also Sweden, France and Spain appear to have seen growth in house prices that was greater than that indicated by the fundamental factors, showing that speculation in these markets has increased.



The situation in Canada seems healthier. Our estimation model, based in part on interest rates, incomes and Canadian output growth, shows that the recent rise by house prices in Canada is in line with the improvement to economic fundamentals since 1998 (see Box 1 on page 4 for further details on the estimation method). Specifically, income growth and low interest rates provide satisfactory justification for the price increases seen in the last eight years. Conversely, the previous periods of expansion in this country—the end of the 1970s and 1980s, were characterized by a degree of overvaluation of house prices.

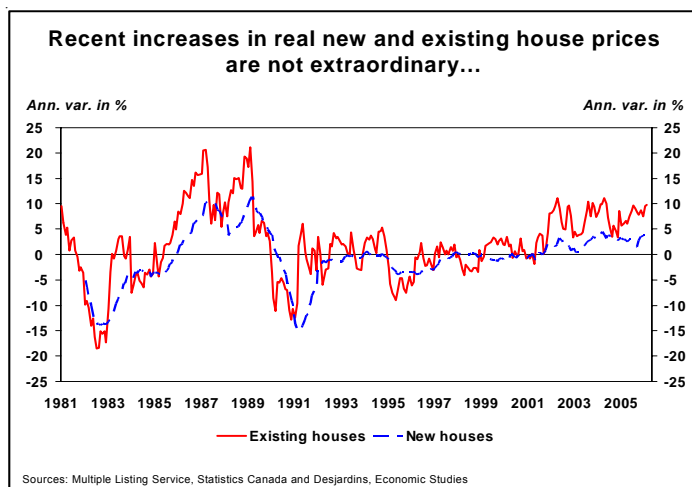
<sup>3</sup> World Economic Outlook, “Globalization and Inflation”, April 2006, IMF.



However, using econometric models is not a sure thing because some elements are unstable over time, and it is difficult to adequately capture structural change. Where there is uncertainty, it is better to round out our analysis with other methods. To verify the current state of Canada’s real estate market, we compare house prices according to various industry standards to take into consideration the overall inflation level, per capita income, rent, interest rates, and the supply of homes. The results diverge from method to method, which tells us not to draw conclusions too quickly; however, the general observation is that Canada’s national market remains under control, in spite of some signs of overheating.

### The increases in real house prices are not extraordinary

An initial estimate involves adjusting house prices to take inflation into account. This reveals that the annual change in the real price of existing homes seen since mid-2001 (start of the sustained growth period for prices in this



**Box 1****Modelling of the evolution of house prices in Canada**

We model the evolution of Canadian house prices using an error correction model (ECM). This estimation method simultaneously captures the information in long-term and short-term variables. Over the long term, we find there is a cointegration relation between the evolution of house prices and the evolution of disposable income. Short-term fluctuations are captured by interest rates and the nominal GDP growth. We can also see that prior house price fluctuations have an impact on current variations. This intrinsic dynamic, which shows how past shocks reverberate into the semesters that follow, reflects the fact that economic agents set prices based on the recent evolution of market prices (adaptive anticipation). A variable was added to capture a structural change in the area of demand for credit. Adding this variable renders the estimation of the parameter associated with interest rates much more robust and meaningful. Variables linked to the labour market (unemployment rate, job creation...) did not come out significant. This could reflect the fact that labour market situation is sensitive to the evolutions of interest rates and economic growth and therefore, it brings few new information to the model.

Banerjee, Dolado and Mestre's one-step method was used to estimate the following equation:

$$\Delta \log(PM) = \alpha_0 + \alpha_1 \text{seas3} + \alpha_2 \left( \log(PM_{t-1}) - \frac{\beta_0}{\alpha_2} - \frac{\beta_1}{\alpha_2} \log(RD_{t-1}) \right) + \alpha_3 R + \alpha_4 CS + \alpha_5 \Delta \log(PIB) + \sum_{i=2}^8 \varphi_i \Delta \log(PM_{t-i}) + v_t$$

where  $PM$  represents the nominal prices of existing homes,  $seas3$  is a seasonal variable that captures a deterministic variation in the third quarter,  $RD$  is disposable personal income,  $R$  is the fixed mortgage rate for a five-year term,  $CS$  is structural change in terms of demand for credit, and  $GAP$  is the percent gap between nominal  $GDP$  and potential. The expression between parentheses represents the long-term relationship. Coefficient  $\hat{\alpha}_2$  is the adjustment coefficient for the long-term relation observed between house prices and disposable income. For the long-term relation to be meaningful, this coefficient must be quite negative.

A Fisher test performed on the parameters of the lags of the dependent variable shows that they are substantially different from zero (F-Stat = 9.4913; P-value = 0.000). The model was estimated from 1982 Q2 and 2005Q4. The R-squared of the regression is 0.575 and the Durbin-Waston is 2.169.

Variables	Coefficient	T-stat <sup>1</sup>	P-value
Constant	-0.4808	-1.1272	0.2630 <sup>2</sup>
<i>seas3</i>	-0.0132	-2.0283	0.0458
$\log(PM_{t-1})$ (velocity measurement of return towards the balance of long term)	-0.1297	-3.3042	0.0446 <sup>3</sup>
$\log(RD_{t-1})$	0.1662	2.8637	0.0053
$R$	-0.0107	-5.6065	0.0000
$CS$	-0.0025	-4.1067	0.0001
$\Delta \log(PIB)$	0.5649	2.3860	0.0194

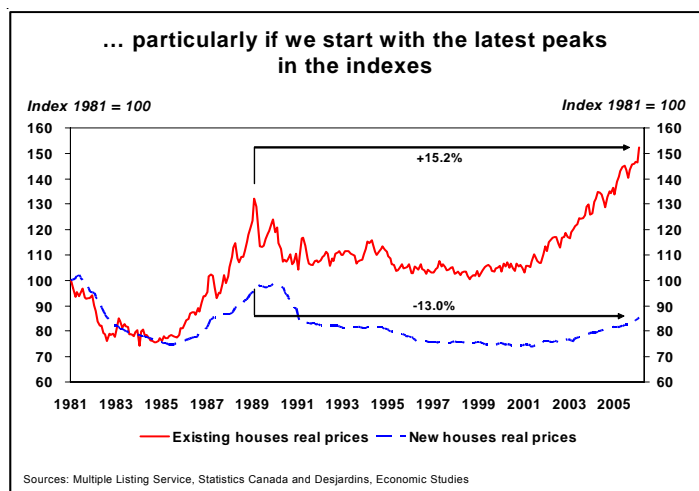
<sup>1</sup> Since we find heteroskedasticity in the error term, the covariance matrix was estimated from the Newey-West matrix to conduct a valid statistical inference on estimated coefficients.

<sup>2</sup> Even though the associated coefficient of the constant variable is not significantly different from zero, it is preferable to keep it in the equation to stay coherent with the parameters used. From our equation, the constant reads  $\alpha_0 - \beta_0$ .

<sup>3</sup> The P-value for the correction coefficient is obtained from Ericsson and Mackinnon (2002) tables available on line at: <http://qed.econ.queensu.ca/pub/faculty/mackinnon/ecmtest/>

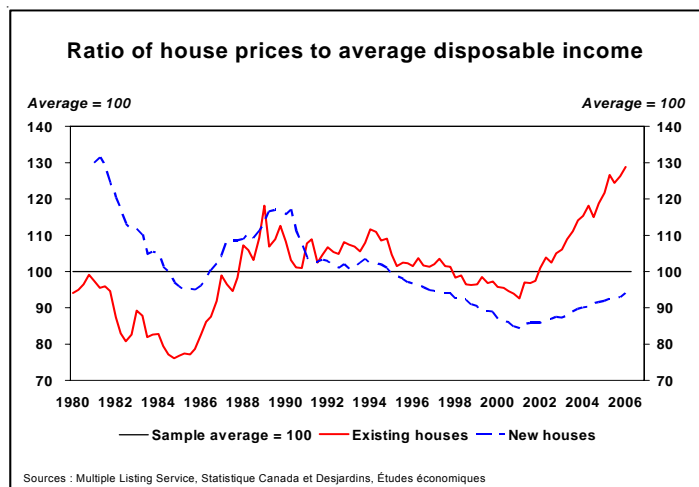
country) was 6.9% on average, with a peak of 11.1% in April of 2004. This in no way compares with the peaks of over 20% reached twice in the mid-80s. Price increases for new homes were a lot smaller still, i.e., below 5.0% for the period as a whole.

As a result, it was only in May, 2004, that the real price of existing homes only recouped the losses incurred since the 1989 peak. The new house price index also still remains well below its record. Seen through this lens, the Canadian real estate market appears to be well under control.



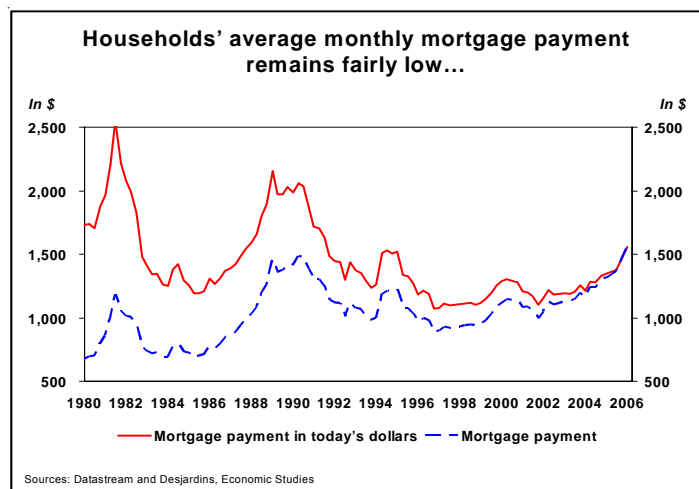
### House prices have risen more quickly than incomes

Comparing with specific market fundamentals gives us a clearer picture. One rule of thumb is to measure house prices against household income, which shows us whether the real estate market is accessible. As the graph shows, the ratio of the price of existing houses to disposable per capita income is currently at a historical peak, i.e., close



to 30% higher than its long-term average. This points to clear overheating by the real estate market. Conversely, the ratio for the price of new houses is still 6% below its historic average, once again forcing us to be prudent when drawing conclusions<sup>4</sup>.

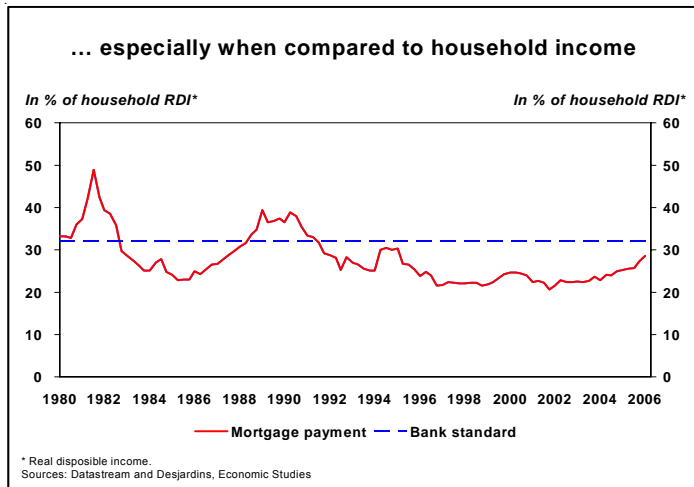
This measure still features some weaknesses. For one thing, the ratio is calculated based on average national disposable income, while access to ownership is limited to a segment of the population that is likely to be wealthier. Our estimation model also shows that income only explains a small part of the change in house prices. Furthermore, the price to income ratio does not take into account the debt load. True, the increase in the price of existing houses has driven household debt up to a record of over 82% of personal disposable income in the first quarter of 2006, i.e., 30 percentage points higher than it was at the end of the 80s. But low interest rates in recent years mean that mortgage payments<sup>5</sup> have stayed fairly small: at \$1,560 in the first quarter of 2006, these payments barely exceeded the \$1,482 peak reached in the second quarter of 1992. The fact that mortgage payments are relatively small is even clearer if we adjust for prior shocks in current dollars.



<sup>4</sup> One possible explanation for the two series' divergence reflects the adjustment of prices with respect to quality. Ideally, to get a good snapshot of the evolution of house prices, it is best to compare homes of the same quality. Renovations and expansions tend to alter the quality of properties. No adjustment is made for the case of the existing home index (which tends to overestimate prices) while it is considered for the new home index (which tends to underestimate prices).

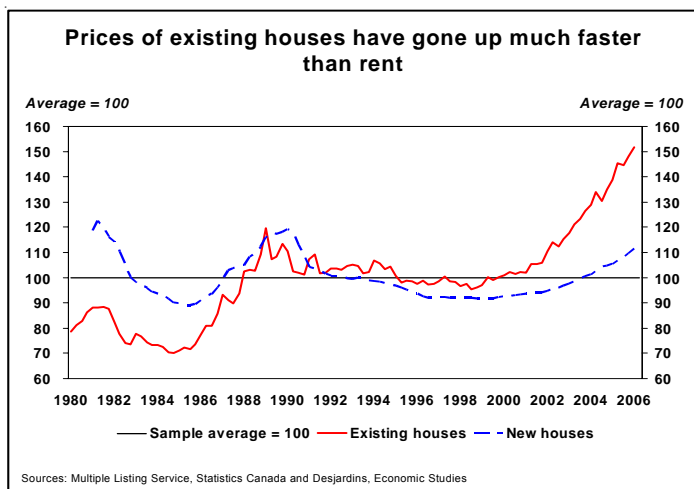
<sup>5</sup> Calculated based on the average of posted one-year and five-year rates for a 25-year mortgage with a 10% downpayment.

So, while households have a high debt load, mortgage payments represent a fairly small proportion of average household income compared to the peaks reached before the bubble burst in 1980 and 1989.



## Properties are still affordable

For a more complete view, it is therefore better to look at how the market's affordability evolves. The Desjardins Affordability Index of the Canadian housing market, which simultaneously considers house prices, income, interest rates and taxes, indicates a middle-income household's capacity for making monthly payments on an average priced home. It can then be seen that, in spite of the marked increase in house prices since 1998, the decline in interest rates has had the effect of stabilizing the index at over 140 over the period, with a peak at 158 in the final quarter of 2001, a historical high<sup>6</sup>.



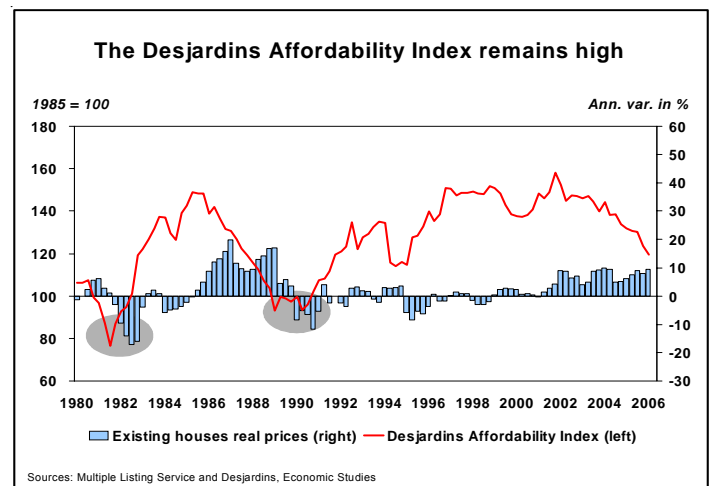
<sup>6</sup> An index of 140 means that a family has 140% of the average income required to buy an average priced house.

More recently, the increase in short-term interest rates has changed things somewhat, bringing the Affordability Index down to 119 in the first quarter of 2006. But, even at this level, households are still in a good position to deal with their mortgage obligations. Levels that coincide with the 1980 and 1989 corrections suggest that the index would have to fall well below the 100 mark for the situation to deteriorate and trigger a downturn by real prices.

## The price of a house is up sharply compared to rent...

Another approach involves comparing the cost of owning a real estate asset with the cost of renting by measuring the ratio of house prices to the "rent" component of the consumer price index. Intuitively, if house prices are too high in relation to rent, it is then somewhat more advantageous to rent than to buy, which puts downward pressure on demand for homes and tends to bring prices back into line with rents.

In this case, the real estate market seems clearly overvalued. Not only is the ratio of the price of existing houses to rent at a peak, but it exceeds the historic average by over 50%. At 11%, the smaller increase in the ratio of new house prices to rent tempers things somewhat.

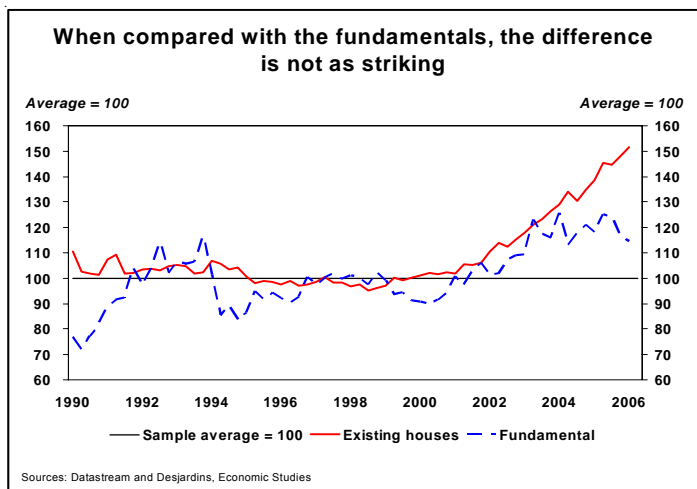


## The cost of ownership is in line with the fundamentals

In any event, this method also has its limitations. We must consider the costs associated with owning a real estate asset. These include the lost interest an owner could have obtained on an alternate investment, property taxes that must be defrayed, costs associated with building maintenance and depreciation, and the expected capital gains (losses).

At equilibrium, owner costs should be equal to renter costs (see Box 2 on page 8 for further details). This gives us, on one hand, a measure that represents the relationship between house prices and rent and, on the other, a measure of the fundamental factors associated with owning property.

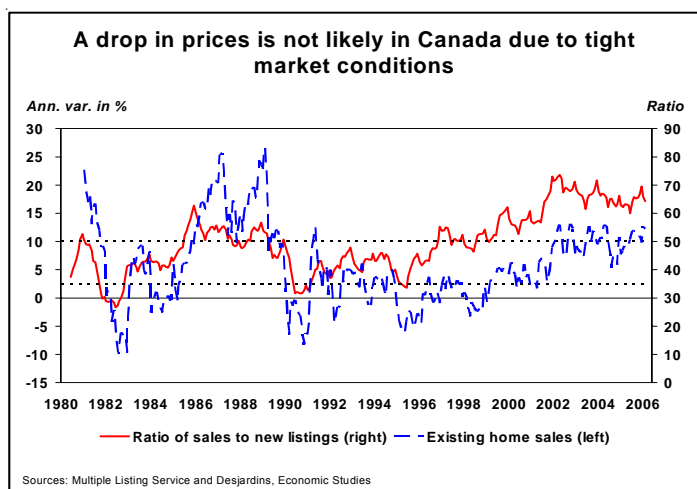
Our estimates suggest that the ratio of house prices to rent evolved in tandem with the measure of market equilibrium from 1991 to 2003, then accelerated somewhat. Nonetheless, the percent difference between the two series reveals much less overvaluation than suggested by the ratio of house prices to rent.



### The market's vitality is primarily a reflection of the imbalance between supply and demand

Along with the various factors determining demand, the factors that affect supply can also play an important role in the evolution of house prices. Therefore, to determine the market's cyclical position and, as a result, the short-term trajectory for prices, we must first accurately gauge the evolution of supply in relation to demand. The ratio of the number of sales to new listings given to real estate agents helps determine whether it is a seller's market, a buyer's market, or whether the market is at equilibrium. According to the CMHC (Canada Mortgage and Housing Corporation), a sales/new listings ratio of 35% to 50% is symptomatic of market equilibrium.

In general, when the ratio of sales to new listings is above 50%—a seller's market—house prices tend to rise at a rate that is faster than inflation. As we can see, this level, which was reached in 1999, coincides with the onset of price appreciation for existing homes in this country. The ratio rose steadily until May 2002, when it reached a historical peak of 72.5%, before stabilizing at 65% on

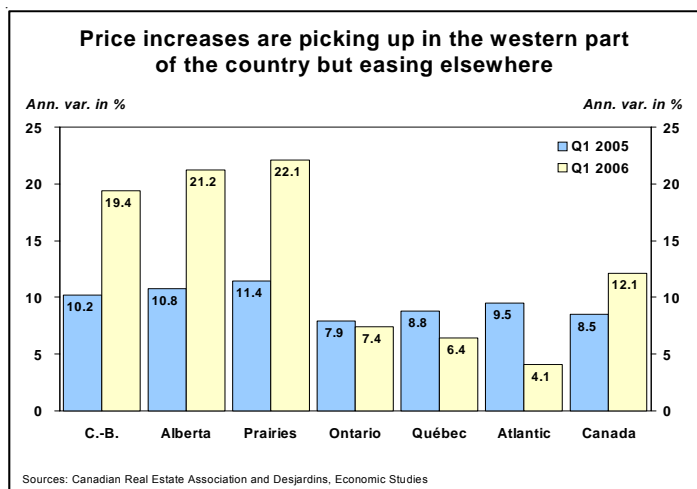


average. At these levels, which clearly show the scarcity of supply vs. demand, the increase in house prices appears to be fully justified.

### Major regional disparities

Base and adjusted measures paint a mixed picture of Canada's real estate market, but our analysis indicates that, overall, the situation remains sound. However, while reports of a wide-spread real estate bubble can be dismissed at the national level, the market's recent evolution raises some concerns for some parts of the country. Just like the Canadian economy, the real estate market is operating at two different speeds, and regional disparities have even intensified lately.

In the first quarter of 2006, the annual change in prices was in the neighbourhood of 20% in British Columbia, Alberta and the Prairie provinces. This is twice as fast as a year ago, and reflects greater tension in the country's western markets. Conversely, the tension is easing in the central provinces, so that price increases above 10%, as



**Box 2****Owner costs**

As originally defined by Jorgensen (1963)<sup>1</sup>, the cost of using a property equals the sum of the opportunity cost (after taxes) of owning a real estate asset, property taxes, maintenance and depreciation costs, less the anticipated capital gains (losses):

$$User\ cost = P(i^a + \tau + \delta - \pi)$$

where  $i^a$  represents the lost interest an owner could have obtained on an alternate investment,  $\tau$  represents the property taxes that must be defrayed,  $\delta$  represents the costs associated with building maintenance and depreciation, and  $\pi$  represents the expected capital gains (losses).

According to Poterba (1984)<sup>2</sup>, at equilibrium, households tend to balance the marginal costs and benefits of services they get from the real estate asset they own. The marginal benefit represents the implicit rent associated with the house, whereas the marginal cost is the cost associated with its use. Equation 1 gives us the following:

$$(2) \quad R = P(i^a + \tau + \delta - \pi)$$

By rearranging the terms of equation 2, we get:

$$(3) \quad \frac{R}{P} = \frac{1}{(i^a + \tau + \delta - \pi)}$$

Equation 3 represents, on one hand, a measure of the relationship between house prices and rent and, on the other, a measure of the fundamentals associated with owning property.

<sup>1</sup> D.W. Jorgensen, "Capital theory, and housing", *Journal of Political Economy* 87, no. 5, October.

<sup>2</sup> J.M. Poterba, "Tax Subsidies to Owner-occupied Housing : An Asset-Market Approach", *The Quarterly Journal of Economics*, vol. 99, no. 4, November.

seen in Québec from 2002 to 2004, are now a thing of the past.

For the provinces, the risks of a brutal drop in prices like the one seen at the start of the 80s seem remote. Analysis of various market indicators suggests instead that price increases will continue in the short term, though their magnitude will vary from one end of the country to the other. As a real estate bubble is often confined to a few cities, it is still important to go beyond a national or provincial diagnosis. This will be covered in our next *Economic Viewpoint*. For now, our attention is primarily focused on the potential risk of a correction by real house prices nationwide.

**Should we be worried about falling prices...?**

The reasons behind appreciating house prices can vary from country to country. Even so, and even though Canada has not been the target of heightened speculation, history demands that we be vigilant. It should be said that this would not be the first time Canada's housing market would see ups and downs. In recent years, the Canadian real estate cycle has seen many periods of expansion and contraction<sup>7</sup>. In particular, it can be seen that the two

<sup>7</sup> Here, we have only considered periods of expansion and contraction that are longer than 24 months.

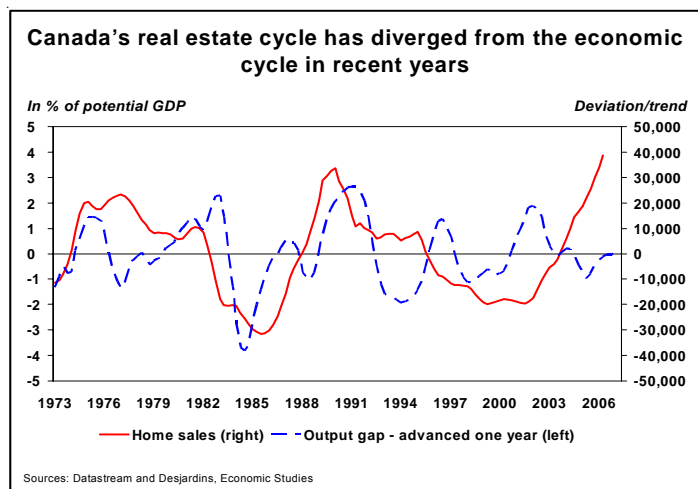
previous periods of expansion in this country, from 1970 to 1977 and 1985 to 1989, were followed by periods of contraction that trimmed 20.9% and 22.8% respectively from real house prices. Of course, the current period of appreciation seems much more orderly than what was seen in the second half of the 80s, when speculation drove real house prices up by almost 60% in only four years, but this does not mean that an eventual correction is out of the question.

**Real estate cycle – expansion and contraction**

Existing houses real prices (\$ of 2005)	Duration (quarter)	Variation (%)
<b>Expansions</b>		
Q1 1970 to Q4 1976	27	46.4
Q1 1985 to Q1 1989	16	66.5
Q2 1998 until today	28	49.8
<b>Downturns</b>		
Q1 1981 to Q1 1985	16	-20.9
Q2 1989 to Q1 1998	36	-22.8

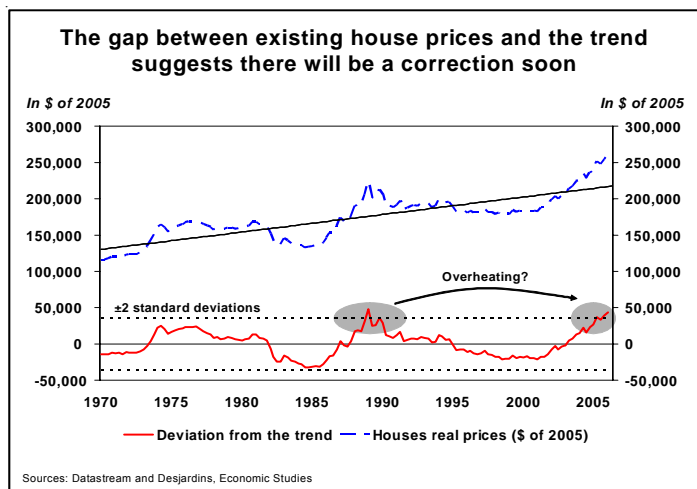
Sources: Organisation for Economic Co-operation and Development, Multiple Listing Service and Desjardins, Economic Studies

Historically, real house prices evolve on a slightly upward trend, and fluctuate somewhat behind the economic cycle. But, in recent years, the real estate cycle appears to have gone off on another tangent, one that is faster than the economic cycle. Of course, the unusually long real estate expansion cycle is in part due to low interest rates as well as to a catch-up effect after nine years of market contraction, but the current divergence from the economic cycle is a concern.



**... current conditions say no!**

Statistically, the sustained growth in real house prices appears to have reached a critical level. If we look at their deviation from the long-term trend, current levels correspond to those that preceded the market collapses at the end of the 70s and 80s.



Moreover, even though the market shows few signs of a bubble, deterioration by fundamentals could trigger a period of contraction for house prices. In particular, our estimation model indicates that the real estate market's solid performance is in large part due to low interest rates. Now, a number of studies<sup>8</sup> show that house prices are more sensitive to long-term interest rates when the latter are low. In terms of marginal effect, an increase of one percentage point in a 3% interest rate (i.e., a 33% increase) is twice as important as an increase of one percentage point when rates are at 6% (i.e., a 16% increase).

In a recent study based on 17 industrialized nations, the OECD shows that it is possible to calculate the probability of detecting a downturn in the real estate cycle when signs of overheating emerge<sup>9</sup>. The analysis shows that an interest rate increase of one or two percentage points would raise the probability of a market downturn to 50% in the United States, France, Denmark, Ireland,

<sup>8</sup> See, among others, Charles Himmelberg, Christopher Mayer and Todd Sinai, "Assessing High House Prices: Bubbles, Fundamentals and Misperceptions," *The Journal of Economic Perspectives*, vol. 19, no. 4, Autumn 2005, pp. 67-92.

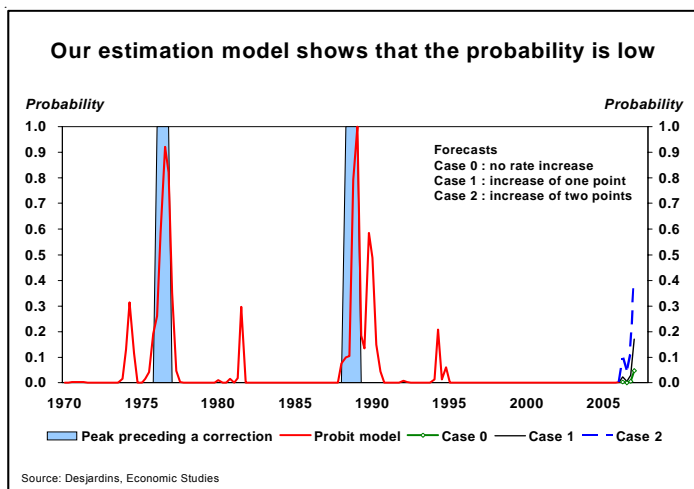
<sup>9</sup> Paul van den Noord, "Are House Prices Nearing a Peak? A Probit Analysis for 17 OECD Countries, Economics Department Working Papers, No. 488, OECD, June 1, 2006.

New Zealand, Spain and Sweden. Conversely, the situation in Canada remains sound, with less than a 10% probability of the worst-case scenario<sup>10</sup>.

However, it can be controversial to apply to an individual country independent variables that were obtained in a panel. One way to deal with this is to estimate a model that is specific to each country<sup>11</sup>. Using a reduced form of market fundamentals, based on real interest rates, disposable income and the gap between real house prices and their long-term trend, we calculated the probability that a correction in real prices would occur in the next four quarters (see Box 3 on page 11 for further details on the binary estimation method).

In spite of real house prices' strong upward deviation from their long-term trend, our estimates yield an almost zero probability (0.4%) of a correction by house prices in the quarters to come. This reflects the improvement by market fundamentals in recent years, particularly low interest rates and increased incomes. At stable interest rates, if we assume that house prices will continue to grow at the average pace seen in 2005 for another year, the likelihood of seeing a price correction at the start of 2007 goes up to 0.5%.

Our model is sensitive to interest rates, however. In the worst-case scenario, that is, with growth continuing at its current rate another year and an interest rate increase of one, then two percentage points, the probability of seeing a correction in the real price at the start of 2007 climbs to 17.0% and 40.0% respectively.



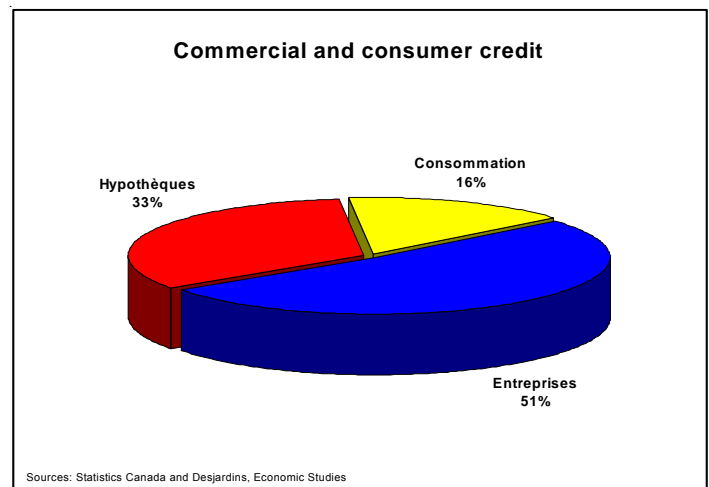
<sup>10</sup> Interest rate increase of two percentage points in one year.

<sup>11</sup> Given the considerable drop in the size of the sample, the results may not be as robust, but it is possible to get around the problem with better parameterization.

## The situation of households is not jeopardized

It is hard to predict accurately whether Canada's real estate market will continue its momentum or whether we are about to see a correction, but it is important to thoroughly grasp the issues underlying a potential drop in house prices. There are many concerns. An abrupt tumble by real house prices could have major repercussions for the entire economy, particularly via the importance of the real estate wealth effect, residential construction and the financial sector.

As a home is the most important asset owned by most households, the impact of a drop in real house prices could be substantial for the health of both households and of financial institutions. It should be said that about half of credit goes to households, with 68% of that amount oriented toward mortgage loans. In these circumstances, it is important to carefully evaluate the financial health of households, as their ability (and willingness) to pay could prove to be a determining factor in the stability of financial institutions.



The recent evolution of household debt is a source of fragility for the economy as a whole. At 119.5% of disposable income, households' mortgage and consumer debt is at a record high.

However, in spite of the increase in the debt load, low interest rates allowed consumers to keep debt service fairly low until the second quarter of 2004, at close to 7.5%. This situation deteriorated with the gradual rise in interest rates, and the size of debt service rose to 8.6% in the first quarter of 2006. At this level, however, debt service remains below the average of 9.7% seen since 1980, and close to four percentage points below the

### Box 3

#### Probability of a correction in real house prices according to a binary model

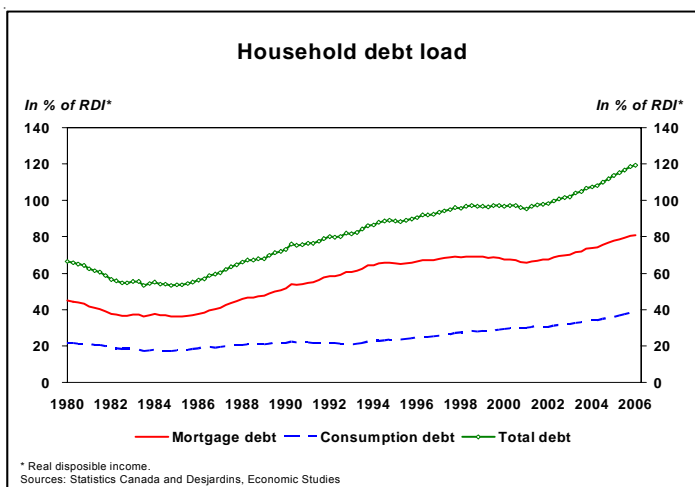
Given the real estate market's cyclicity, it is possible to detect the points of downturns in house prices when signs of overheating emerge. With a *Probit* model, we can calculate the probability that such an event will occur or not occur.

Using a reduced form of market fundamentals, we try to calculate the probability that the current period of rising prices will precede a correction period in the quarters to come. In the following equation:

$$Sommet_t = \alpha_0 + \alpha_1(\log PMR_t - \log TL_t) + \alpha_2 RMTG_t + \alpha_3 RPD_t$$

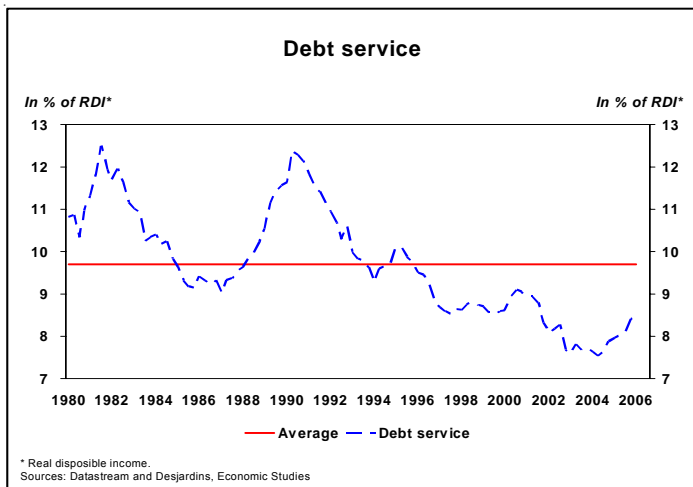
*Sommet* represents the probability that the last four quarters of increases in real house prices in Canada will precede a correction period or not, *PMR* is the real price of existing homes, *TL* is a linear trend in real house prices, *RMTG* is a conventional mortgage rate for a five-year term deflated by the consumer price index, and *RPD* is disposable personal income. The *Sommet* variable uses the value 1 if it precedes a correction period and the value 0 if it does not. Only expansion periods lasting more than eight quarters followed by an eight-quarter contraction period were considered.

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	23.82465	13.57585	1.754928	0.0793
LOG(RMLS)-LOG(TL1)	28.18806	9.514446	2.962659	0.0030
RMTG	0.704501	0.310279	2.270538	0.0232
LOG(RPD)	-2.574807	1.277803	-2.015027	0.0439
Mean dependent var	0.056738	S.D. dependent var		0.232165
S.E. of regression	0.160004	Akaike info criterion		0.217082
Sum squared resid	3.507368	Schwarz criterion		0.300735
Log likelihood	-11.30429	Hannan-Quinn criter.		0.251076
Restr. log likelihood	-30.72318	Avg. log likelihood		-0.080172
LR statistic (3 df)	38.83778	McFadden R-squared		0.632060
Probability(LR stat)	1.88E-08			



12.4% that coincided with the start to the slowdown in the 90s.

Overall, the situation of owners, in terms of their capacity to cope with their financial obligations, is under control, but fragile. A sizeable unexpected increase in mortgage rates could jeopardize the situation of households. Our economic and financial scenarios still call for short-term and long-term interest rates to crest as of the second half of 2006. What's more, close to 75% of the mortgage loans issued by various financial institutions in this country are for fixed five-year terms, which shields most homeowners from the risks associated with an interest rate increase.



## Conclusion

The base and adjusted measures paint a mixed picture of Canada's real estate market, but our analysis indicates that, overall, the evolution of house prices is in line with the improvement of fundamentals in recent years. Although the current situation seems healthier than the situation at the end of the 80s, history tells us to be careful. Deterioration by fundamentals, in particular an increase in interest rates, could trigger an abrupt correction by real house prices. This is not the case for now. The increase in incomes, low interest rates and the scarce supply of houses continue to favour appreciation by the housing market. Consequently, the risks of a drop in house prices remain very low for now, particularly since interest rates are expected to crest shortly and, possibly, decline slightly in 2007.

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