



# **Income Statistics Division**

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## **An Examination of Dwelling Valuation Methods for the 1999 Survey of Financial Security**

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February 1998



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# An Examination of Dwelling Valuation Methods for the 1999 Survey of Financial Security

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## Note of appreciation

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## 1. Introduction

The last Canadian survey capturing detailed information on asset and debt holdings of families and unattached individuals was conducted in 1984; it was entitled the Survey of Consumer Finances. Due to extensive changes in the economy and household indebtedness, there is a growing need to update the information collected more than a decade ago. The new Survey of Financial Security (SFS), to be conducted in 1999, will be the most comprehensive and detailed survey of Canadian household worth thus far undertaken. One of the main objectives of the SFS is to provide an accurate picture of the value and nature of assets held by Canadian households. This will enable analysis of asset holdings over the life cycle, household financial vulnerability, and future consumption capabilities.

The pioneer nature of the survey calls for research into problematic and complex areas. One such area is the valuation of owner-occupied dwellings, also referred to in this paper as the principal residence.<sup>1</sup> In the mid-eighties, equity in owner-occupied dwellings was the most important component of wealth for Canadian households. According to the 1984 Survey of Consumer Finances, principal residences accounted for 43% of a household's total assets and 68% of its total debts (Statistics Canada, 1984). Considering the relative importance of a household's dwelling, its valuation is of particular concern.

This report identifies and examines possible concepts, questions, and approaches used to value owner-occupied dwellings. The purpose of this report is to suggest the optimal method to elicit an objective value for a dwelling.

Whenever possible, assets in a wealth survey should be valued using the realization principle, that is, the amount that could be obtained if the assets were sold on the open market. Employing this principle to value many assets is relatively straight forward. For example, to value holdings of publicly traded equities based on the realization principle, all one would need to do is consult a daily newspaper and find the price at which the stock traded on a particular day. However, some assets, such as owner-occupied dwellings, cannot be as easily valued using this principle since there is no readily available liquid market for the asset.

The report begins with the premise that the survey will ask the respondent for the value of their principal residence. However, since this method only provides an estimate, the possibility of collecting additional information to confirm the respondent's estimate needs to be examined. The following valuation methods will be investigated: insured value, assessed value, dwelling characteristics, and purchase price and year of purchase.

The report briefly describes each method, indicates where the information can be obtained, discusses its

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advantages and disadvantages, and concludes whether or not it should be used for the Survey of Financial Security. The report also discusses methods for deriving the value of principal residences located on farms.

Grateful acknowledgement is tendered to the numerous individuals that contributed to the development of this report, especially Karen Maser. The co-operation of these individuals was of paramount importance, and was greatly appreciated.

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## 2. Respondent's Estimate

Most wealth surveys use the method of asking respondents for the value of their dwelling. The 1984 Survey of Consumer Finances simply asked, "*For how much would this property sell today?*" Respondents to the 1984 survey must have felt comfortable providing this estimate, since the housing section had the highest response rate (92%) of all the sections (Statistics Canada, 1984).

The respondent's reported value is an extremely useful method for a number of reasons. Firstly, it is easily attainable and past experience indicates respondents do not mind providing this information. Secondly, respondents have first-hand knowledge of their dwelling's value by observing selling prices of similar dwellings in the neighbourhood, and because they receive property assessments. Thirdly, most household surveys use this method, so the data are comparable.

A disadvantage of this method is that it is based on an estimation, a subjective opinion of the respondent. Respondents, on average, tend to over-estimate the value of their dwelling. Often it is believed people report their asking price when questioned about the market value of their dwelling, rather than the likely selling price. Two factors that cause respondents to over-estimate the value of their dwellings are: sentimental value and optimism. In some circumstances, this difference could mean tens of thousands of dollars, and thus, jeopardize the data's validity. This is especially true when it is a buyer's market (i.e., conditions favour the buyer) and dwelling prices drop, since people generally have difficulty in devaluing their assets.

Table 1 compares actual selling prices from the Multiple Listing Service (MLS) to estimated values reported in the 1991 Census by metropolitan area.<sup>2</sup> MLS data are produced by the Canadian Real Estate Association (CREA). Table 1 demonstrates that reported values are indeed inflated by an average of twelve percent in urban areas. The degree of over-estimation varies across metropolitan areas, ranging from a high of eighteen percent in Montreal to a low of seven percent in Vancouver.

	<b>1991 Census<sup>1</sup></b>	<b>1991 MLS<sup>2</sup></b>	<b>Difference</b>	<b>% Difference</b>
	<b>A</b>	<b>B</b>	<b>(C=A-B)</b>	<b>(D=C/A)</b>
St. John's	102,028	94,199	7,829	7.7%
Halifax	111,483	96,170	15,313	13.7%
Quebec	96,971	82,450	14,521	15.0%
Montreal	144,459	118,367	26,092	18.1%
Ottawa-Hull	160,552	143,381	17,171	10.7%
Toronto	280,390	240,463	39,927	14.2%
Hamilton	192,018	160,749	31,269	16.3%
Winnipeg	97,006	82,093	14,913	15.4%
Regina	82,256	72,846	9,410	11.4%
Saskatoon	85,844	73,412	12,432	14.5%
Calgary	146,017	130,674	15,343	10.5%
Edmonton	118,246	109,375	8,871	7.5%
Vancouver	244,539	226,596	17,943	7.3%
Victoria	187,149	168,070	19,079	10.2%
<b>Total</b>	<b>146,354</b>	<b>128,489</b>	<b>17,865</b>	<b>12.2%</b>

<sup>1</sup> Reported estimated market value

<sup>2</sup> Actual selling value

*Source: Occupied Private Dwellings (Catalogue 93-314) and Annual Statistical Survey, 1995, Canadian Real Estate Association.*

Table 2 compares data from the Census and the MLS by province. In contrast to Table 1, it shows that Census values are three percent lower than MLS values. Comparison of the two data sources by province is largely misleading because the Census samples one in five households and captures data equally from both rural and urban areas. MLS figures, on the other hand, are derived from actual sales and are biased towards urban areas, where the majority of sales activity takes place. Since prices commanded in urban areas are generally higher than those in rural areas, average MLS values tend to be larger than average Census values on a provincial basis.

However, on a dwelling-by-dwelling basis, which is more applicable to the SFS, over-estimation remains a problem.



	<b>1991 Census<sup>1</sup></b>	<b>1991 MLS<sup>2</sup></b>	<b>Difference</b>	<b>% Difference</b>
	<b>A</b>	<b>B</b>	<b>(C=A-B)</b>	<b>(D=C/A)</b>
Newfoundland	64,784	93,341	-28,557	-44.1%
Prince Edward Island	75,473	72,647	2,826	3.7%
Nova Scotia	79,405	85,289	-5,884	-7.4%
New Brunswick	69,419	83,310	-13,891	-20.0%
Quebec	105,148	103,934	1,214	1.2%
Ontario	197,967	174,101	23,866	12.1%
Manitoba	85,742	80,363	5,379	6.3%
Saskatchewan	68,542	68,972	-430	-0.6%
Alberta	114,548	112,586	1,962	1.7%
British Columbia	175,559	167,779	7,780	4.4%
Yukon	95,973	61,792	34,181	35.6%
<b>Canada</b>	<b>144,435</b>	<b>149,038</b>	<b>-4,603</b>	<b>-3.2%</b>

<sup>1</sup> Reported estimated market value

<sup>2</sup> Actual selling value

Source: *Occupied Private Dwellings (Catalogue 93-314) and Annual Statistical Survey, 1995, Canadian Real Estate Association.*

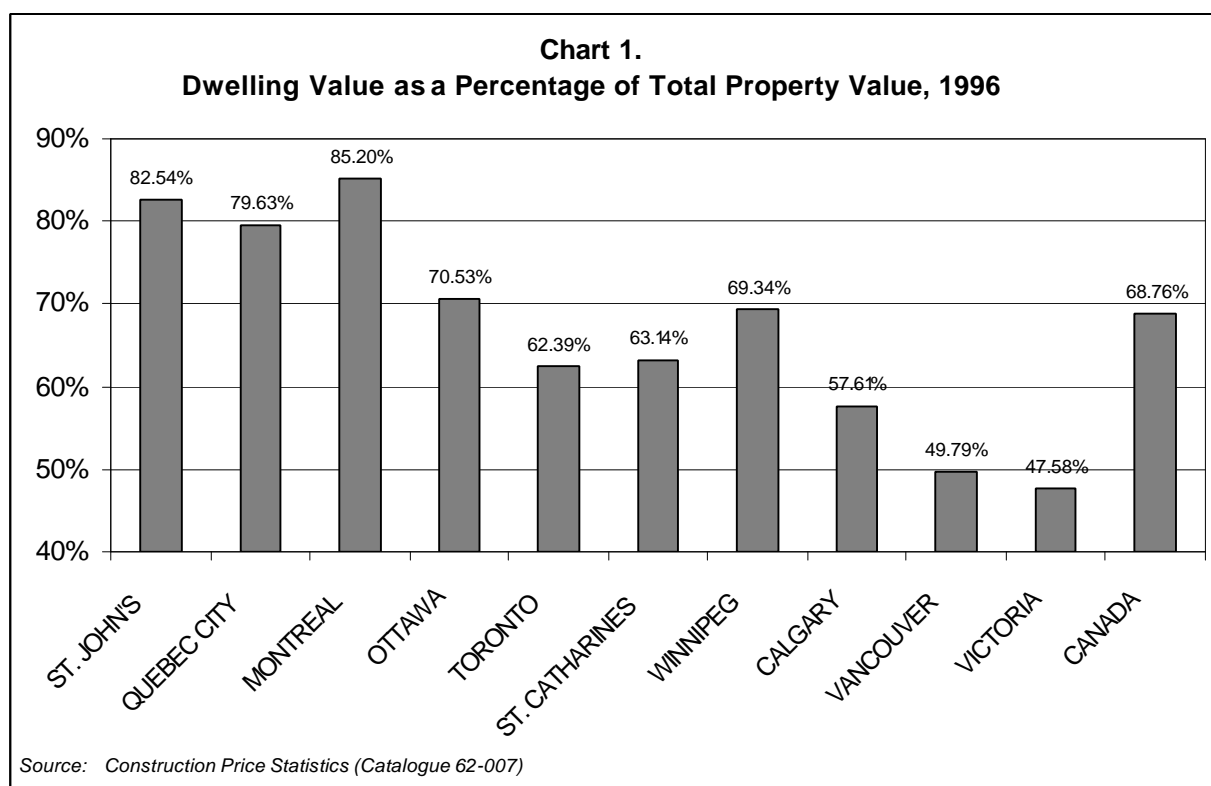
The respondent's reported value is a standard method used in most wealth surveys which has proven to be a fairly reliable measure of market value. The fact that it is based on an estimate is its major disadvantage. It is, therefore, important to determine whether the value reported by the respondent is an "outlier", that is, a value that is significantly different from what would be paid by most buyers in the market for similar properties. Four methods are evaluated to determine their potential utility in verifying the reasonableness of the respondent's reported value: insured value, assessed value, dwelling characteristics, and purchase price and year of purchase.

### 3. Various Methods to Value a Dwelling

#### I) Insured Value

In the majority of cases, a dwelling's insured value is the amount the insurance company believes it would cost to replace the dwelling. At first glance, it might appear that the insured value would be a good indicator of a property's true value and hence a good method to use. Insurance for dwellings, however, usually does not cover the land (and foundation). Therefore, the insured value of the dwelling is not the same as the market value of the entire property. For example, if a person purchases a dwelling for \$150,000, the insured value may be just \$120,000. The \$30,000 difference (\$150,000 price - \$120,000 insured value) can be attributed to the fact that the insured value does not include the value of land or foundation. In urban areas, like Toronto and Vancouver, there are properties whose land is worth more than the dwelling and simply using the insured amount would drastically under-estimate its market value.

Chart 1 illustrates the various land values as a percentage of total property value for selected Canadian cities in 1996. Dwelling values per property were the lowest in Victoria (48%) and the highest in Montreal (85%). On average, dwelling values were 68 % of total property value in Canada. As Chart 1 demonstrates, the insured value does not reflect the value of a property's land (and foundation), and therefore, is not appropriate for the SFS. As well, this value is based on the replacement cost, and not on the realization principle.



## II) Assessed Value

The assessed value is an estimate of a property's value for property taxes. Property taxes exist in about 130 countries but their importance varies.<sup>3</sup> In most countries, revenues from property taxes range from one to three percent of the total tax revenue.<sup>4</sup> In the United States, they constitute 9 percent and in Canada 12 percent. Property taxes provide approximately 40 percent of local government revenue in Canada (Hughes, 1992).

The importance of property tax in Canada has led to well developed property assessment systems which vary across the provinces and in some cases across municipalities. In fact, some countries are looking to provinces like British Columbia for guidance in developing their assessment systems. Each province has a professional appraisal staff and extensive databases that are updated regularly (Appendix 1 contains a list of provincial assessment offices). The type of assessment system and the base year of the assessment vary across the provinces (see Table 3).

As demonstrated in Table 3, provincial assessment systems use different revaluation cycles and base years. A revaluation cycle refers to the length of time between assessments in a given province. The base year is the year to which the assessment applies (i.e., not the year the assessment takes place) and it varies across the country. Six provinces, British Columbia, Alberta, Ontario, New Brunswick, Prince Edward Island, and Nova Scotia now conduct, or plan to conduct, annual revaluations. Three provinces have a revaluation cycle of three years and one province has a cycle of four years.

**Table 3.**

**Revaluation Cycle, Base Year and  
Structure of Assessment, by Province**

Newfoundland - three year revaluation cycle (1996 base year for 1998's assessment). Their system is based on market value assessment.

Nova Scotia - annual revaluation cycle (1996 base year for 1998's assessment). Their system is based on market value assessment.

Prince Edward Island - annual revaluation cycle (1998 base year for 1998's assessment). Their system is based on market value assessment.

New Brunswick - annual revaluation cycle (1998 base year for 1998's assessment). Their system is called "Real and True Value" and is equivalent to market value.

Quebec - three year revaluation cycle (1996 base year for 1998's assessment). Their system is called "Actual Value" and is equivalent to market value.

Ontario - is implementing a new assessment system; until 1998, its municipalities used various systems. All municipalities will be required to use the new system. This system will be based on current value (similar to market value) and have a base year of 1996. Home owners in Ontario are to receive their assessments between February and March of 1998.

Manitoba - four year revaluation cycle (1995 base year for 1998's assessment). Their system is based on market value assessment.

Saskatchewan - three year revaluation cycle (1994 base year for 1998's assessment). Their system is based on "Fair Value" which is equivalent to market value.

Alberta - annual revaluation cycle as of 1999 (1996 base year for 1998's assessment). Their system is based on market value assessment.

British Columbia - one year cycle (1997 base year for 1998's assessment). Their system is called "Actual Value" and is based on market value assessment.

Table 3 also indicates that all provinces use market value as the basis for property assessment. Furthermore, every province has or is moving towards annual revaluation cycles. The market value assessment process involves selecting properties that have sold recently and are most comparable to the dwelling being assessed. The assessment is done on the basis of judgement and knowledge of how individual buyers and sellers tend to price a dwelling's attributes in various neighborhoods. Statistical analysis of selling prices for similar properties in the reference year forms the basis of most market value assessments. Adjustments are made for dissimilarities (such as size of dwelling, lot, age, amenities) which the appraiser attempts to minimize.

The market value approach is based on the principle that buyers should be willing to pay the same price for properties with the same characteristics. The appraiser must be able to identify and defend the estimated increase or decrease in the price of a property. This may seem to be a difficult task; however, in many housing markets hundreds of properties are sold each week and the appraiser generally has access to these data (Brueggeman, 1993).

The assessed value could be used to determine whether the respondent's reported value was either too high or too low. For example, if a respondent claimed their dwelling was worth \$200,000, but it was assessed earlier in the year at \$140,000, the respondent's value may need to be adjusted. Identifying outliers would entail setting maximum permissible percentage differences between the reported estimated market value and the assessed value. A reported value fifteen percent above the assessed value may not be a concern, but a thirty percent difference should likely be flagged. Once flagged, a procedure to correct the difference would have to be defined. For example, half the difference between the two values could be either added to or subtracted from the respondent's estimate.

A key advantage of the assessed value method is its objectivity. Assessments are made by professional appraisers based on evidence. If an owner of a dwelling disagrees with the assessed value, or believes the dwelling was improperly classified, they can appeal it. Their appeal will be granted if they supply evidence to support their claim. The requirement for evidence-based decisions on the part of both parties leads to a high quality source of information.

Another advantage of this method is the availability of the information. Residents in many provinces receive a yearly statement. Therefore, most respondents should be able to either remember their assessed value or refer to a statement in their files. Of course, if it is necessary to refer to a statement, this will represent an

extra piece of paper many respondents would need for the interview, thereby adding to respondent burden.

The most significant drawback with this method was that not all provincial systems were based on market value assessment. In the past, Ontario's system presented the most difficulty because municipalities could have used a variety of systems. However, Ontario is currently involved in a complete re-structuring of their assessment system. When completed, the new system will be based on current value (very similar to market value) and the base year for assessments will be 1996 for 1998, 1999 and 2000 tax years. In 2004, assessments will be done annually. The new system will be implemented in 1998, and all municipalities were required to be a part of it.

Another drawback is that provinces have different base years for property assessment, some being several years out-of-date. This obviously impacts on the comparability of this information.

The assessed market value is still an extremely useful piece of information in determining the validity of a respondent's reported value. It is an objective measure from professional appraisers. With the re-design of Ontario's assessment system in early 1998, the problem of dissimilar systems across the country will be dramatically reduced. When all provinces adopt a system based on similar valuation approaches, a wealth survey like the SFS should ask for the assessed value.

### **III) Dwelling Characteristics**

One way to value a dwelling is to examine its associated characteristics. For the purposes of this report we will examine two characteristics used to value a dwelling, the first being the type of dwelling and the second square footage. Both of these characteristics are general enough to easily categorize and assess the value of most dwellings.

The type of dwelling<sup>5</sup> can be used to estimate the value of a property in a given geographical area. Census data are available for nine structural types and can be retrieved for as small an area as an enumeration area (EA). These data can be used to make comparisons based on average values, mean values or value groupings (e.g., under \$50,000; \$50,000 to \$74,999; etc.). Table 4 shows average values for Canada, Ontario, and Toronto. Figures from the 1996 Census will be released in 1998, thereby providing a more updated comparison. It is not always possible to obtain current information on dwelling types from the Census.

A shortcoming of this method is that it does not provide enough information to reliably estimate the value of a

particular dwelling. Although Census data can be produced for very small geographical areas, dwellings of a particular type are lumped together regardless of other factors such as condition or size of dwelling/property. It is therefore not recommended that dwelling type on its own be used as the means of validating or imputing the respondents' reported value.

Square footage is another dwelling characteristic that can be used to value a property.<sup>6</sup> The dollar amount per square foot could be used to estimate the cost of building a new dwelling in a given region (e.g., in Ottawa, a standard used to build a new house is \$100 per square foot). This method, however, would only be applicable to newer dwellings.<sup>7</sup> Moreover, the square footage method only provides the replacement cost and is therefore not appropriate for the SFS.

Estimations based on dwelling characteristics are generally flawed because, in order for this method to be useful, a number of characteristics would be required (e.g., type of dwelling, location, size, condition, number of bedrooms). This estimation approach would be demanding, complex, and costly. Another major drawback with this approach is obtaining up-to-date, specific data based on all required dwelling characteristics. Given these

	<b>Canada</b>	<b>Ontario</b>	<b>Toronto</b>
Single-detached house	146,275	202,051	307,938
Semi-detached house	153,906	189,140	224,871
Row house	141,114	165,115	196,864
Apartment or flat in a detached duplex	140,015	195,303	290,535
Apartment, five or more storeys	181,730	187,494	201,157
Apartment, less than five storeys	144,373	204,055	257,872
Other single-attached dwelling	150,083	227,725	294,810
Movable dwelling	37,098	49,967	93,407
<b>Total dwellings</b>	<b>144,435</b>	<b>197,967</b>	<b>280,390</b>

*Source: Occupied Private Dwellings (Catalogue 93-314).*

constraints, the dwelling characteristic method does not provide adequate information to make satisfactory comparisons with respondents' reported values, and therefore, is not recommended for the SFS.

#### IV) Purchase Price and Year of Purchase

The objective of the Survey of Financial Security is to establish a market value, usually meaning the most probable price that would be paid for a property under competitive market conditions. Another possible aid to confirm that price is to ask the respondent how much they paid for the property when they bought it. Unfortunately, that price is most useful if the respondent purchased the property close to the time of the survey.

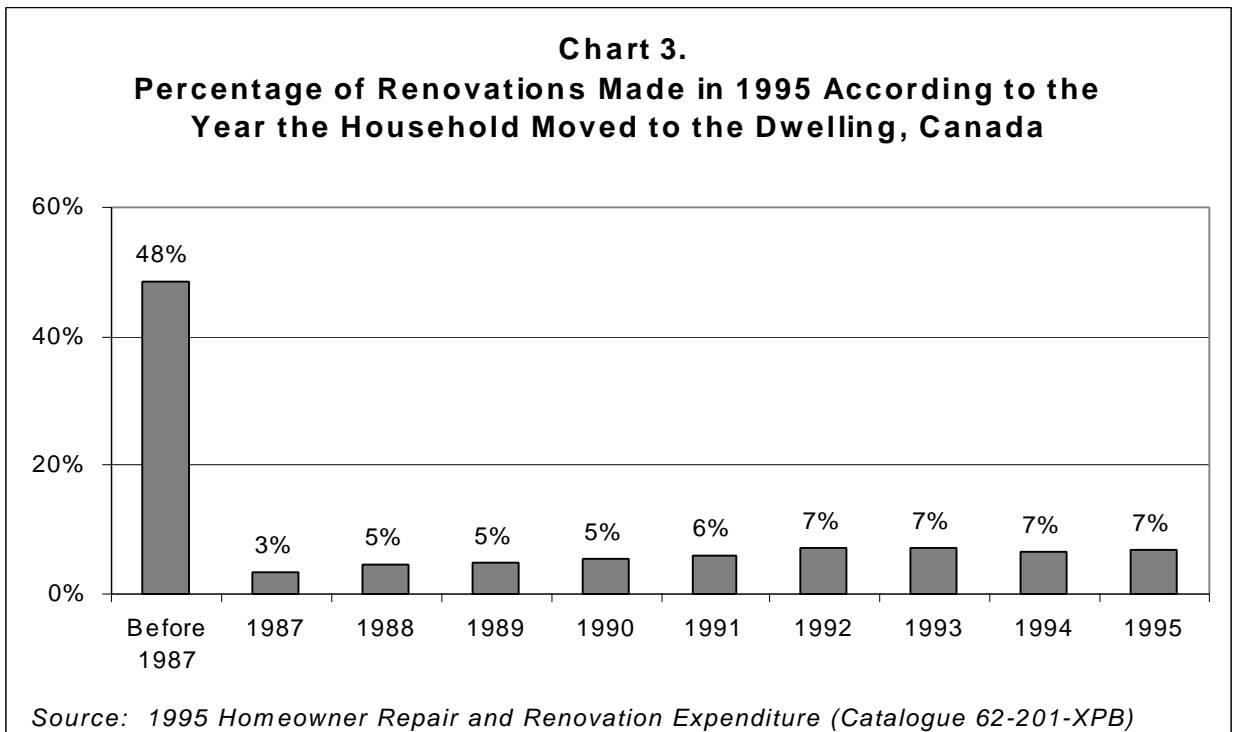
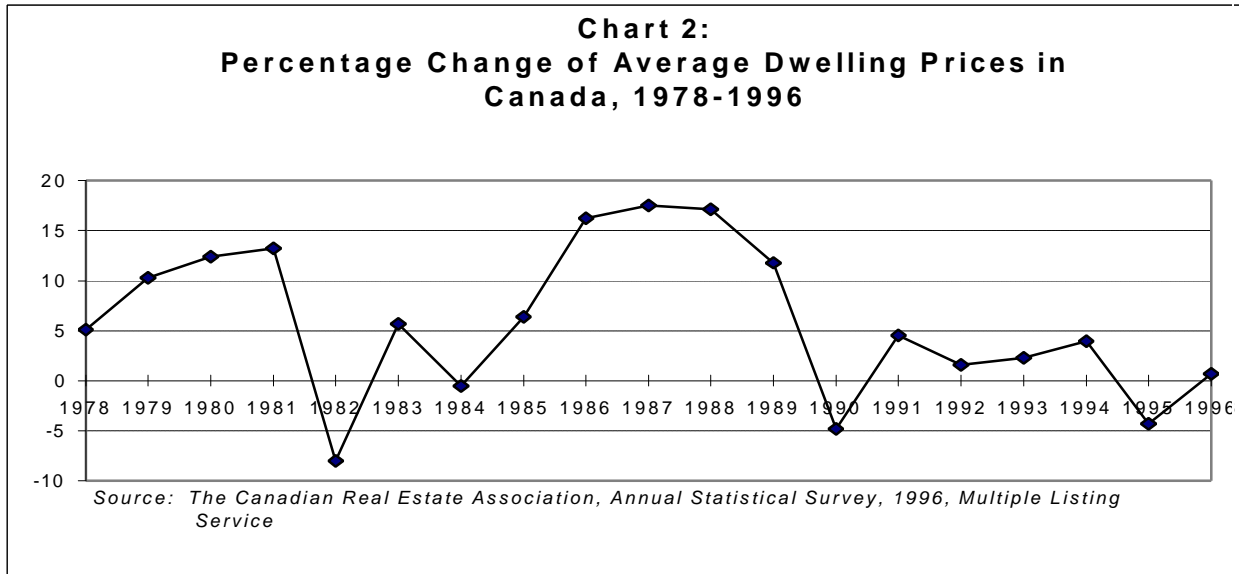
Statistics Canada's 1977 wealth survey went into more detail than the 1984 survey and asked:

*In what year was this property acquired?  
What was the purchase price?  
What is the present market value? (Statistics Canada, 1977)*

By asking for the purchase price and year of purchase, the 1977 survey was better able to assess the market value provided by the respondent. Prior to 1977, dwelling prices rose consistently, thus this method was effective because prices changed predictably. The approach, however, was dropped in 1984 because prices began to fluctuate significantly; dropping on average seven percent in 1982 and rising five percent in 1983 (see Chart 2). The purchase price method was therefore thought to be too complex for processing for the 1984 survey.

Two factors that cause recent purchase prices to be significantly different from a respondent's estimated value are price fluctuations and renovations. Chart 2 demonstrates that recent fluctuations in dwelling prices have been relatively small. Prices across Canada rose slightly between 1991 and 1994 (i.e., less than five percent each year), fell in 1995 and remained steady in 1996. Chart 3 shows that only a small percentage of households that reported doing renovations in 1995 had recently moved to their dwelling. The majority of renovations (48%) done in 1995 occurred in dwellings that were bought before 1987. Fourteen percent of renovations were done by households that had moved within the last two years. Moreover, homeowners spent on average \$1,660 on renovations in 1995, down 7.7% from 1994. This was far below the peak of 1989, when homeowners allocated \$2,197 on average to maintain and improve their homes (Statistics Canada, 1995). Therefore, one can assume, in most cases, that respondents who have recently moved (i.e., within the last couple of years) should report values close to their purchase price.





Evidence suggests a substantial number of households have moved in recent years. Results from the 1996 Family Expenditure Survey indicate that fifteen percent of households moved in the last two years. It also found that in the last five and ten years, 38% and 58% of households, respectively, moved. The significant amount of market activity in recent years means many purchase prices are more likely to reflect current market value.

As a general rule, it can be assumed that the respondent's estimated market value would be fairly close to the purchase price for recently-purchased properties (i.e., within the last five years). Of course, in some circumstances major renovations may have taken place that would result in significantly higher reported values. However, this should not occur often, given the evidence that only a small number of households who make renovations have moved recently.

The location of a dwelling must also be considered if using the purchase price as a method of evaluating the reported market value. Table 5 provides recent growth rates in dwelling prices by province. From 1995 to 1996, prices grew the most in the Yukon (19%) and the least in the Northwest Territories (-3%). This type of data would be useful in examining SFS's results on a provincial basis. However, to determine fluctuations in individual markets a more detailed comparison is needed.

	1996	1995	1994	1993	96/95	95/94	94/93	93/92
British Columbia	218,687	221,860	229,514	211,992	-1.4	-3.3	8.3	11.6
Alberta	117,673	114,772	117,336	117,085	2.5	-2.2	0.2	3.1
Saskatchewan	77,478	73,796	72,738	70,698	5.0	1.5	2.9	3.4
Manitoba	85,318	81,897	83,761	81,746	4.2	-2.2	2.5	1.3
Ontario	155,576	154,536	160,033	156,402	0.7	-3.4	2.3	-3.1
Quebec	98,923	98,837	102,242	102,447	0.1	-3.3	-0.2	0.1
New Brunswick	84,198	83,993	84,149	84,951	0.2	-0.2	-0.9	3.0
Nova Scotia	93,444	89,788	91,109	88,965	4.1	-1.4	2.4	1.5
Prince Edward Island	83,922	73,803	78,753	72,422	13.7	-6.3	8.7	-4.2
Newfoundland	93,661	89,525	91,698	91,243	4.6	-2.4	0.5	-0.4
Yukon	87,054	72,931	84,776	102,402	19.4	-14.0	-17.2	30.7
Northwest Territories	158,300	163,746	132,040	103,262	-3.3	24.0	27.9	n/a
<b>Canada</b>	<b>151,036</b>	<b>150,321</b>	<b>158,254</b>	<b>152,841</b>	<b>0.5</b>	<b>-5.0</b>	<b>3.5</b>	<b>2.2</b>

Source: The Canadian Real Estate Association, Annual Statistical Survey, 1996, Multiple Listing Service.

Table 6 provides recent price fluctuations for selected municipalities in Alberta (The Canadian Real Estate Association's Annual Statistical Survey provides MLS data for most Canadian cities). Using this type of detail, one could estimate the average price growth in a given area and incorporate it into the range that is used to identify outliers. The range should be adjusted based on that area's growth in prices. For example, a respondent's estimated market value may differ from the purchase price by thirty percent if it was bought five years ago, but it would be identified as an outliers if it was bought only two years ago.

	1996	1995	1994	1993	96/95	95/94	94/93	93/92
Brooks	91,267	81,316	88,099	65,765	12.2	-7.7	34.0	0.2
Calgary	134,643	132,114	133,571	133,998	1.9	-1.1	-0.3	3.5
Edmonton	109,042	110,329	112,927	111,823	-1.2	-2.3	1.0	2.0
Fort McMurray	82,808	76,615	103,636	97,207	8.1	-26.1	6.6	24.5
Grande Prairie	102,819	95,185	86,318	79,636	8.0	10.3	8.4	3.1
Lethbridge	89,676	87,901	88,360	85,141	2.0	-0.5	3.8	8.1
Lloydminster	87,559	75,682	75,960	82,605	15.7	-0.4	-8.0	9.8
Medicine Hat	96,035	94,468	91,429	81,584	1.7	3.3	12.1	6.9
North Eastern Alberta	83,467	84,123	82,200	83,767	-0.8	2.3	-1.9	3.8
Red Deer	96,079	92,820	92,379	87,859	3.5	0.5	5.1	6.6
West Central Alberta	99,171	88,632	83,253	77,670	11.9	6.5	7.2	6.6
<b>Alberta</b>	<b>117,673</b>	<b>114,772</b>	<b>117,336</b>	<b>117,085</b>	<b>2.5</b>	<b>-2.2</b>	<b>0.2</b>	<b>3.1</b>

Source: The Canadian Real Estate Association, Annual Statistical Survey, 1996, Multiple Listing Service.

Another major advantage of this method is that most respondents know when they bought their property and how much they paid for it. Respondent burden would be low. As well, it is objective. How much respondents paid for their dwelling is a record of the past, and therefore, is not subject to any interpretation. This approach should produce high quality data.

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The purchase price and year of purchase should act as a good benchmark to the respondent's reported value, especially for those respondents who have recently purchased their dwelling. This method is recommended for the SFS because a significant number of households have moved in recent years and prices have remained relatively stable. Furthermore, renovations do not appear to be a significant factor; according to survey results the majority of renovations occurred in dwellings that were bought prior to 1990 and only a hand-full of households that made renovations have moved recently. The method also produces highly reliable data and respondent burden is low. A further recommendation involves factoring price fluctuations in a given area and a dwelling's year of purchase into the range used to identify outliers.

#### 4. Deriving the Value of Principal Residences on Farms

This section discusses the optimal method to derive a value for principal residences located on farms. Deriving this value is often viewed as complex, since the entire farm is usually viewed as a single asset. In the majority of cases, the farmhouse and the farm are sold together. In terms of value, the average farm in Canada is worth approximately \$420,265.<sup>8</sup>

How many farms will be selected to participate in the SFS? According to the 1996 Census, there were 276,548 farms in Canada and 32,687 of them were incorporated (approximately 12% of all farms).<sup>9</sup> Based on the total number of households in Canada and the SFS's sample size, a farm household has about a 0.2% chance of being selected to participate in the survey. Since the SFS is based upon a random sample of all Canadian households, approximately 550 farm households will be chosen to participate in the survey.

Why identify the value of the principal residence separate from the rest of the farm? A major objective of the SFS is to separate personal assets from business assets. Recent Canadian surveys have not attempted to derive the value of the farmhouse separately from the rest of the farm. They simply ask for the current value of all the land and buildings. In 1958, a detailed Canadian survey separated the value of the principal residence from the farm. The survey found that the farmhouse was worth, on average, fifteen percent of the total value of the farm, but varied from a high of twenty-seven percent in Nova Scotia to a low of nine percent in Saskatchewan. Unfortunately, this survey has not been repeated in the last forty years because of the significant burden it placed on respondents. Furthermore, past experience indicates reported values for farms can be heavily inflated or deflated. Problems recently arose in Ontario for the Census:

In Ontario, it was determined, subsequent to the release of the Census data, that respondents had failed to account for the slump in land values which occurred in the first half of 1991 ... and values were adjusted based on information provided by real estate companies. (Statistics Canada, 1994)

Generally, the method used to estimate the value of a farm is different than that used to value a residential dwelling. In determining the market value of farm land, one should consider such factors as: sales, soil productivity, and location. Farm lands in close proximity to major centres or recreation areas often have higher market values than similar farm lands located in more remote areas. The potential for development of the land drives up its value. There is also a large variety of farm buildings, ranging from older wood frame structures to specialized buildings used in the dairy, hog and poultry industry. In some cases, buildings add little value to the farm and in other cases they are a major component.

Recent Canadian and American wealth surveys used similar valuation methods. In both cases, they asked for *the total value of the farm and the percentage occupied by the principal residence* to derive a value. The 1984 Survey of Consumer Finances questions were as follows;

*How much would the property sell for today?  
Is part of this property used for purposes other than your residence?  
Is part of this property:  
    Rented out?  
    Used for business (including farming)?  
    Other? specify  
What percentage of this property is occupied by your household as residence?*

The United States' 1992 Survey of Consumer Finances used a slightly different approach:

*About how many acres is this (farm/ranch)?  
What part of this property is used for the farming or ranching business?  
(either acres or percentage amounts)  
Could you tell me the current value of all the land and buildings - that is, what  
would it bring if it were sold today? Do not include farm animals or crops.  
(National Opinion Research Center, 1992)*

Both surveys asked a limited number of questions to derive a value for the principal residence, and despite some small differences, were quite similar. The United States survey asked for the portion used for farming purposes, while the Canadian survey asked for the portion used for household purposes. Another difference is that the United States survey asked for the number of acres.

There is no easy way to derive the value of a farm's principal residence. Given that it is important for this survey to be as consistent as possible with previous wealth surveys, it is recommended that the respondent be asked for the total value of the farm and the percentage of the farm occupied by their principal residence.

This report also recommends that respondents be given the option of estimating their farmhouse (and yard) separately from the rest of the farm. In providing the respondent with this option, the farm value data collected from the SFS could potentially be superior in quality to that of previous wealth surveys. After all, the only benchmark Statistics Canada currently has for the value of principal residences located on farms is forty years old. If the respondent provides this value, they will skip a number of questions required to derive that value.

For those respondents who cannot separate the value of their farmhouse from the farm, the SFS should follow the American approach by asking specific questions about the farm, for example, the total acreage of the farm, the total acreage of the farmhouse (and yard) and the approximate price per acre. This would provide analysts

with more information about the farm which can be used to make the necessary estimates. Farmland values are regularly reported for regions across Canada by the Farm Credit Corporation (see Table 7).

<b>Province</b>	<b>Jan. '92</b>	<b>Jan. '93</b>	<b>Jan. '94</b>	<b>Jan. '95</b>	<b>Jan. '96</b>
Prince Edward Island	789	833	1414	1696	1958
Nova Scotia	687	687	724	724	977
New Brunswick	965	978	978	1143	1357
Quebec	591	602	613	653	717
Ontario	1060	923	927	974	1058
Manitoba	405	414	413	441	453
Saskatchewan	243	233	240	264	294
Alberta	355	363	358	370	395
British Columbia	933	1099	1126	1272	1332

Source: Farm Credit Corporation (FCC), *Farm Values, Spring 1996*.

A further recommendation is to ask for the type of farm in order to evaluate the accuracy of the reported farm value. Statistics Canada's Farm Financial Survey regularly samples approximately 20,000 farms across Canada and collects the value of farm by farm type. These data can be used to determine whether reported farm values on a large scale are accurate. For example, the average market value of dairy farms in Quebec (derived from the Farm Financial Survey) can be compared against SFS's reported dairy farm values in Quebec.

The following questions are recommended to derive a value for a farm's principal residence:

1. *In 1997, from what farm type did you obtain 50 percent or more of your gross farm income? (A list of farm types is provided)*
2. *Can you estimate the value of the farmhouse (and yard) separately from the rest of the farm? (Yes or No, if No go to question 4)*
3. *How much would the farmhouse (and yard) sell for today? (Skip to next section)*
4. *How much would the entire farm sell for today?*
5. *On how many hectares (acres) is this farmhouse (and yard) situated?*
6. *How many hectares (acres) is this farm?*
7. *What is the approximate price per hectare (acre)?*

## 5. Conclusion

One of the main objectives of the 1999 Survey of Financial Security is to provide an accurate picture of the value and nature of assets held by Canadian households. A household's principal residence is a major component of wealth and the method used to estimate its value can significantly effect the overall results.

In order to generate a time series on wealth categories and compositions embracing three decades of change, the SFS should be as consistent as possible with former wealth surveys. This will enable analysis of broad changes and trends in the Canadian wealth distribution over a thirty year period. Therefore, the SFS should definitely use the respondent's estimated value, by asking; *"How much would this property sell for today?"*

This report examined four methods to determine the reasonableness of a respondent's estimated value: insured value, assessed value, dwelling characteristics, and purchase price and year of purchase. Each method was evaluated based on its ability to produce a value that was close to its market value, that is, the price expected under competitive market conditions. The conclusions are:

- a) The **insured value** of a property is not the same as its market value because it does not cover the land (or foundation). Therefore, this report does not recommend using the insured value for the SFS.
- b) The **assessed value** has the potential to be an extremely useful piece of information in determining the validity of a respondent's reported value. This method has many advantages. Assessments are made by professional appraisers and adjustments are based on evidence. Provincial assessment systems are based on market value, which produce estimates that closely resemble actual selling prices. A major obstacle with this method is that assessment systems across the provinces were not the same; however, this problem will be significantly reduced when Ontario re-designs its system in 1998. Another disadvantage is that many respondents may need to consult an extra piece of paper, thereby adding to response burden. This report recommends a wealth survey like the SFS should ask for the assessed value, after further research is done on the comparability of the different provincial assessment systems.
- c) **Dwelling characteristics** was the third valuation method examined. A major drawback with this method is that a number of different characteristics are required (e.g., type of dwelling, location, size, condition, number of bedrooms) and getting up-to-date data that make it possible to inter-relate these characteristics is difficult. For example, dwelling type information is reported by the Census on a five years basis and, on its own, does not provide enough information to make a valid comparison. Given these constraints, using this method would be complex and costly. This report does not recommend using a value derived from



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dwelling characteristics as a means of evaluating the respondent's reported market value.

- d) The **purchase price and year of purchase** are likely to produce an excellent benchmark to compare to the respondent's reported value, for recently purchased dwellings. Evidence indicates that a significant number (over one-third) of households have moved in recent years and that prices have been relatively stable. Moreover, survey results show respondents are not likely to make renovations in the first few years after moving, which could affect the dwelling's market value. This method is also likely to produce highly reliable data with low respondent burden. A disadvantage of this method is that close to two-thirds of households have not moved in the last five years, therefore purchase price would not be the best validator for these households. However, because this value reflects competitive market conditions at the time of purchase, this report recommends that the SFS use this method.

This report also recommends that the range used to identify outliers (i.e., allowable difference between the respondent's estimated value and the purchase price) should be based on the year of purchase. For example, if a property was bought five years ago, a larger difference (e.g., 35%) would be allowed than if the house was bought two years ago (e.g., 20%). Furthermore, various ranges should be used for different areas of the country, depending on that area's price fluctuations. This would provide a more accurate comparison between the purchase price and the respondent's estimated market value.

Significant advantages could be gained if the SFS used more than one valuation method (in particular, if it was feasible to use the assessed value). Data quality would be improved due to the fact that more information would be used to derive an unbiased value to compare to the respondent's reported value. In addition, by asking the respondent valuation questions prior to asking for their estimated market value, respondents would be forced to think about their dwelling's value in some objective terms (i.e., its purchase price and assessed value) before providing their estimate, hence, improving data quality. At this time, the report recommends the use of one verification method (the purchase price and year of purchase). The assessed value has the potential to become an extremely useful method. Therefore, it is recommended that the re-structuring of provincial assessment systems be closely monitored.

With respect to farms, this report recommends providing the respondent with the option of estimating the value of their farmhouse (and yard) separately from the rest of the farm. Thus, data on farm dwellings from the SFS has the potential to be far superior to that of previous wealth surveys because previous surveys have not asked for the value of the farmhouse (and yard) separately. Furthermore, Statistics Canada's benchmark for the value of principal residences located on farms is forty years old (1958). If the respondent cannot provide a separate

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value for their farmhouse (and yard), the survey should ask the respondent for the total value of their farm and the percentage of the farm occupied by their principal residence. This report also recommends additional verification questions about the total acreage of the farm, the total acreage of the farmhouse (and yard), the price per acre, and the type of farm.

This report has examined possible concepts and questions used to value a principal residence. Its recommendations are based on practical approaches and statistical analysis. There is a growing need to update and maintain accurate wealth data. Future research should continue to examine the assessed value for property taxes as a viable valuation option. Given that principal residences constitute the largest asset of most households, the quality of overall wealth estimates can be enhanced by paying particular attention to the valuation of this asset.

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**Notes:**

- 1 A dwelling is a structurally separate set of living premises with a private entrance from outside the building or from a common hall or stairway.
- 2 Census data are derived by asking the respondent for the estimated market value of their dwelling. The 1991 Census used the following question to derive a dwelling's value, "*If you were to sell this dwelling now, for how much would you expect to sell it?*" The MLS uses sales data from the operations of 112 of Canada's 117 local real estate boards and associations, and is a source of a national, non-partisan resale housing market analysis. The residential MLS accounted for over 321,679 sales during 1996, worth more than \$48 billion.
- 3 A property tax is a progressive tax on wealth. That is, people with greater wealth or greater ability to pay, contribute more tax.
- 4 These differences reflect the relative size of countries and structure of government.
- 5 Appendix 2 provides a definition for each structural type of dwelling. Institutions, hotels, large lodging houses and camps are not considered dwellings.
- 6 Square footage for a dwelling refers to the amount of floor space that is finished (i.e., it does not include a garage or unfinished basement).
- 7 According to the 1991 Census, more than half of the dwellings in Canada were built before 1970.
- 8 In 1996, there were a total of 276,548 farms worth \$116,223,711,975 (Statistics Canada, 1996c). Approximately 3.2% of Canada's population reside in a farm operator's household. Census defines a farm as any operation that produces a commodity intended for sale, a commodity being: crops, animal products, livestock, poultry, and other agricultural products.
- 9 The number of incorporated farms for tax purposes are substantially lower (approximately 21,000). In order to be classified as a farm for tax purposes, at least 51 percent of its total income must be from a farm product.

**Appendix 1:  
List of Provincial Assessment Offices**

Director of Assessment  
Municipal & Provincial Affairs  
Government of Newfoundland and Labrador  
(709) 729-3675

Executive Director, Assessment  
Geographic Information Corporation  
Government of New Brunswick  
(506) 444-2897

Executive Director, Assessment Services  
Department of Housing & Municipal Affairs  
Government of Nova Scotia  
(920) 424-5671

Chief Executive Officer  
Sask. Assessment Management  
Government of Saskatchewan  
(306) 924-8004

Directeur General  
Direction Des Politiques Et De La Fiscalite  
Ministere Des Affaires Municipales  
Government of Quebec  
(418) 691-2043

Assessment Standards & Equalization  
Local Government Services Division  
Alberta Municipal Affairs  
Government of Alberta  
(403) 422-1377

Property Assessment Division  
Ministry of Revenue  
Government of Ontario  
(905) 433-5772

Assessment Commissioner & Chief  
Executive Officer, BC Assessment  
Government of British Columbia  
(250) 595-6211

Provincial Municipal Assessor  
Department of Rural Developments  
Government of Manitoba  
(204) 945-2605

Director of Assessment  
Municipal and Community Affairs  
Government of Northwest Territories  
(403) 873-7586

Provincial Tax Commissioner  
Department of Provincial Treasury  
Government of Prince Edward Island  
(902) 368-4075

Manager & Chief Assessor  
Government of Yukon Territory  
(403) 667-5234

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## **Appendix 2: Dwelling Types**

The following is a description of each type of dwelling:

**Single-detached house** – A single dwelling not attached to any other dwelling or structure (except its own garage or shed). A single-detached house has open space on all sides, and has no dwellings either above or below it.

**Semi-detached house** – One of two dwellings attached side by side (or back to front) to each other, but not to any other dwelling or structure (except its own garage or shed). A semi-detached dwelling has no dwellings either above it or below it and the two units together have open space on all sides.

**Row house** – One of three or more dwellings joined side by side (or occasionally side to back), such as a town house or garden home, but not having any other dwellings either above or below.

**Apartment or flat in a detached duplex** – One of two dwellings, located one above the other, but not attached to any other dwelling or structure (except its own garage or shed). The two units together have no other dwellings attached to the back, front or sides, and have open space on all sides.

**Apartment in a building that has five or more storeys** – A dwelling unit in a high-rise building which has five or more storeys.

**Apartment in a building that has fewer than five storeys** – A dwelling unit attached to other dwelling units, commercial units, or other non-residential space in a building that has less than five storeys.

**Other single-attached house** – A single dwelling that is attached to another building and that does not fall into any of the other categories. Examples are a single dwelling attached to a non-residential structure (e.g., store or church) or occasionally to another residential structure (e.g., apartment building).

**Mobile home** – A single dwelling, designed and constructed to be transported on its own chassis, and capable of being moved on short notice. It may be placed on a temporary foundation such as blocks, posts or a prepared pad.

**Other movable dwelling** – A single dwelling, other than a mobile home, used as a place of residence, but capable of being moved on short notice, such as a tent, recreational vehicle, travel trailer or houseboat.

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