

Source

"Is it Better to Buy or Rent?". The New York Times. 4 April 2010.
<<http://www.nytimes.com/interactive/business/buy-rent-calculator.html>>

Audience and Purpose

With the recent economic downturn and falling housing prices more so than ever have people had to consider the dilemma of renting or buying their residency. In a recent article, *Gallup* found American's feel now is a good time to buy due to low interest rates in accordance with stumbling housing prices. But even with these two factors encouraging home buying, buyers are found strapped for cash due to the recession which hit the United States then compounded with the uncertainty of when the economy will turn around hamper individual's will to commit large sums of money to a mortgage. Even with the recent uptick in the economy home builders are still pessimistic that about the increase in immediate housing sales (*The Wall Street Journal*.)

In an attempt to help solve the issue of rent vs. buying the New York Times introduced an interactive, Flash graph where both potential and current homeowners along with renters can receive an approximation of what may be best for them. By allowing users to provide their own: rent, home price, down payment percentage, mortgage rate and annual property taxes among other less common variables this graph can cater directly to the user.

Analysis

Users are given a basic area graph with each axis arranged numerically. Along the Y-Axis the positive numbers represent home owner savings while the negative numbers represent rent savings. The graph measures total savings, by totaling the cost of rent and the cost of home owning over N years then taking the difference thus eliminating the need for a compounded layer graph which may make the results difficult to read.

By allowing the user to control all the variables means the graph can never be truly out of date. This is also supported by the X-axis which is label as "years from now" opposed to static years: like 2009, 2010, etc. The animations provide a unique feel allowing the user to feel as if something is being accomplished. As the user hovers over a year on the X-Axis the graph displays: how many years after now, the average annual savings and if renting or buying would be more suitable. If the user clicks along the X-axis they can obtain more detailed information for the specific year from now for both buying and renting. The application features many moving parts which change as the user updates variables including the graph itself as well as the year-by-year analysis which includes: if renting or buying is better, the total saving over N years, as well as the average saving per year.

To address user limitations as well as limit the complexity (Kosslyn 19) the graph only introduces the perceived most common variables: rent, home price, down payment percentage, mortgage rate and annual property taxes, more uncommon variables like condo fees are located under the "Advanced Settings" button. The graph also includes definitions of specific terms which may be unknown to the user allowing the user to simply read opposed to being forced to recall what certain terms alleviating some potential errors or miscalculations that may have occurred by submitting incorrect numbers in the incorrect area.

Graph Choice

The New York Times chose an area graph which allows for shading between the median line to end of

the arch allowing the user to easily follow the trend of both owning and renting. Also, while the graph intends to show comparison between if renter or owning is better, a direct comparison of each cost is not needed because the graph uses the difference between the renting and owning total cost. One issue with this graph is in order to show the rent savings, the graph creates a negative curve even though the curve stands for a positive number, money saved undermining conventional thinking (Kosslyn 16).

X-Axis

The designer follows conventional thinking with the numbers starting out small on the left then increasing as the X-Axis move right with each year evenly spaced indicated each year is weighted the same (Kosslyn 16).

Y-Axis

The axis exhibits conventional thinking with the median line representing 0 with the numbers above the line being positive while the numbers below are negative (Kosslyn 16). Naturally, this wouldn't be much of an issue but the top numbers represent home owners savings, while the bottom numbers represent renters savings both positive numbers. The negative numbers associated with the renters saving may be confusing to some users due to negative dollars are conventionally associated with a loss of money (Kosslyn 16). Though unconventional, renumbering the bottom as positive may lead to less potential user confusion. The use of the under-median as a positive number requires users to rethink their natural thought process of more is more (Kosslyn 15). When looking at the renters curve the furthest point below the median is the most savings as a renter not the most loss which may be initially assumed.

Color

The color choices seem arbitrary but are unique enough to differentiate between the two. Both provide good contrast to the background as well as from each other making them easy to recognize them as different.

Legend

Located appropriately at the top of the page following normal conventions (Kosslyn 16) along with the correct associated colors.

Sliders

Located at the top of the graph are two sliders which control annual home price change and annual rent increase or decrease. Each label uses a different phrase even though the only change is in the type of ownership. For continuity, they should be labeled in the same fashion, for example: annual home price increase or decrease and annual rent increase or decrease. The wording itself isn't the issue but just the lack of the same wording. Outside of the labeling, the sliders provide a different experience for users not requiring or allowing a percentage to be input via the keyboard which may be an issue to some, but the fluidity of the slider allows the user to easily find the exact percentage without much hassle.

Animation

On changes to any potential variables the graph adapts to the new calculations moving up if buying is better or down if renting is better. The real-time adaptation gives a unique feel while crunching numbers and is a suitable addition that does not hamper the graph in any manner.

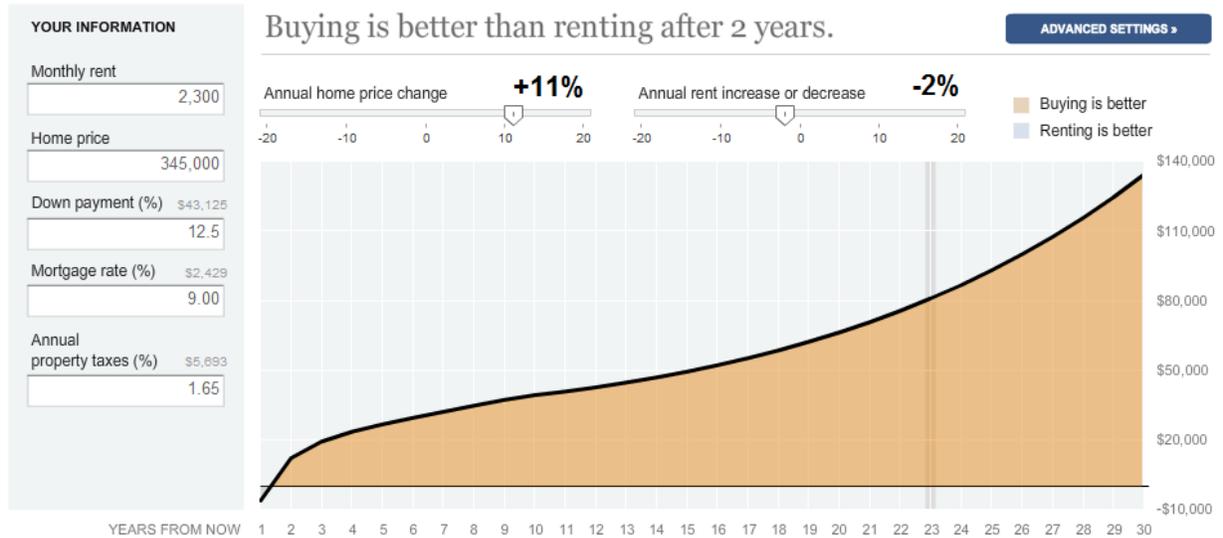
Conclusion

The graph is both sophisticated and easy to use without many flaws. Overall the entire application is well designed exhibiting a good use of grouping using both a color mechanism as well as lines to create boxes to show information belongs in the same group (Kosslyn 11-12). These areas also showed good continuity informing the user they are alike. Also displayed was a good use of contrast by bolding headings as well as important information like the numbers displayed in the “year-by-year” analysis located on the left side of the graph. Any information that was related was in good proximity of each other while also providing good spacing to display what is different. The real-time changes made to calculated information is a fantastic addition as updated information is provided to the user without the need of an additional action. For as complex the graph is the limited issues are impressive.

Screen 1: Data entered to support housing is better overall both short-term and long-term. 23 years after now is shown in the analysis below the graph.

Is It Better to Buy or Rent?

Whether renting is better than buying depends on many factors, particularly how fast prices and rents rise and how long you stay in your home. Compare the costs of buying and renting a home in the calculator below. Click the **ADVANCED SETTINGS** button to change inputs such as your rate of return on investments, condo/common fees and your tax bracket.



YEAR-BY-YEAR ANALYSIS

Year 23

If you stay in your home for 23 years, **buying** is better. It will cost you **\$1,860,035** less than renting, an average savings of **\$80,871** each year.

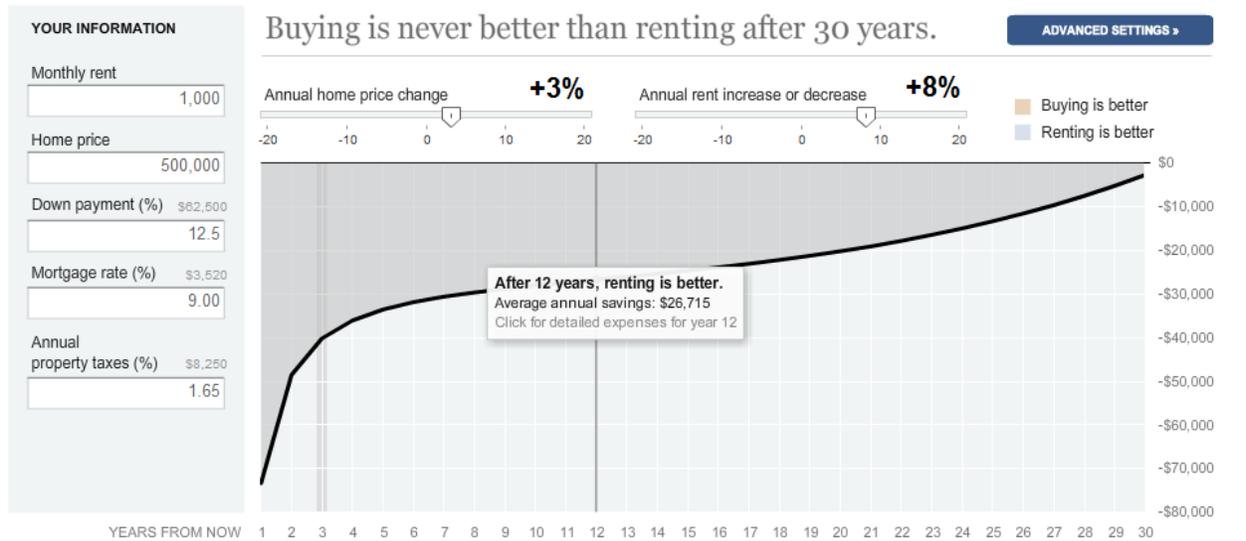
*Property taxes, the interest part of the mortgage payment, and in some cases, a portion of the common charges, are tax deductible. The resulting tax savings is accounted for in each item's totals.

	Spent in year 23	Cumulative spent from years 1 to 23		Spent in year 23	Cumulative spent from years 1 to 23
Buying			Renting		
PURCHASE COSTS			INITIAL RENTING COSTS		
Down payment		43,125	Rent deposit		2,300
Closing costs		13,800	Broker's fee		0
YEARLY COSTS			YEARLY COSTS		
Mortgage payment*	26,283	566,494	Rent	17,696	512,881
Principal	14,827	150,906	Renter's insurance	234	6,770
Interest*	11,456	415,588			
Condo/common fees*	0	0			
Property taxes*	50,214	460,747			
Utilities	1,855	34,614			
Renovations	2,960	55,231			
Maintenance	2,960	55,231			
Homeowner's insurance	17,499	160,563			
LOST OPPORTUNITY COSTS			LOST OPPORTUNITY COSTS		
Down payment/initial costs	4,039	65,897	Rent deposit/initial costs	163	2,662
Yearly costs	57,069	504,445	Yearly costs	25,451	272,288
SELLING COSTS			LEAVING YOUR RENTAL		
Closing costs		228,244	Return of rent deposit		-2,300
Remaining principal		150,969			
Tax (if any) on profit		399,268			
Proceeds from home sale		-3,804,062			
YEAR 23 TOTALS	\$162,878	\$-1,065,434		\$43,544	\$794,602

Screen 2: Data entered to support renting is better both short-term and long-term. 12 on the X-Axis is hovered over to show average annual savings. 12 years after is shown in the analysis below the graph.

Is It Better to Buy or Rent?

Whether renting is better than buying depends on many factors, particularly how fast prices and rents rise and how long you stay in your home. Compare the costs of buying and renting a home in the calculator below. Click the **ADVANCED SETTINGS** button to change inputs such as your rate of return on investments, condo/common fees and your tax bracket.



YEAR-BY-YEAR ANALYSIS

Year 3

If you stay in your home for 3 years, **renting** is better. It will cost you **\$120,706** less than buying, an average savings of **\$40,235** each year.

*Property taxes, the interest part of the mortgage payment, and in some cases, a portion of the common charges, are tax deductible. The resulting tax savings is accounted for in each item's totals.

	Spent in year 3	Cumulative spent from years 1 to 3		Spent in year 3	Cumulative spent from years 1 to 3
Buying			Renting		
PURCHASE COSTS			INITIAL RENTING COSTS		
Down payment		62,500	Rent deposit		1,000
Closing costs		20,000	Broker's fee		0
YEARLY COSTS			YEARLY COSTS		
Mortgage payment*	34,509	103,349	Rent	13,997	38,957
Principal	3,576	9,834	Renter's insurance	185	514
Interest*	30,933	93,515			
Condo/common fees*	0	0			
Property taxes*	7,212	21,012			
Utilities	1,248	3,672			
Renovations	2,679	7,881			
Maintenance	2,679	7,881			
Homeowner's insurance	2,513	7,322			
LOST OPPORTUNITY COSTS			LOST OPPORTUNITY COSTS		
Down payment/initial costs	2,999	8,704	Rent deposit/initial costs	36	106
Yearly costs	3,467	5,164	Yearly costs	874	1,287
SELLING COSTS			LEAVING YOUR RENTAL		
Closing costs		32,782	Return of rent deposit		-1,000
Remaining principal		427,666			
Tax (if any) on profit		0			
Proceeds from home sale		-546,364			
YEAR 3 TOTALS	\$57,307	\$161,569		\$15,092	\$40,864

Screen 3: Advanced Settings button clicked to show advanced input options, if a user has additional data to be input

UPDATED April 21, 2010

Is It Better to Buy or Rent?

Whether renting is better than buying depends on many factors, particularly how fast prices and rents rise and how long you stay in your home. Compare the costs of buying and renting a home in the calculator below. Click the **ADVANCED SETTINGS** button to change inputs such as your rate of return on investments, condo/common fees and your tax bracket.

YOUR INFORMATION

Monthly rent

Home price

Down payment (%) \$82,500

Mortgage rate (%) \$3,520

Annual property taxes (%) \$8,250

Advanced Settings HIDE PANEL X

Buying +3% Annual increase +16%

Condo fee/common charge The monthly condo, association or other community-living fees. In New York, this is often known as maintenance.

Deductibility of common charges Percentage of monthly owner's fees that is tax deductible.

Costs of buying home Closing costs when the home is purchased, as a percentage of home price.

Costs of selling home Closing costs when the home is sold, as a percentage of home price.

Length of mortgage Length of fixed-rate loan, in years.

Annual renovation costs Percentage of purchase price, subsequently rising with inflation.

Annual maintenance costs Percentage of purchase price, subsequently rising with inflation.

Homeowner's insurance rate Percentage of the home's value.

Capital gains exclusion Capital gains from sale of home that are excluded from taxation: \$500,000 for couples and \$250,000 for singles.

Additional monthly utilities Portion of utilities, in dollars, that landlord would cover in rental of equivalent home.

YEAR-BY-YEAR ANALYSIS

Year 23

If you stay in your home for 23 years, **buying** is better.

It will cost you **\$1,362,150** less than renting, an average savings of **\$59,224** each year.

*Property taxes, the interest part of the mortgage payment, and in some cases, a portion of the common charges, are tax deductible. The resulting tax savings is accounted for in each item's totals.

	Spent in year 23	Cumulative spent from years 1 to 23		Spent in year 23	Cumulative spent from years 1 to 23
Buying			Renting		
PURCHASE COSTS			INITIAL RENTING COSTS		
Down payment		62,500	Rent deposit		1,000
Closing costs		20,000	Broker's fee		0
YEARLY COSTS			YEARLY COSTS		
Mortgage payment*	38,092	821,006	Rent	314,237	2,203,217
Principal	21,489	218,704	Renter's insurance	4,148	29,082
Interest*	16,603	602,302			
Condo/common fees*	0	0			
Property taxes*	13,026	220,615			
Utilities	1,855	34,614			
Renovations	3,981	74,276			
Maintenance	3,981	74,276			
Homeowner's insurance	4,539	76,881			
LOST OPPORTUNITY COSTS			LOST OPPORTUNITY COSTS		
Down payment/initial costs	5,853	95,503	Rent deposit/initial costs	71	1,158
Yearly costs	60,085	591,090	Yearly costs	79,067	490,663
SELLING COSTS			LEAVING YOUR RENTAL		
Closing costs		59,208	Return of rent deposit		-1,000
Remaining principal		218,796			
Tax (if any) on profit		0			
Proceeds from home sale		-986,793			
YEAR 23 TOTALS	\$131,412	\$1,361,970		\$397,523	\$2,724,120

Screen 4: Displays definition terms that always appear below the additional data.

Methodology

The calculator keeps a running tally of the most common expenses of owning and renting. It also takes into account something known as lost opportunity costs — for example, the return you could have earned by investing your money instead of spending it on a down payment. The calculator assumes that the profit you would have made in your investments would be taxed as long-term capital gains and adjusts the bottom line accordingly. The calculator tabulates lost opportunity costs for all parts of the buying and renting scenarios.

Buying

Purchase costs are the costs you incur when you go to the closing for the home you are purchasing. This includes the down payment and typical closing costs.

Yearly costs are recurring monthly or yearly expenses. These include mortgage payments, condo fees (or other community living fees), renovation costs, maintenance costs, property taxes and homeowner's insurance. Property taxes, the interest part of the mortgage payment, and in some cases, a portion of the common charges, are tax deductible. The resulting tax savings is accounted for in each item's totals. The mortgage payment amount increases each year for the term of the loan because the tax credit shrinks each year as the interest portion of the payments becomes smaller.

Lost opportunity costs are tracked for the initial purchase costs and for the yearly costs. The former will give you an idea of how much you could have made if you had invested the down payment instead of buying your home.

Selling costs are the costs you incur when you go to the closing for the home you are selling. This includes the broker's commission and other fees, as well as the remaining principal balance that you pay to your mortgage bank. "Proceeds from home sale" is the money that you receive from the person who is buying your home. This amount is equal to the value of the home that year and is shown as a negative number since it is not something that you spend money on, but rather, it is money you receive.

If your cumulative buying total is negative, it actually means you have done very well: you made enough of a profit that it not only covered the cost of your home, but also all of your yearly operating expenses.

Renting

Initial costs are the rent security deposit and, if applicable, the broker's fee.

Yearly costs are the monthly rent and the cost of renter's insurance.

Lost opportunity costs are calculated each year for both your initial costs and your yearly costs.

Leaving your rental is equal to the rent security deposit, typically returned to a renter at the end of a lease.

Works Cited

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