THE STATE OF HOUSING

IS THERE A HOUSING PRICE BUBBLE IN HAMPTON ROADS?

In 1996, Alan Greenspan, chairman of the Federal Reserve System Board of Governors, began to warn that some stock prices reflected "irrational exuberance." His warnings appeared prophetic when stock prices declined sharply in spring 2001. Now, in 2005, are we experiencing a similar phenomenon with respect to housing prices? Certainly the national media appear to be encouraging the belief that housing prices have inflated beyond economically justifiable levels and could be headed for a crash.

Hundreds of articles recently have been written on this topic, and The New York Times announced in a front page story (May 25, 2005), that "Steep rise in prices adds to worry about a bubble." A few days later (May 28, 2005), the front page of The Times' business section carried the headline, "Is your house overvalued?" The story noted that the ratio of housing prices to rental rates in many coastal cities had almost tripled between 2000 and 2005. This was taken as evidence that housing prices in some markets had become unhinged from economic fundamentals.

In fact, housing prices nationally increased 15 percent between 2004 and 2005, and many economists have concluded that we may be in the midst of a housing price bubble, though they typically add that this bubble seems to be localized in certain areas of the country such as Boston, Miami and San Diego, where prices rose an amazing 20.5 percent per year between 2000 and 2005 (New York Times, May 28, 2005).

Where does the housing bubble begin and end? Do we have a housing price bubble in Hampton Roads that may burst in the near future? We address those questions here. As we will soon see, we may have a small housing price bubble, but it is not large in size by historical standards. The upsurge in home ownership and in housing prices within the region still substantially reflects economic fundamentals such as lower borrowing costs and increased disposable income.

Relative to such economic fundamentals, then, housing prices in Hampton Roads are not far out of line. Of course, these fundamentals can change rapidly. Interest rates could rise, or the Department of Defense (which has been responsible for three-quarters of all regional growth since 2000) could reduce its expenditures in the region. Either of these developments would diminish or halt housing price momentum and perhaps require a downward adjustment in housing prices, something that has not happened in Hampton Roads for at least 30 years.

Let's examine our situation in greater detail.

The Housing Market in Hampton Roads

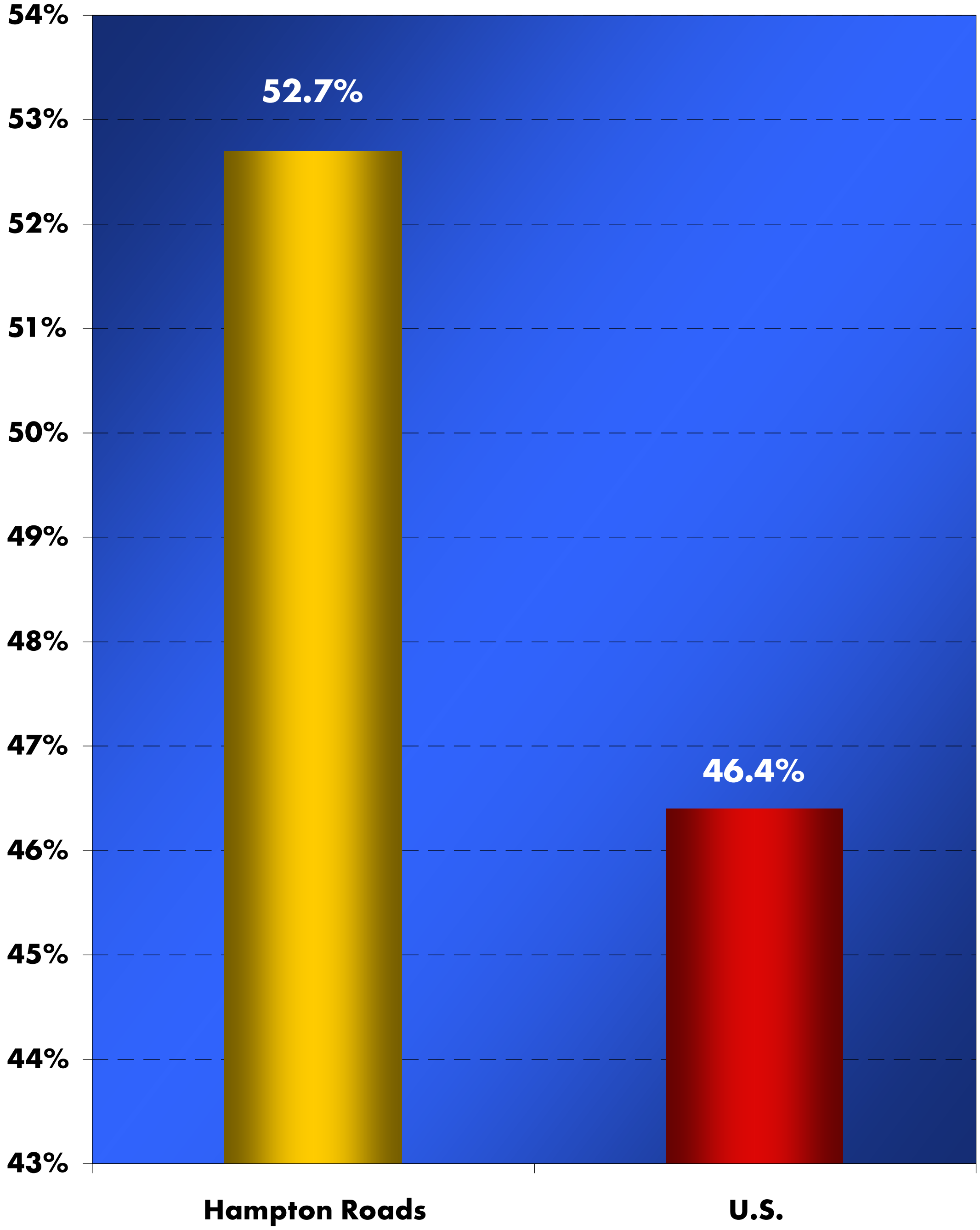
Housing prices have risen sharply in Hampton Roads in recent years. Even after adjusting for inflation, housing prices have increased approximately 40 percent in the past decade. Most of this "real," greater-than-inflation price increase has occurred since 2000. This has led many to conclude that speculation may be fueling the Hampton Roads housing market and that the market is exhibiting "bubble-like" behavior. The fear is that this price bubble will burst because it is not based upon economic reality and therefore we will shortly experience painful reductions in house prices. This, in turn, could lead to widespread economic distress, including dramatically reduced home building and increased bankruptcies throughout the region.

How much have our housing prices grown and how does Hampton Roads compare to other Virginia metropolitan areas and the nation? Virginia Realtors Association and National Association of Realtors data reveal that in 2004 the median home price in

Hampton Roads was $170,888; the U.S. median home price was $184,100. Hence, the price of the typical home is still a bit less expensive in Hampton Roads than nationally.

Both regionally and nationally, current housing prices reflect a large increase in prices, which some label a housing market boom, over the past five years. As seen in Graph 1, between 1999 and 2004, the median house price in Hampton Roads

GRAPH 1
HAMPTON ROADS AND U.S. MEDIAN HOUSE PRICE CHANGE FROM 1999 TO 2004

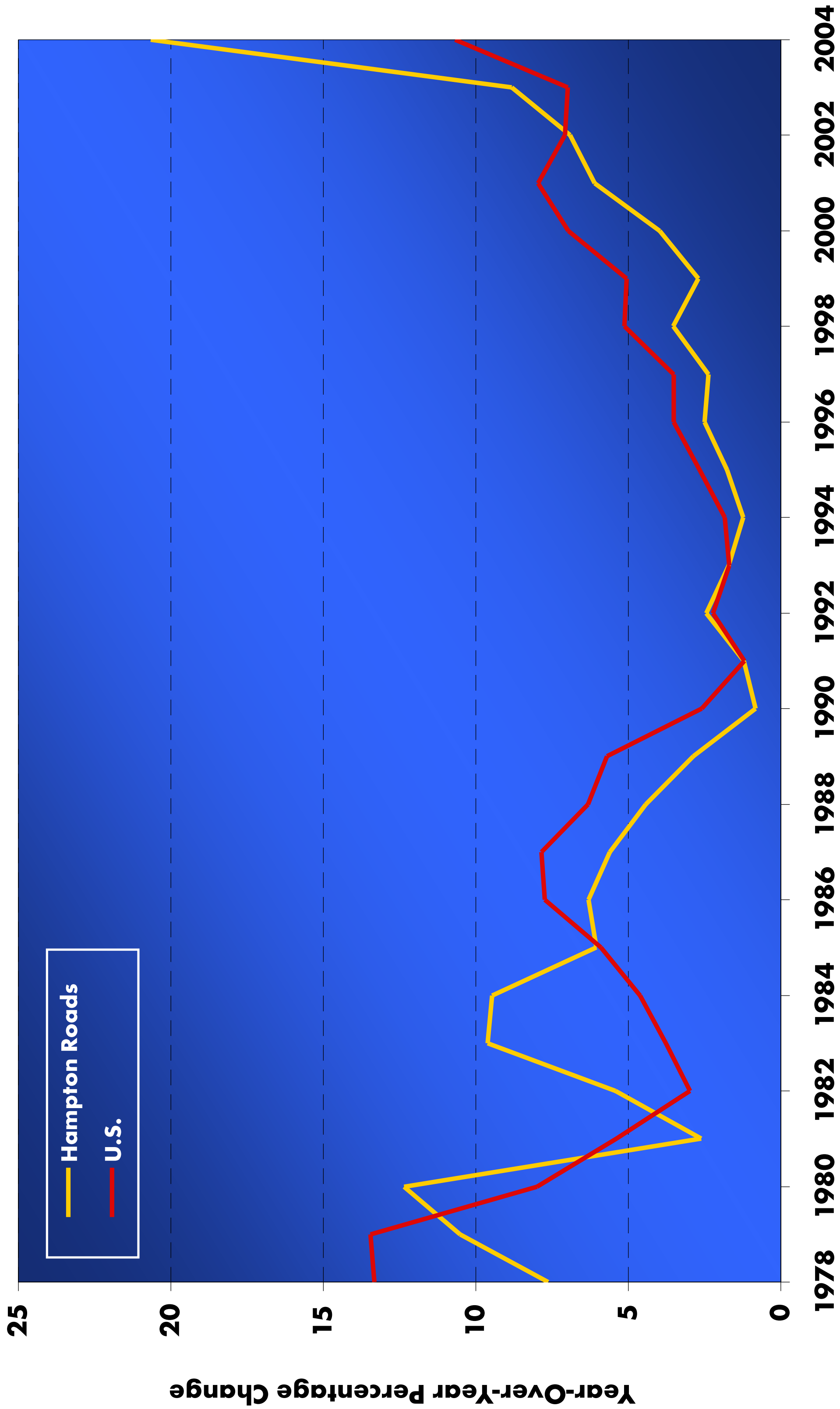


Sources: Office of Federal Housing Enterprise Oversight and the Old Dominion University Economic Forecasting Project

increased by 52.7 percent, thus exceeding the comparable rate for the United States by 6.3 percentage points. The 1999-2004 time period is unique because it represents the largest five-year increase in the region's housing prices in the past 26 years for which reliable data are available.

Graph 2 tells us that, in 2004, housing prices in Hampton Roads increased by 20.7 percent. This was our region's largest single-year increase over the past 26 years. However, between 1999 and 2003, the region lagged slightly behind the nation

GRAPH 2
HAMPTON ROADS AND U.S. HOUSE PRICE APPRECIATION



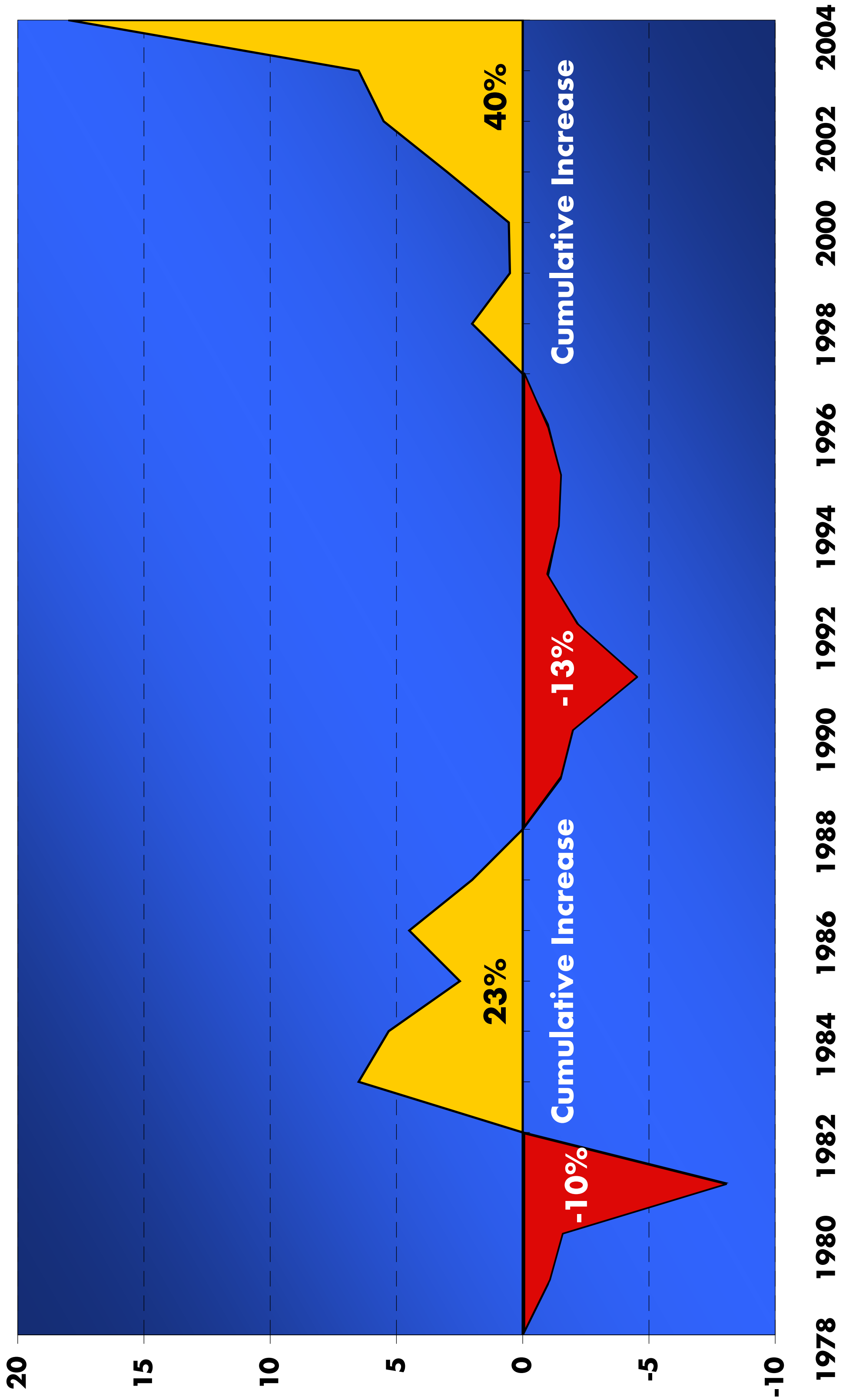
Sources: Office of Federal Housing Enterprise Oversight and the Old Dominion University Economic Forecasting Project

in housing price increases. It was the abrupt 2004 increase in Hampton Roads housing prices that has vaulted the region ahead of the United States.

Looking backward, with the exception of a short hiatus from 1991 to 1993, the year-to-year increase in regional housing prices always lagged behind that of the nation between 1985 and 2003. It's also worth noting in Graph 2 that since 1978 there has

GRAPH 3

HAMPTON ROADS "REAL" (PRICE-ADJUSTED) HOUSE PRICE APPRECIATION



Source: Old Dominion University Economic Forecasting Project

not been a year in which median housing prices in the region have declined. This has held true even in relatively bad economic times.

Some of the observed increases in housing prices in past years have been due to ordinary price inflation. Graph 3 deflates housing prices by means of the Consumer Price Index (CPI). One can see that there have been two periods over the past 26 years in which there has been a significant, continuous increase in "real" (inflation-adjusted) housing prices, over and above the CPI. From 1982 to 1988, "real" house prices increased by 23 percent. Then, after a slow 13 percent decline from 1988 to 1998, "real" house prices rose by roughly 40 percent between 1998 and 2004.

Table 1 shows how Hampton Roads compares to other Virginia metropolitan areas in the realm of housing prices. Between 1999 and 2004, Hampton Roads housing price increases lagged behind those experienced in Northern Virginia, but significantly exceeded price increases in other parts of Virginia, including Richmond. Despite this, the region's median house price increase was slightly less than the Commonwealth average. This slightly below-average position reflects both the importance and the recent white-hot nature of the Northern Virginia housing market.

TABLE 1
GROWTH RATE OF MEDIAN SINGLE-FAMILY HOUSE PRICES IN VIRGINIA BY METROPOLITAN AREA (1999 TO 2004)

MSA	Percent Change in House Price
Washington, D.C.	79.1
Winchester	60.1
Charlottesville	55.6
Hampton Roads	52.7
Richmond	38.8
Blacksburg	33.6
Harrisonburg	31.5
Roanoke	28.9
Lynchburg	25.7
Bristol	23.2
Danville	18.1
Virginia (Commonwealth)	56.4
United States	46.4

Sources: Office of Federal Housing Enterprise Oversight and the Old Dominion University Economic Forecasting Project

In sum, while it's true that recent house price increases in Hampton Roads have been quite large by historical standards, these increases have been slightly below the Commonwealth average and slightly above the national average. In that context, housing prices in our region are hardly unusual.

NEW CONSTRUCTION AND THE QUALITY OF HOUSING ISSUE

Whenever we examine a price increase for any item, one of the first things we need to determine is whether the quality of the item was relatively constant during the time period when the price increased. Thus, if a candy bar's size doubles from five ounces to 10 ounces, then a price increase from $1 to $2 would precisely match the change in size (quality) of the candy bar. In such a case, we would say there wasn't any actual price inflation.

Analogously, we can examine the extent to which the quality of the stock of housing has changed over time in Hampton Roads. Measuring quality changes is not an easy task, but fortunately there are some housing measurements available that will help.

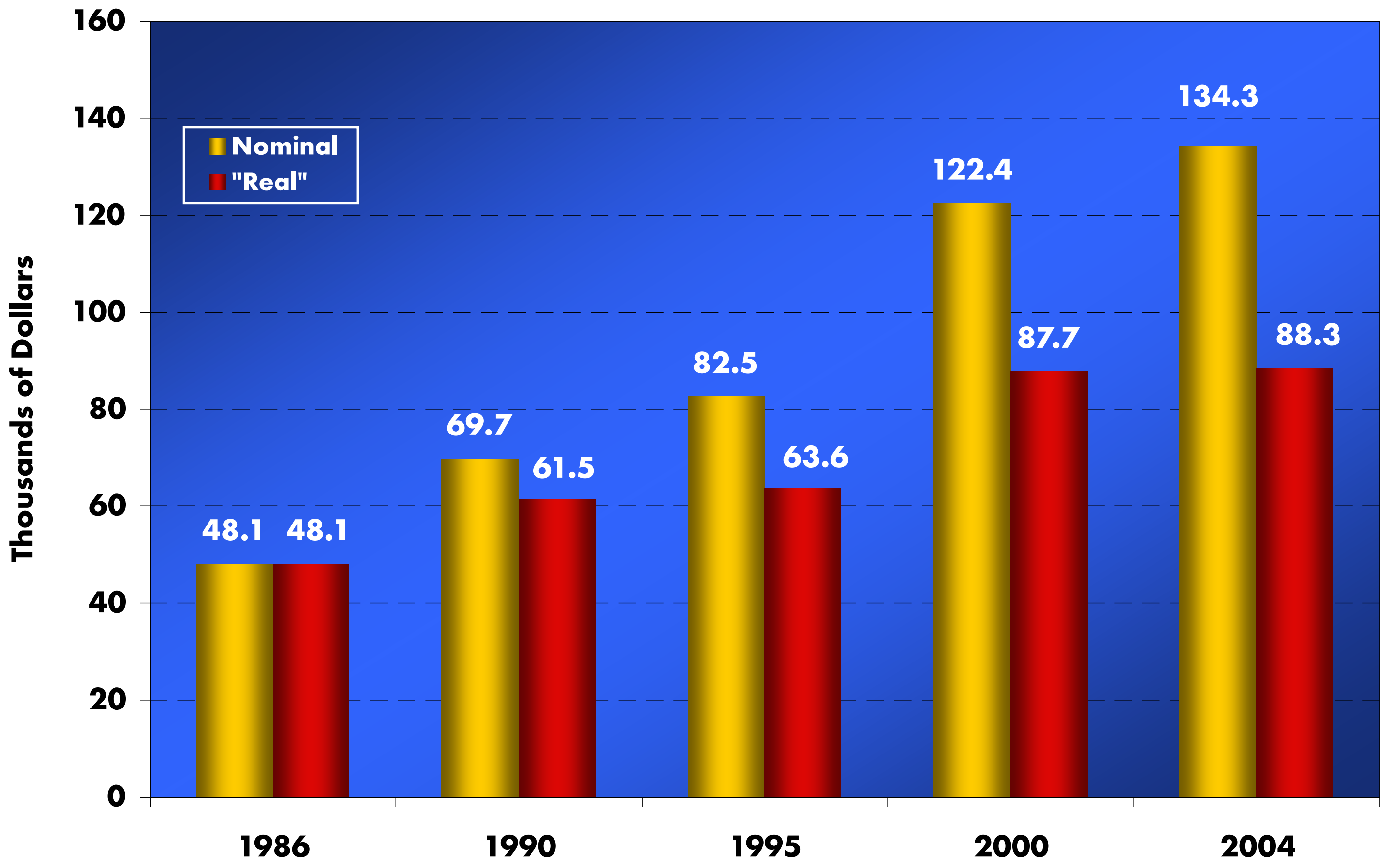
Roughly one-third of our existing regional housing stock has been constructed since 1986. New home construction is important because it affects both the quantity and quality of available housing. An estimate of the change in the quality of homes built in Hampton Roads is displayed in Graph 4, which shows the average inflation-adjusted builder expenditure per house in Hampton Roads since 1986. Home quality improvements could include, but not be limited to, features such as increased living space, higher-quality building materials and innumerable features that people will build into their homes such as washers and dryers, home entertainment centers and the like. The data in Graph 4 do not include land cost per house, only the builder's cost of building the physical structure.

Graph 4 reveals that the nominal cost of building the average home in the region has almost tripled since 1986, from $48,100 to $134,300. Our friends and neighbors simply are constructing bigger and better homes, and even after taking inflation into account, the "real" cost has risen to $88,300. Hence, the inflation-adjusted, "real" price of houses built in the region rose by 83.6 percent between 1986 and 2004. In other words, the average house built in 2004 in Hampton Roads appears to be almost twice the quality of the average home built 18 years ago.

The most rapid period of increase in the quality of new housing occurred from 1995 to 2000, when price-adjusted, new housing value rose by 37.9 percent. However, quality enhancements in the area's housing stock began to level off in 2000. Although construction costs have continued to increase due to inflation, the quality of the average new house built in Hampton Roads has increased only about 10 percent since 2000.

If one takes into account the higher quality of housing, then between 1986 and 2000 there was no increase in the price of housing in Hampton Roads. Stated differently, all of the increase in the average price of a new home in the region during that time period can be accounted for by quality enhancements. Indeed, the quality-adjusted price of a new home in Hampton Roads hardly changed during the time period! Since 2000, however, the quality-adjusted price of housing has increased more than 30 percent. It is not increases in the quality of housing, then, that are responsible for the recent dramatic rise in housing prices in Hampton Roads.

GRAPH 4
NEW HOUSE NOMINAL AND "REAL" (INFLATION-ADJUSTED) AVERAGE CONSTRUCTION COST IN HAMPTON ROADS



Sources: U.S. Census Bureau and the Old Dominion University Economic Forecasting Project

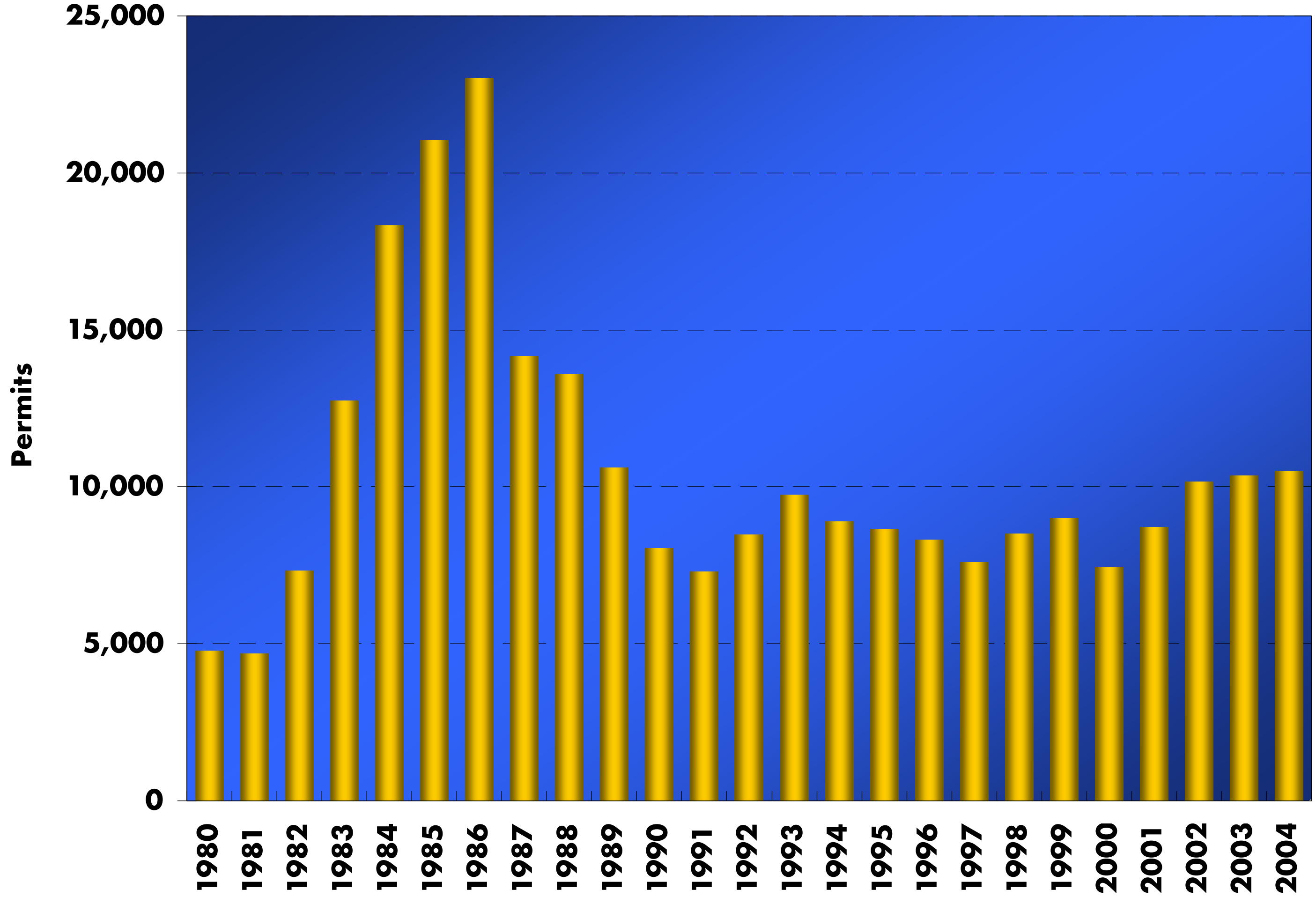
THE STOCK OF NEW HOUSES

A study by the Federal Reserve Bank of New York (J. McCarthy and R. Peach, "Are Home Prices the Next Bubble?", December 2004) found that the recent rapid run-up in house prices in cities such as New York and San Francisco was accentuated by the limited ability of builders to create new housing. While this was due to a variety of factors, they singled out regulatory problems and the lack of available land. In the jargon of economics, housing supply has become rather inelastic with respect to price in these locations. Increased housing prices have not stimulated additional building.

But, the opposite also can be true – we can observe an elastic reaction by builders. In such a situation, rising prices stimulate substantial additional construction and in fact can result in overbuilding and a glut of unsold homes. Elastic building responses are quite helpful during boom times because they dampen the rate of increase of house prices. Nevertheless, if builders are too enthusiastic and over-building occurs, then they find themselves with homes that they cannot sell without making serious price reductions.

What has been the case in Hampton Roads? Graph 5 shows a dramatic increase in new home construction during the mid-1980s. This increase was followed by a similarly dramatic decline in production late in the 1980s and early in the 1990s. In particular, the recession of 1990-91 left some builders and developers holding large inventories of unsold houses. This had pro-

GRAPH 5
NEW HOUSING PERMITS IN HAMPTON ROADS



Source: U.S. Census Bureau

foundly negative economic effects, both for them personally and for the housing market in general. In the past decade, however, new home construction has been relatively stable and has ranged between 7,500 and 10,000 homes constructed annually.

The difficult housing market experienced by the region's developers between 1987 and 1992 left an important supply-side behavioral legacy that has moderated the possibility that a housing price bubble has developed around us – one that shortly will be punctured. Despite the recent significant and unusual run-up in both nominal and "real," inflation-adjusted housing prices, builders neither have increased their construction significantly, nor approached the market with the euphoria and enthusiasm they exhibited in the previous housing boom. In the early phases of the 1980s boom, builders more than quadrupled housing construction, while in the current housing price boom, new construction has risen by about 30 percent since 2000.

Memories of the 1987-1992 market bust appear to have influenced developers to carry smaller or, in some cases, no inventories of unsold houses. In lieu of purchasing and developing large tracts of land all at one time and initiating construction activity across the entire acreage, they now are developing land in smaller chunks and with options to purchase additional parcels of land as market conditions dictate. Further, they often lease instead of purchase their heavy-construction equipment. These stratagems have allowed local developers to cut their costs quickly in the face of adverse market conditions. Today, many premium house builders will not even begin construction without a buyer contract. The bottom line is that developers' memories of the previous market bust appear to have caused new housing inventories in the current housing boom to be much leaner than was the case in the 1980s.

In short, Hampton Roads developers have behaved much more intelligently, economically speaking, recently than they did 15 years ago. They now have a much greater ability to adjust the scale of their activities than they did previously and they are not burdened by excess inventory. What this means is that the risk of falling housing prices resulting from overbuilding and a consequent housing glut has been considerably diminished. **If a housing price bubble does exist in Hampton Roads, then if and when that bubble is pricked, we are not likely to witness a wrenching housing price deflation in the region. The supply side of our regional housing market is, therefore, not likely to be a major cause or enabler of radical fluctuations in regional housing prices.** That said, the demand side of the market is another story.

HOUSING DEMAND

The demand for houses in Hampton Roads by prospective purchasers has risen rapidly over the past five years. This has resulted in significant price increases, a reduction in the time-on-market needed to sell a house and multiple offers upon available homes.

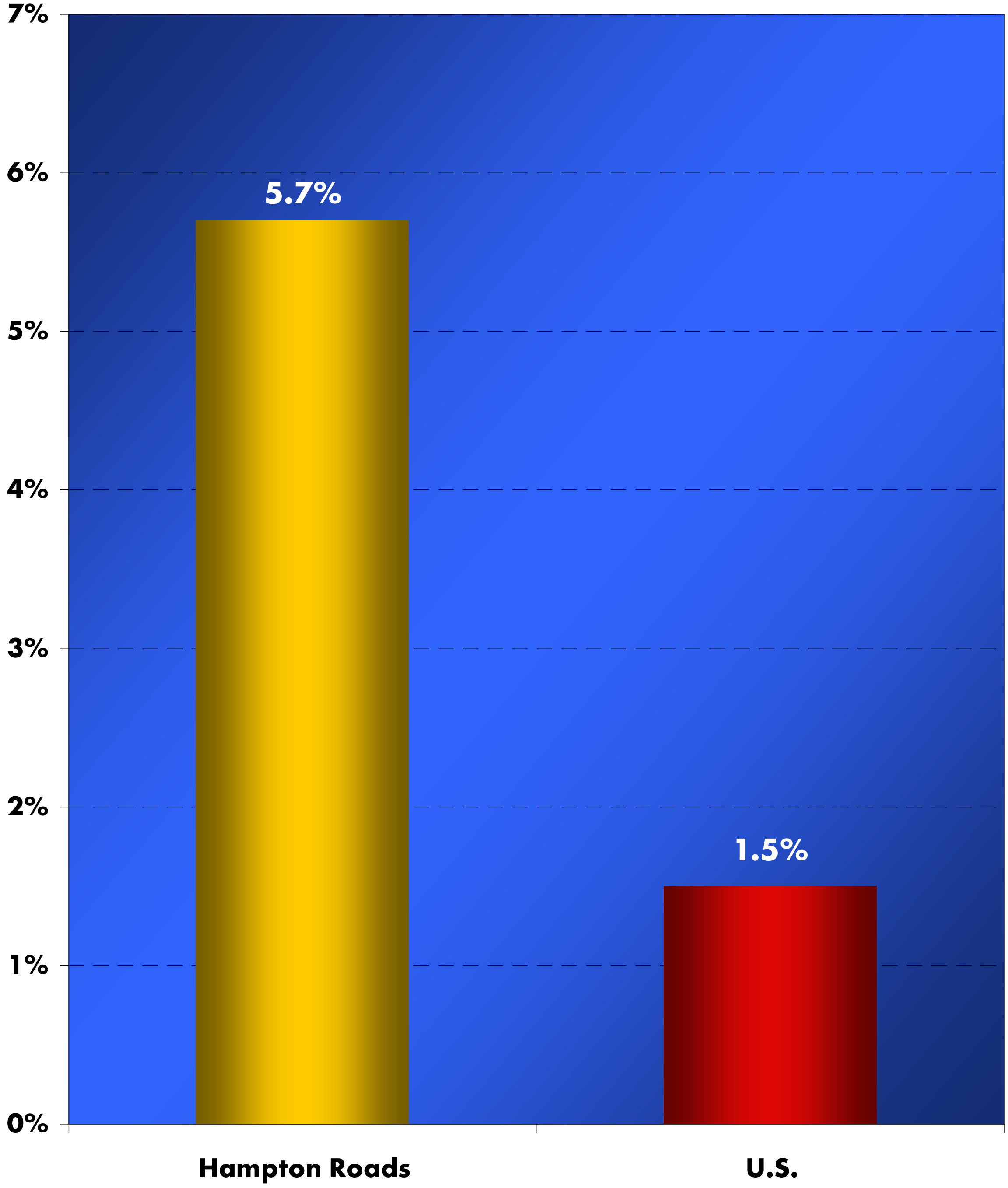
What influences have been most important on the demand side of the market? First, there have been strong increases in both income and employment within the region. Households have more money to spend. Second, extraordinarily attractive financing terms have put a home within the financial reach of almost three-quarters of Hampton Roads households. Mortgage rates are at their lowest levels in 30 years, and clearly this has made a major difference. Let's examine the income and employment picture initially.

EMPLOYMENT AND INCOME

The past five years have been prosperous times for the region's economy. Approximately 40,600 new civilian jobs were created in Hampton Roads from 1999 to 2004. The total number of jobs within the region grew about 5 percent during this period. As one can see in Graphs 6 and 7, the growth rates of the region's employment and income have exceeded those of the nation by a wide margin.

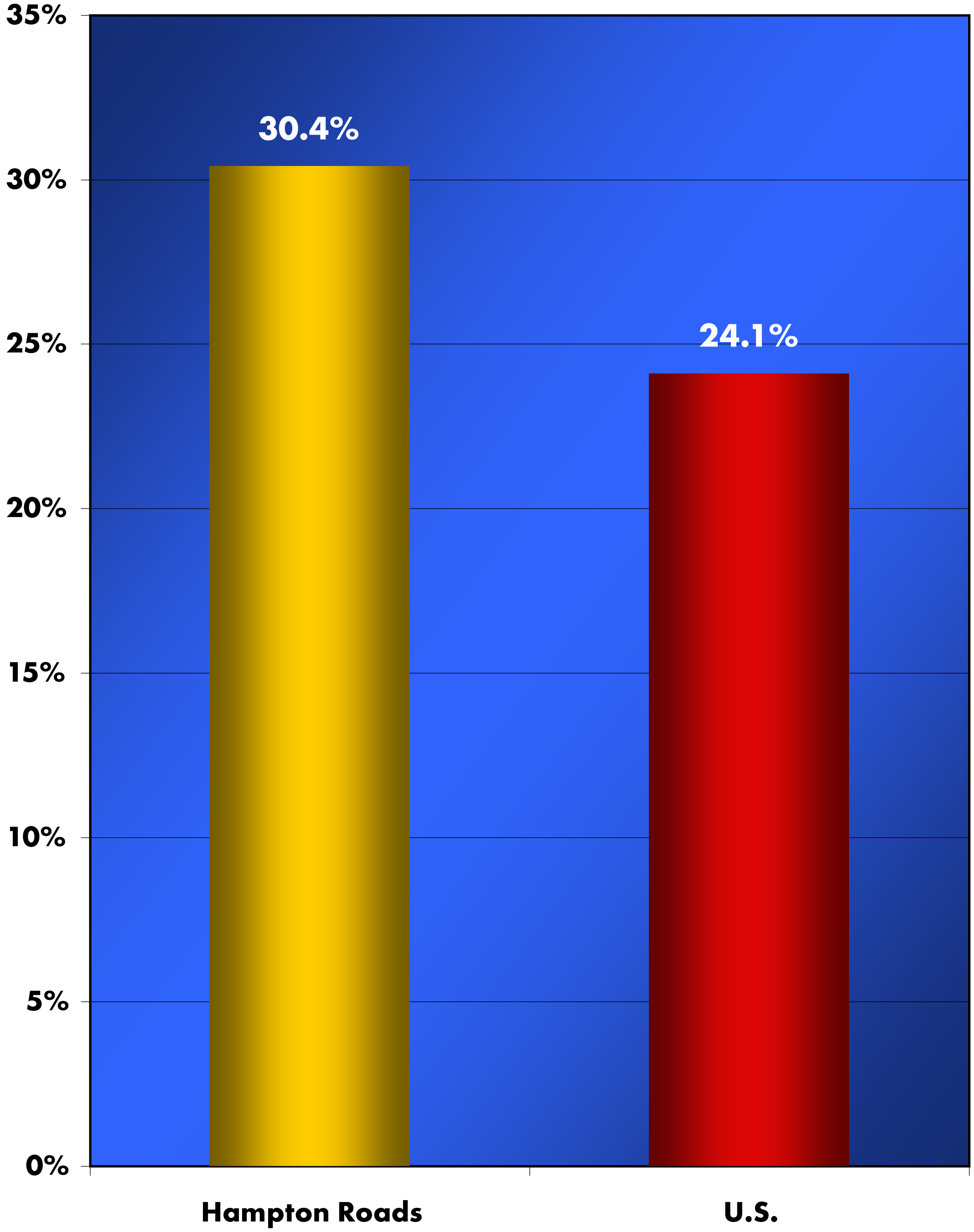
Growth in employment and income do not of themselves create rising housing prices; however, they are a fuel mixture that drives the region's economic engine and demand for housing.

GRAPH 6
PERCENT CHANGE IN PAYROLL EMPLOYMENT IN THE U.S. AND HAMPTON ROADS (1999 TO 2004)



Sources: U.S. Department of Labor and the Old Dominion University Economic Forecasting Project

GRAPH 7
PERCENT CHANGE IN PERSONAL INCOME
U.S. AND HAMPTON ROADS
(1999 TO 2004)

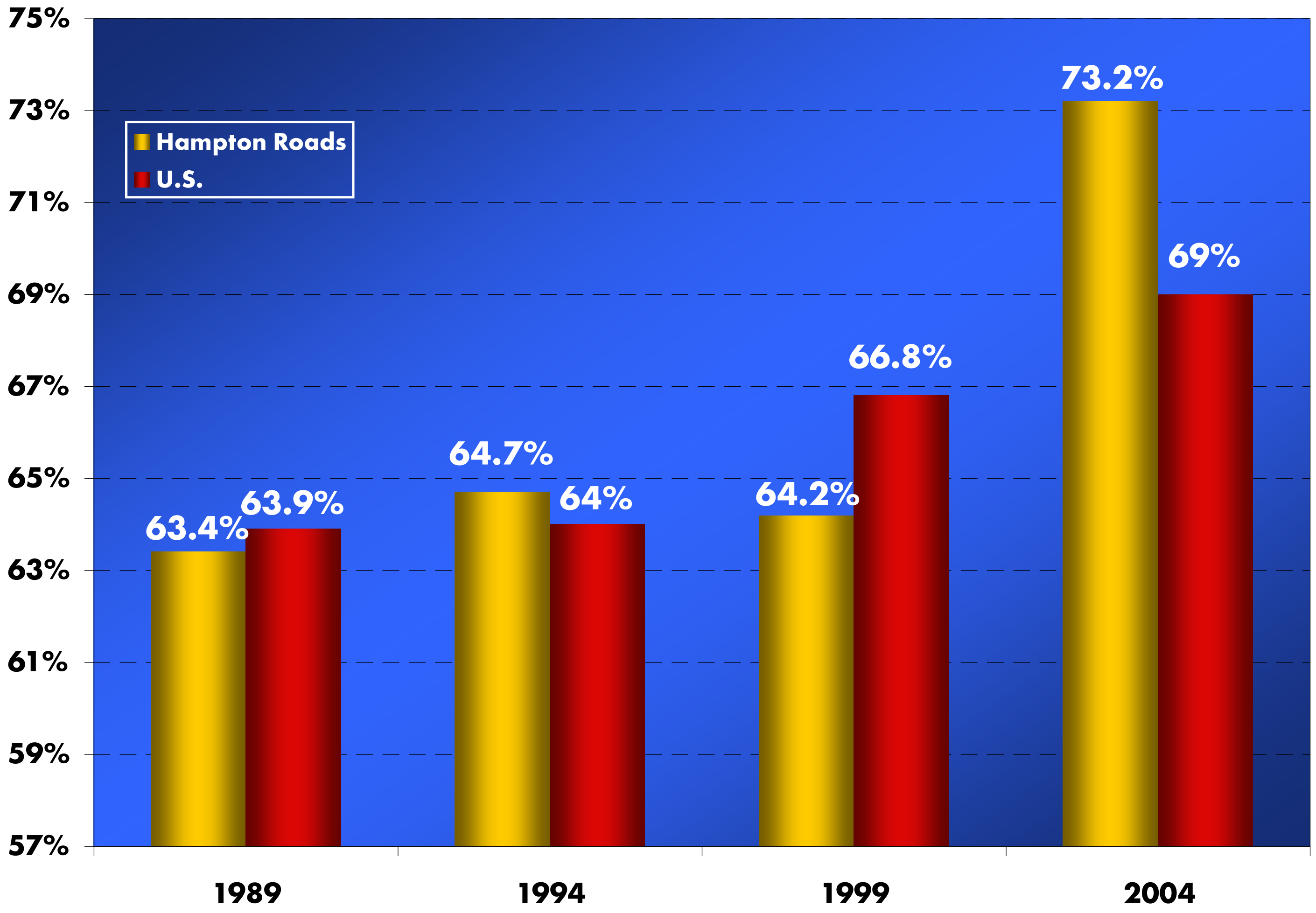


Sources: U.S. Bureau of Economic Analysis and the Old Dominion University Economic Forecasting Project

OWNING VS. RENTING

Although the region has benefited from people who have migrated to Hampton Roads, the hefty demand for both new and used homes has come primarily from households that previously were renters. Graph 8 depicts what has been nothing less than a mini-revolution in the Hampton Roads housing market. The proportion of the region's households that owns its own house had been fairly stable during the 1990s, but increased substantially over the past five years to the point where almost three-quarters of Hampton Roads households now live in housing they own. The region's current ownership rate exceeds that of the nation by more than four percentage points and is more than six percentage points higher than the average ownership rate for U.S. metropolitan (urban) areas. This places the region well within the top 20 percent of U.S. metropolitan areas in terms of home ownership. **We estimate that between 1999 and 2004, 69,000 additional households became homeowners within the region. Two-thirds of these homeowners, or approximately 46,000, came from households that previously had been renting.**

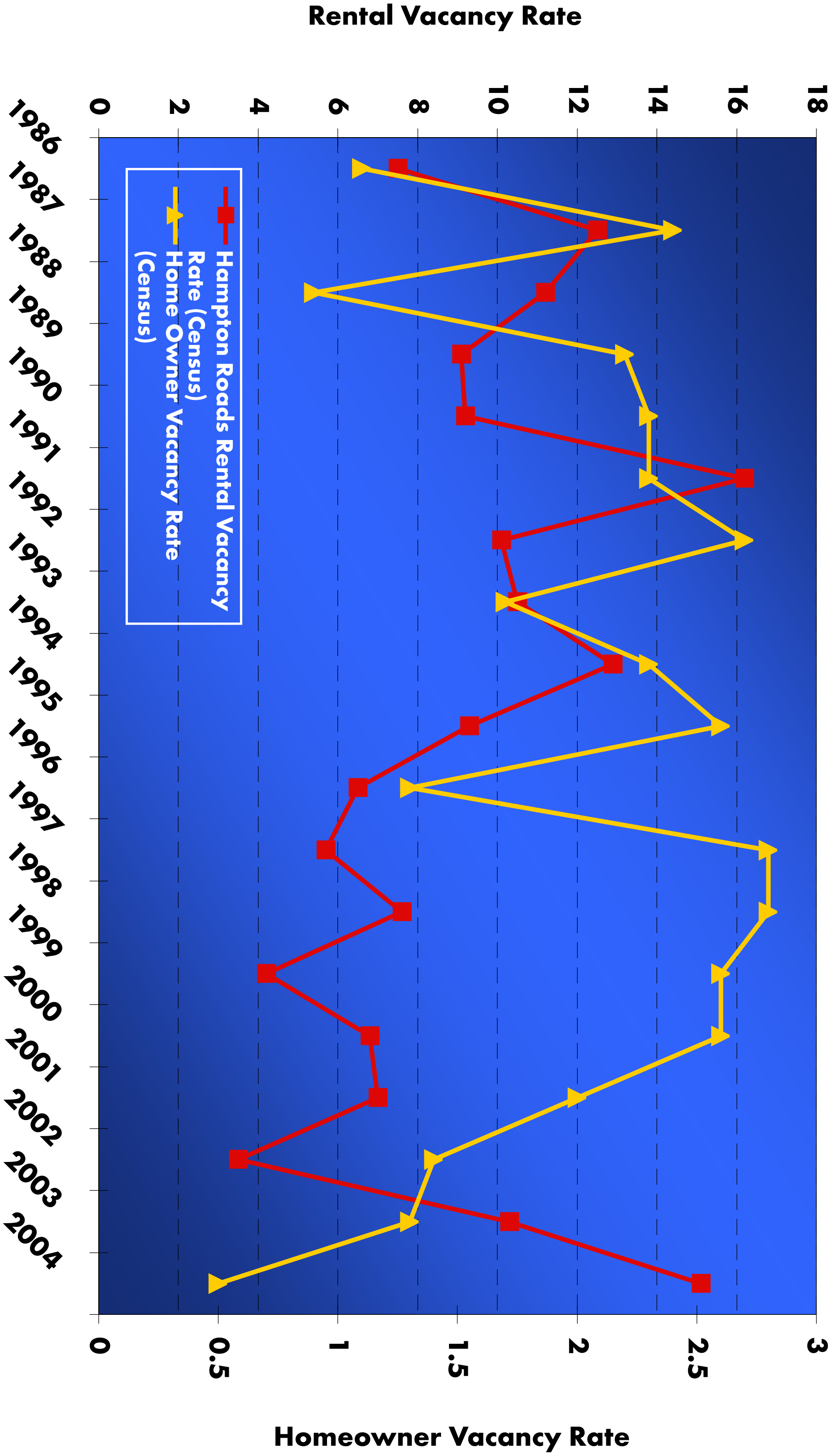
GRAPH 8
PERCENT OF HAMPTON ROADS AND U.S. HOUSEHOLDS THAT OWN THEIR OWN HOUSE



Source: U.S. Census Bureau

Concurrent with the movement of renters into owner-occupied housing, the homeowner vacancy rate has fallen to its lowest level in 15 years while the rental vacancy rate has risen. In a nutshell, people have been buying houses rather than renting them. Graph 9 illustrates this development. We estimate that approximately 10,500 vacant houses were put up for sale in Hampton Roads in 2000; by 2004 that number had fallen to 2,200, demonstrating a clearly tighter sales market.

GRAPH 9
HAMPTON ROADS RENTAL AND HOMEOWNER VACANCY RATES
(1990-2004)



Source: U.S. Census Bureau

Why has such a significant number of Hampton Roads families chosen homeownership over renting even while the purchase price of a house has been rising so rapidly? Table 2 provides a broad measure of the relative prices of renting and home ownership. The median rent reported in Table 2 is derived from U.S. decennial census data for median monthly rental costs for all renters in the region as well as Department of Housing and Urban Development survey data for 2004. **One can see that the ratio of principal and interest associated with the median house payment to the average rent has been falling since 1980. This means that the relative cost of home ownership versus the cost of renting has been falling steadily in Hampton Roads.**

Table 2 is useful in demonstrating the general relationship over time between the price of home ownership and the price of renting. **Since 1980, buying a house has, relatively speaking, become a better deal, at least compared to renting.** Still, the value of this measure is limited because it does not compare exact types of housing units. For example, the rent displayed in Table 2 more closely represents an average rental unit, which includes apartments as well as houses and often is limited to two bedrooms. However, the median house purchase since 1980 has been a larger unit, typically including three bedrooms. Therefore, Table 3 compares the median three-bedroom rentals with three-bedroom homes for purchase. While the data in this series are limited to 2000-04, they do permit several observations. First, when comparing like housing units, it was slightly less expensive to own than to rent in 2004 compared to 2000. Second, the continuous and significant decrease in the ratio from 2000 to 2003 directly reflects falling mortgage rates. Third, the abrupt reversal of this trend in 2004 was generated by the tremendous 20-plus percent jump in house prices in 2004. Even low mortgage rates could not compensate for such substantially higher home prices. If renters behave like other economic human beings, then the demand of existing renters to purchase homes could diminish in the coming months.

But we shouldn't exaggerate this effect. The continued relative attractiveness of home purchase costs to renting costs within Hampton Roads will ensure that there still will be a flow of renters who seek to purchase a home. It's notable that this situation generally is not evident in housing markets that everyone agrees exhibit "bubble-like" qualities. Table 4 compares the "owning versus renting" tradeoff in Hampton Roads to several metropolitan areas that the aforementioned

TABLE 2
COMPARISON OF RENTAL AND PRINCIPAL AND INTEREST FOR A HOUSE PAYMENT IN HAMPTON ROADS (1970 TO 2004)

	Median Rent (Apartments and Houses: Total Rental Units)	P&I Monthly Payment Median House	House Payment to Rent Ratio
1970	$111	$157	1.41
1980	259	570	2.20
1990	481	795	1.65
2000	615	854	1.39
2004	788	1028	1.30

Sources: U.S. Census, H.U.D. and the Old Dominion University Economic Forecasting Project

TABLE 3
COMPARISON OF HOUSE RENTAL AND PRINCIPAL AND INTEREST FOR A HOUSE PAYMENT IN HAMPTON ROADS (2000 TO 2004)

	Median Rent for a Three-Bedroom House	P&I Monthly for a Median House	Ratio of Monthly P&I to Rent
2000	$ 882	$ 854	0.97
2001	911	809	0.89
2002	1037	827	0.80
2003	1044	809	0.77
2004	1087	1008	0.93

Sources: U.S. Census, H.U.D. and the Old Dominion University Economic Forecasting Project

TABLE 4
RATIO OF MONTHLY PRINCIPAL AND INTEREST TO RENT IN 2004 (SELECTED RESIDENTIAL REAL ESTATE MARKETS)

San Diego	2.50
San Francisco	2.20
Los Angeles	1.80
Washington, D.C.	1.70
New York	1.40
Hampton Roads	0.93

Sources: The Wall Street Journal, Torto Wheaton Research and the Old Dominion University Economic Forecasting Project

Federal Reserve study marked as exhibiting the characteristics of a housing bubble. One can see that our situation is very different from, say, San Diego or San Francisco. Hence, the price of owning relative to renting continues to be attractive in Hampton Roads when compared to the hottest residential real estate markets nationally.

FINANCING A HOME PURCHASE

Like the well-known shell game in which one must keep one's eye on the elusive pea and not upon the shells, when investigating housing markets and the ability of households to purchase a house, it is the monthly payment rather than the house price that is the key. If households can qualify for a monthly payment that they can afford, then they will purchase houses almost independent of the actual price of the house. The raging popularity of "interest only" mortgages in urban areas such as San Diego and San Francisco provides strong support for this notion.

Displayed in Table 5 are data describing housing markets in Virginia's 11 metropolitan statistical areas (MSAs), 1999 to 2004. The data compare the increase in house prices with the increase in the principal and interest payment on a typical mortgage, as well as with the increase in the MSA's personal income per household. The first data column reports the average increase of house prices in each MSA. It is apparent that prices have increased in every MSA, but especially so in Northern Virginia.

Meanwhile, what has been happening to the average monthly mortgage payment (principal plus interest) over the same time period? Given higher housing prices, it's not surprising that the size of mortgage payments has increased in every MSA. However, the typical mortgage payment has increased only by 31.3 percent in Virginia overall and 28.2 percent in Hampton Roads. **Thus, even though housing prices increased by 56.4 percent in Virginia overall, mortgage costs increased by a much smaller amount (31.3 percent).** Falling mortgage interest rates (see Graph 10) have decreased the cost associated with purchasing any home at a given point in time.

TABLE 5
GROWTH RATE OF HOUSE PRICES, ESTIMATED PERSONAL INCOME AND ESTIMATED EFFECTIVE MORTGAGE PAYMENT (P&I) IN VIRGINIA BY METROPOLITAN AREA (MSA) (1999 TO 2004)

MSA	Percent Change in House Price	Percent Change in Mortgage (P&I) Payment*	Percent Change in Personal Income per Household
Washington, D.C.	79.1	50.4	32.0
Winchester	60.1	34.3	31.5
Charlottesville	55.6	30.6	28.0
Hampton Roads	52.7	28.2	21.6
Richmond	38.8	16.3	23.4
Blacksburg	33.6	12.2	21.2
Harrisonburg	31.5	10.4	22.5
Roanoke	28.9	8.2	16.1
Lynchburg	25.7	5.5	14.6
Bristol	23.2	3.4	17.1
Danville	18.1	0	14.4
Virginia (Commonwealth)	56.4	31.3	23.1
United States	46.4	22.9	19.8

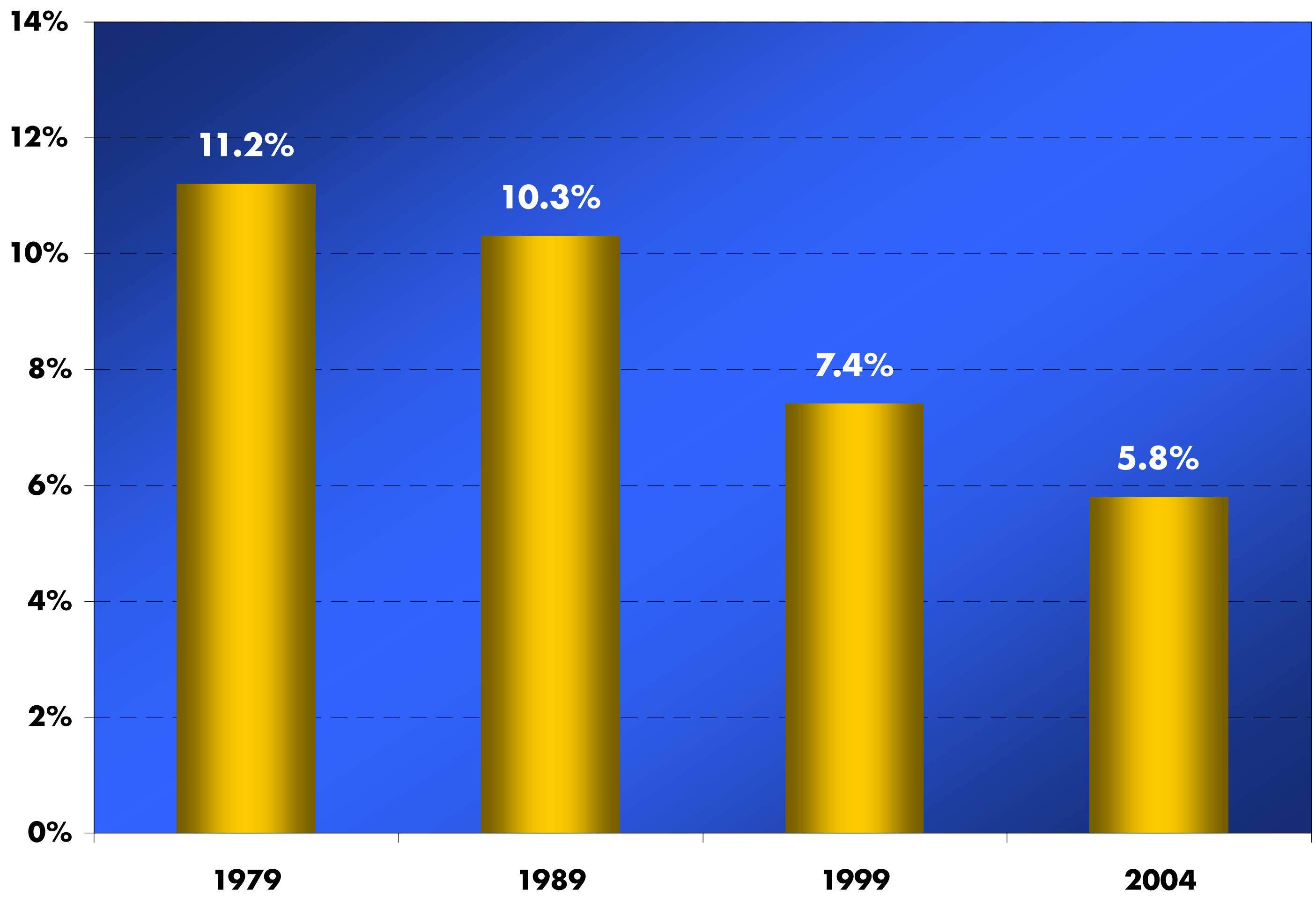
* Conventional 30-year mortgage with 100 percent financing
Sources: Office of Federal Housing Enterprise Oversight and the Old Dominion University Economic Forecasting Project

Of course, increased housing payments due to higher housing prices could choke off demand if households don't have the income to make the payments. The final column in Graph 11 reveals that rising household incomes have put a big dent in the higher mortgage payments. In Hampton Roads, for example, personal income per household rose by 21.6 percent between 1999 and 2004, not as great as the 28.2 percent increase in mortgage payments, but still a significant proportion of that increase. Further, this does not take into account the tax deductibility of mortgage interest and property tax payments. Adjusting for these would narrow or eliminate the gap between mortgage costs and household incomes in many communities, depending upon local tax levels.

In fact, between 1999 and 2004, the change in personal income per household *nationally* was only 3.1 percent less than the increase in mortgage payments. Only in Washington, D.C., a region identified by the Federal Reserve study as demonstrating a potential housing bubble, has the increase in mortgage payments significantly exceeded the increase in personal household income – by 18.4 percent. Hence, if a housing bubble exists in certain areas throughout the country, the Washington, D.C., SMA, of which Northern Virginia is a major part, might well qualify.

The key measure of the ability of the typical household to afford a home is the proportion of its income needed to pay the principal and interest on its mortgage. This measure is displayed in Graph 11 for both Hampton Roads and the United States. **Despite the more than 50 percent increase in housing prices over the past five years in Hampton Roads, the pro-**

GRAPH 10
30-YEAR CONVENTIONAL MORTGAGE INTEREST RATES

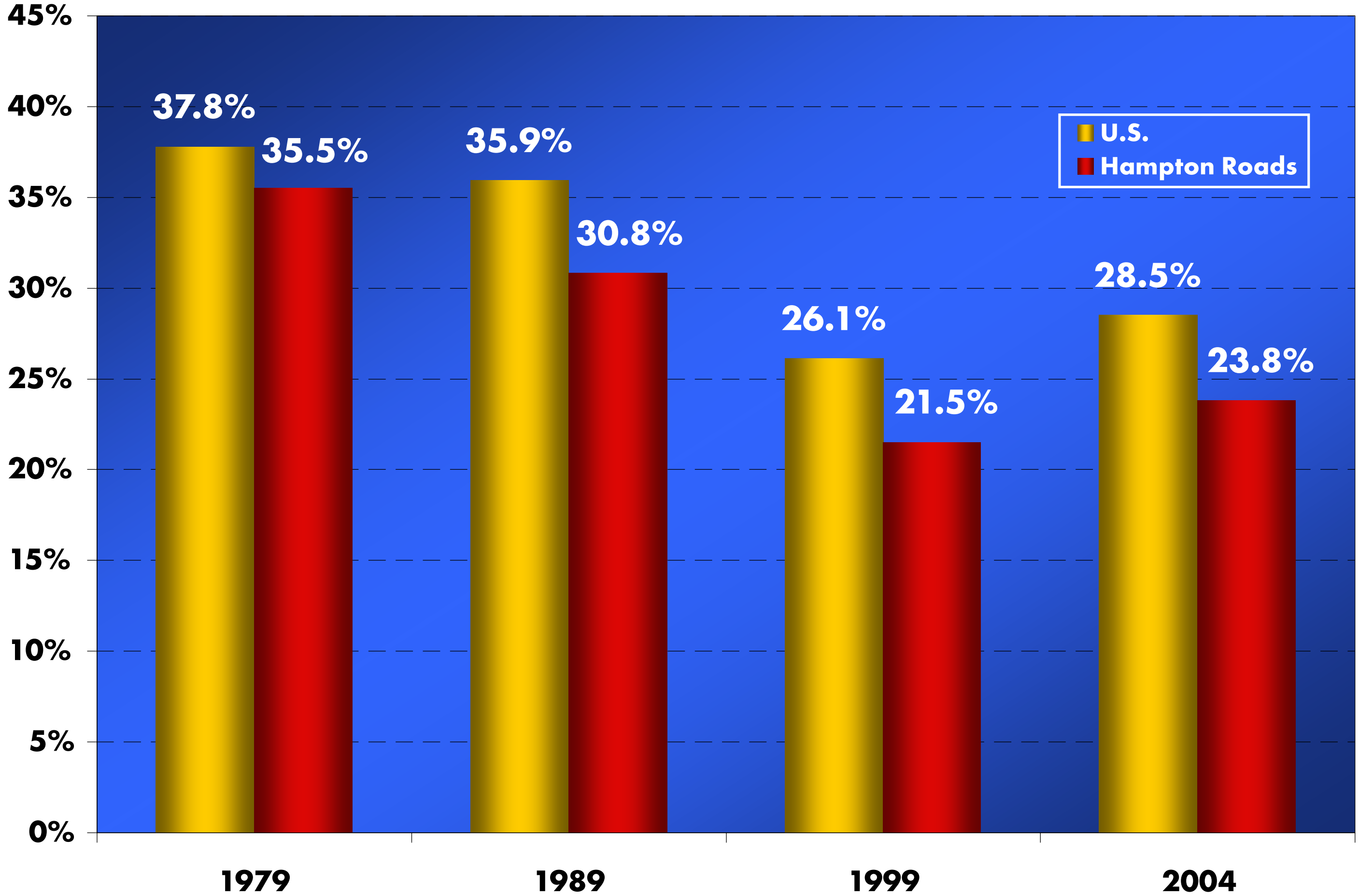


Source: Old Dominion University Economic Forecasting Project

portion of a household's total income necessary to purchase a typical home in the region increased by only 2.3 percent between 1999 and 2004. Further, the typical household is much better situated financially to purchase a home in 2004 than it was in 1989 or 1979. This is true both in Hampton Roads and nationally, and primarily reflects lower mortgage interest rates.

Simply put, despite the outsized recent increase in housing prices, relative to household income, the *typical* house in Hampton Roads is as "affordable" today as at most any time in the recent past. Further, housing continues to be more "affordable" in Hampton Roads than across the nation.

GRAPH 11
HOUSE PURCHASE BORROWING COSTS AS A PERCENT OF HOUSEHOLD INCOME IN HAMPTON ROADS AND THE U.S. (1979 TO 2004)



Source: Old Dominion University Economic Forecasting Project

So, Is There a Housing Bubble in Hampton Roads?

To answer this question, we need to define what a housing bubble is. We'll also examine the economic fundamentals supporting the region's housing market to help us render a judgment whether a housing bubble exists in the region's housing market.

WHAT IS A HOUSING BUBBLE?

The existence of a housing bubble implies to most people that housing is significantly "overpriced" and that, at some point in the future, the housing market will experience a painful drop in prices. The evidence presented above leaves little doubt that house prices in Hampton Roads have risen recently in an atypical fashion, historically speaking. In 2004, house prices rose at a faster pace than in any time over the past quarter century. But, if homes are overpriced, how can we tell?

The central feature of a price bubble is that an asset, in this case housing, trades at prices above those that can be justified by the underlying economic fundamentals. Typically, speculation fuels the market and causes prices to deviate from the solid fundamentals. When a bubble does exist, it can be pricked by a rapid and arbitrary change in buyer sentiment that results in a destabilizing collapse of prices.

We should not minimize the importance of such a price bubble, if one exists in housing. For a typical U.S. household, the value of its home represents more than two-thirds of its net worth. Thus, a significant decline in house prices would severely damage the financial position of many families. The decline in household net worth that would result from a decline in housing prices also would have adverse consequences for the region's economy. A $1 change in wealth nationally usually causes a $.03 to $.05 change in consumption. As a consequence, declining housing values would send negative ripples throughout our regional economy. At the least, we would experience a mini-recession.

HAMPTON ROADS HOUSING FUNDAMENTALS AND PRICES

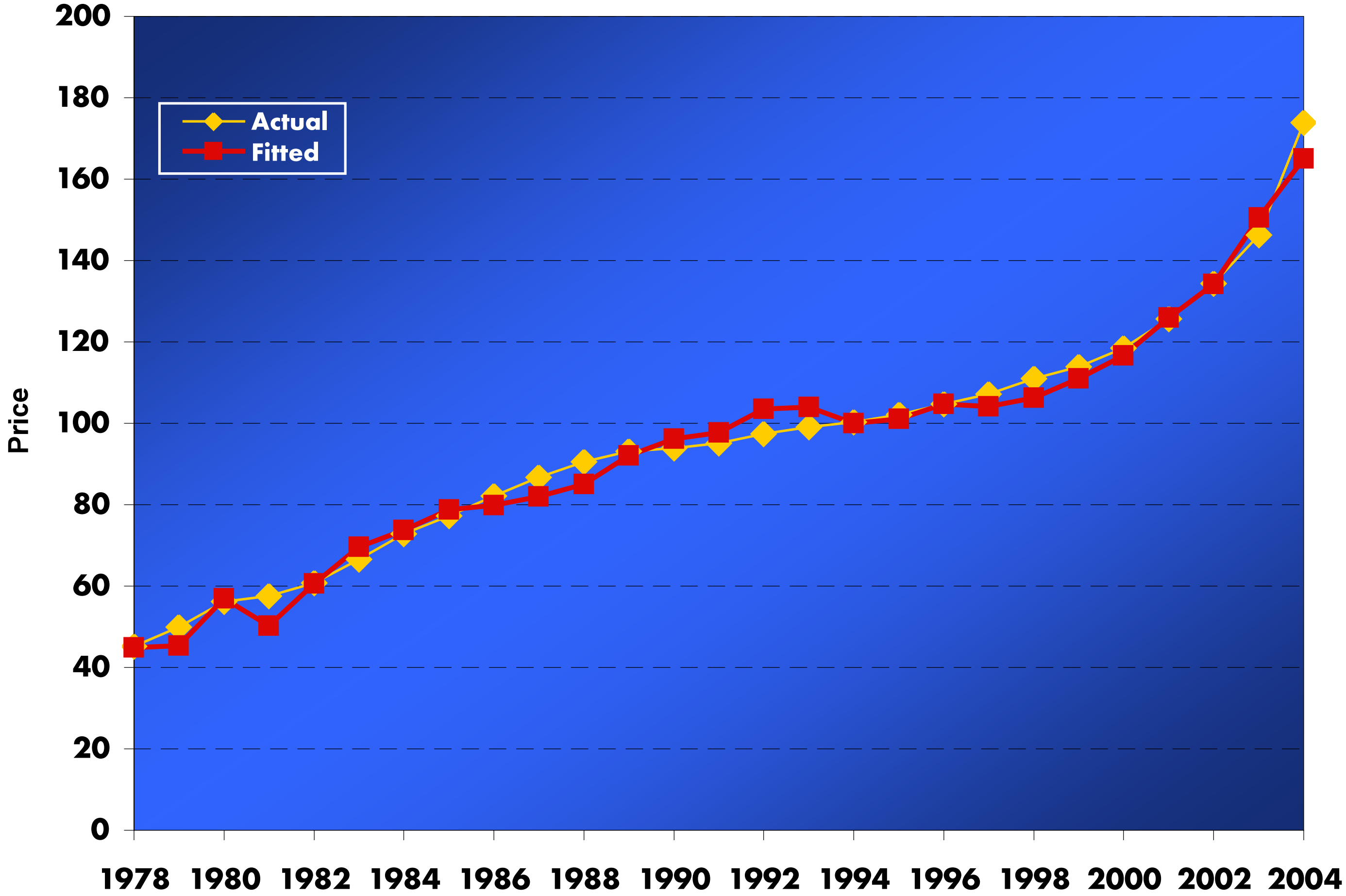
What are the housing "economic fundamentals" that should affect housing prices? The demand for housing – that is, the desire of individuals and couples to purchase homes – plausibly should depend upon the price of housing, mortgage rates, household incomes and job markets. The supply of housing – that is, the willingness and ability of developers to construct homes – should also depend upon the price of housing, interest rates that influence developers' borrowing, the costs of acquiring land and building materials, and so forth. It is the interaction between these two influences, demand and supply, that determines housing prices.

We've already traced the relationship between most of these factors and housing prices. By way of illustration, we observed in Graph 11 that mortgage costs as a percentage of average household income in Hampton Roads were only a bit higher in 2004 than in 1999, and were substantially lower now than in 1989 and 1979. The implication was that over the years the typical household has become better able to afford a home. Of course, not all households are "average," but Graph 11 does help us explain why homeownership in Hampton Roads has risen by about 10 percent over the past 15 years. The relationship of housing prices to income is among the economic fundamentals that determine housing prices in the long run.

Previous State of the Region reports have attempted to avoid sophisticated statistical presentations, and we don't intend to change that custom here. However, we can report that when we utilized advanced statistical methods to ask the question "What should housing prices be, given economic fundamentals such as mortgage rates, household incomes and so forth?" we did not find regional housing prices to be far out of line with economic reality.

Graph 12 displays our statistical estimates of what housing prices should be, based on economic fundamentals, compared to what they actually are in Hampton Roads. **Between 1978 and 2004, the Hampton Roads housing market closely tracked its underlying economic fundamentals. It is notable that despite the recent surge in the region's housing prices, the underlying market fundamentals more than supported these price increases until 2004. Further, most, but not all, of the housing price increase in 2004 was supported by underlying market fundamentals. How much**

GRAPH 12
HAMPTON ROADS HOUSE PRICE INDEX OF ACTUAL HOUSE PRICES AND PRICE SUPPORTED BY ECONOMIC FUNDAMENTALS



Source: Old Dominion University Economic Forecasting Project

of the 2004 price bulge cannot be accounted for by economic fundamentals? Our estimate is that the current Hampton Roads housing market was overvalued by 5 percent to 9 percent in spring 2005.

What does this imply? Is this estimated 5 percent to 9 percent overvaluation of houses an unusual departure from the market fundamentals of the region and is it likely to result in dramatic reduction in housing prices? Table 6 summarizes the larger departures of housing prices in Hampton Roads from underlying housing market fundamentals over the past quarter century. **In three previous instances where the housing market was overvalued by at least 5 percent, the housing market handled this without an actual decrease occurring in annual average house prices. Housing prices adjusted gradually over time, sometimes not increasing as**

TABLE 6
HAMPTON ROADS RESIDENTIAL REAL ESTATE PRICES RELATIVE TO THE REGION'S UNDERLYING ECONOMIC FUNDAMENTALS

Period	Residential Real Estate Market Condition
1978-1979	Overvalued by 5%
1981-1982	Overvalued by 15%
1986-1988	Overvalued by 10%
1991-1994	Undervalued by 6%
1997-1999	Overvalued by 5%
2004	Overvalued by 7%

Source: Old Dominion University Economic Forecasting Project

much as the Consumer Price Index and sometimes being stagnant for several years. However, actual average housing prices never did decline on a year-to-year basis. If these past experiences are any guide, there is little justification for panicky views that we are in for a wrenching deflation in housing prices in Hampton Roads.

This does not suggest that there are not submarkets inside Hampton Roads where prices have galloped well beyond economic fundamentals. Downtown Norfolk and some waterfront properties may fall into this category. Where typical housing properties are concerned, however, current prices are not far out of line.

Our conclusion also does not suggest that somehow all households can afford to purchase a home. While home ownership has increased dramatically within the region, it remains the case that some households, particularly those headed by a single wage earner with a moderate to low income, will find it extremely difficult to purchase a home. Affordable housing, then, remains a societal issue even though this region has excelled over the past decade in making home ownership a reality for tens of thousands of additional households. In this regard, however, the scenario in Hampton Roads is strikingly different from the circumstances we now observe in the hottest national real estate markets. In locations such as San Diego, it is almost impossible for a household earning the national average income to purchase a typical home.

If no precipitous decline in Hampton Roads housing prices is in the offing, then how is the current market overvaluation price adjustment process likely to unfold? Rather than seeing an actual decrease in the price of houses in the region, the market is likely to experience a period of price stagnation. Continued growth in the Hampton Roads economy – which is critically dependent upon the Department of Defense – will moderate any adjustments that do occur.

Here's what's likely to occur. Sellers will find it more difficult to sell their houses and those needing to sell quickly will have to adjust their price expectations. Others may simply withdraw their house from the market and wait for a better time to sell. As an added incentive to buyers, house sellers may begin to pay closing costs in greater numbers. Real estate brokers may find it in their interest to cut their commissions. Depending on market conditions, builders may buy down interest rates. The truth is, we've already experienced this situation, both in the early 1980s and the early 1990s. There will be some pain and disappointment, but our regional housing market is likely to adjust without extreme distress.

The same cannot be said for Northern Virginia, West Palm Beach, Boston or San Diego. One can make a strong case for the existence of housing bubbles in these communities that could burst and create considerable havoc, not the least because so many interest-only loans now are being granted in these metropolitan areas. Such loans typically do not require any payment on the principal of the loan for three to five years. Thomas Sowell (The Wall Street Journal, May 26, 2005) reported that 66 percent of new mortgages in the San Francisco Bay area were of the interest-only variety in spring 2005. These mortgages reflect buyers' hopeful speculations that both their incomes and housing prices will rise in the future. Either an economic downturn that eliminates jobs, or that results in both stagnant incomes and housing prices, would spoil this scenario. The end result could be an upsurge of bankruptcies and a sudden glut of houses that owners no longer can afford once they are required to begin to pay for their homes.

Are there any economic scenarios that might cause house prices in Hampton Roads actually to decline? The answer to this question is yes … there are several. For example, **at the current level of mortgage interest rates, a *sustained* decrease in Department of Defense spending of $1 billion in the region that lasts for two or more years *without any additional economic activity to replace it* would likely result in a roughly 5 percent decline in house prices. Or, a *sustained* rise in conventional 30-year mortgage rates to 8 percent over a period of two or more years *accompanied by zero economic growth* in the region could induce a 5 percent decline in house prices.** If both of these situations were to occur, then we might see a 10 percent or more decline in housing prices. However, since 1978, the worst year for housing prices was 1990, and even then the average sale price of a home rose by about 1 percent.

Final Words

The 52.7 percent increase in Hampton Roads house prices over the last five years is the region's most rapid price growth for any comparable period in the past quarter century. In 2004, house prices increased at a faster rate than any year since at least 1978, the first year of our data. Developers have raised the quality of the region's housing stock and increased housing construction during the price boom, accounting for a considerable portion of the housing price increases we have observed. In addition, however, builders appear to have been prudent in their construction of new homes and this militates against a price collapse.

Increasing demand has been the primary driver of the region's growing house prices. Demand has been generated from three primary sources: a growing economy, renters who wanted to become homeowners and the most favorable mortgage conditions in 40 years.

To date, the house price run-up in Hampton Roads has not created a significant overall housing bubble. Our statistical model indicates that houses in Hampton Roads are currently overvalued by roughly 5 percent to 9 percent with respect to the economic fundamentals. Although the relatively large recent increase in the region's housing prices is unique historically, the degree of deviation of those prices from their underlying economic fundamentals is not. Over time, the realignment of house prices in accordance with market fundamentals most likely will unfold as a reduction in the growth rate of house prices, accompanied by other seller-unfriendly market mechanisms, such as seller payment of closing costs. A reduction in the general index of Hampton Roads housing prices is quite unlikely in the near future.