This section includes special analyses from the Consumer Expenditure Survey in six areas—food, housing, health care, transportation, personal insurance and pensions, and computers. It also explores consumer information issues by looking at two key market sectors for older consumers: mortgage lending and online services.
Key Expenditure Category Reports
This section provides detailed analyses of consumer expenditures in six areas: food; housing; health care; transportation; personal insurance and pensions; and computers. Data on expenditures in these categories are drawn primarily from the Consumer Expenditure Survey, and we use many of the same terms previously defined in the glossary in Part I (see pages 10–12).

Let’s Eat Out: Expenditures on Food

Between 1984 and 2001, older consumers (age 45 and older) decreased their overall spending on food by 5.7 percent (from $5,506 to $5,193). Although they spent less on food overall, older consumer units increased their spending on food away from home during this period by one percent. In contrast, spending on food at home decreased by 11 percent over this same period.

In 2001, consumer units age 45 to 54 spent more on food overall than did consumer units of other ages and spent higher than average amounts on food away from home. In contrast, consumer units age 55 to 64 and the oldest age groups spent less on food and less than the group of all consumers spent on food away from home. For example, consumer units headed by persons age 45 to 54 spent 25 percent above average on food away from home, while consumer units headed by persons age 75 and older spent 56 percent below average (see Figure 31).

Consumer units headed by persons age 35 to 54—which includes Boomers—spent more on food away from home than their population share would suggest. While their population share was 42 percent, they accounted for 51 percent of the nation’s spending on meals away from home. Consumers age 65 and older had a population share of 20 percent but accounted for only 12 percent of spending on food away from home (see Figure 32).

Income
Income has a dramatic effect on food-away-from-home expenditures. In 2001, while average spending on food away from home by older consumers was $1,339, the wealthiest older consumers spent twice this amount ($2,669), while older consumers in the lowest income quartile spent less than two-fifths of the average ($509). In fact, while the wealthiest older consumer units comprised 13.2 percent of all consumer units, they spent 25 percent of all the dollars spent on food away from home.

![FIGURE 31: Consumers Age 55+ Spent Less Than Average on Food Away from Home](image-url)
In the Future

In a recent AARP study, 80 percent of Boomers reported that they expect to work during their retirement years and continue to live at a higher standard than do older generations.

The fact that Boomers are purchasing more of their meals away from home than ever before may have significant health consequences. Overweight and obesity are serious public health problems that can lead to diet-related illnesses such as diabetes, heart disease, and stroke. Studies show that when people go to restaurants, they generally do not eat as well as they do at home. With many restaurants serving “super-size” portions, people often consume more calories and fat, and fewer important nutrients like fiber, when eating out. In fact, one restaurant entrée can easily provide 50 to 100 percent of a day’s recommended caloric intake.

Accurate nutritional information enables consumers to make healthy food choices. While processed foods sold in supermarkets have to include information about calories and other nutrients on product labels, no such requirement applies to restaurant food. Some large fast-food chains voluntarily provide nutrition information on request, and this information is sometimes available online.

More widespread availability of even limited nutrition information about restaurant foods—calorie and fat content for standard menu items offered by large restaurant chains—would be helpful to consumers.
Home Sweet Home: Expenditures on Housing

Housing is the single largest category of expenditure by older consumers (age 45 and older). Between 1984 and 2001, the average annual expenditure by older consumers for housing increased by 16 percent, exceeding the percentage increase for all consumers (14 percent). During this period, the youngest and oldest age groups experienced the greatest percentage increases in average annual expenditures for housing (see Table 4).

In 2001, older consumers in the lowest income quartile spent the highest percentage of total expenditures for housing (36 percent), while those in the upper income quartile spent the highest dollar amount ($19,822) and the lowest percentage of total expenditures (29 percent).

In 1984, expenditures by older consumers accounted for 46 percent of the nation’s total expenditures on housing. By 2001, this spending had risen to 51 percent. The rate of growth of expenditures was faster (11 percent) than the growth of consumer units (9 percent). In addition, the 45 to 54 and 75 and older age groups increased their market share by 35 percent and 25 percent, respectively, while the market share of the other older age groups declined.

In 2001, consumers in the 35 to 44 and 45 to 54 age groups—which include Boomers—made half of all housing expenditures.

Distribution of Housing Expenditures

In 2001, older consumers spent over three-fourths of housing expenditures on shelter (56 percent) and utilities (23 percent) (see Figure 33).

Expenditures by older consumers were still four percent higher than by all consumers in 2001. Older consumers paid over half (55 percent) of utility expenditures in 2001. Older black consumer units spent over half (55 percent) of expenditures for utilities in 2001. Older consumers had higher average annual expenditures for utilities ($2,878) than all consumers did ($2,767).

Among older age groups in 2001, the percentage of housing expenditures spent by the oldest groups (age 65 to 74 and 75+) on shelter and house furnishings was less than the percentage spent by the youngest groups (age 45 to 54 and 55 to 64). However, the percentage spent by the oldest groups on utilities and household operations—which included items such as personal services—was higher.

Expenditures on Shelter

Between 1984 and 2001, expenditures by older consumers for owned dwellings increased by 56 percent while expenditures for consumers of all ages increased 42 percent (see Table 5).

In 2001, there were dramatic differences in expenditures for owned dwellings among income groups. Average annual expenditures for owned dwellings by older consumers in the upper income quartile ($9,863) were five times those of the older lower income quartile ($1,959) and two and a half times those of all lower income consumers ($2,767). The percentage of utility expenditures by older consumers in the upper income quartile (15 percent) was almost double the percentage spent by all lower income consumers (7 percent).

Expenditures on Shelter:

TABLE 4: Expenditures for Housing, 1984 and 2001

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Expenditures for Housing 1984</th>
<th>Expenditures for Housing 2001</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Consumers</td>
<td>$11,376</td>
<td>$13,011</td>
<td>14.4%</td>
</tr>
<tr>
<td>25-34</td>
<td>$12,216</td>
<td>$13,828</td>
<td>13.2%</td>
</tr>
<tr>
<td>35-44</td>
<td>$14,949</td>
<td>$15,870</td>
<td>6.2%</td>
</tr>
<tr>
<td>45-54</td>
<td>$13,670</td>
<td>$15,026</td>
<td>9.9%</td>
</tr>
<tr>
<td>55-64</td>
<td>$11,465</td>
<td>$12,802</td>
<td>11.7%</td>
</tr>
<tr>
<td>65-74</td>
<td>$8,354</td>
<td>$10,629</td>
<td>27.2%</td>
</tr>
<tr>
<td>75 and older</td>
<td>$6,828</td>
<td>$7,988</td>
<td>17.0%</td>
</tr>
<tr>
<td>45+</td>
<td>$10,613</td>
<td>$12,359</td>
<td>16.4%</td>
</tr>
</tbody>
</table>

times those of the older middle 50 percent income quartiles. Market share of the upper income quartile for owned dwellings, mortgage interest and charges, property taxes, and maintenance, repairs, and insurance was approximately double its population share (13.2 percent). In contrast, market share of the middle 50 percent income quartiles exceeded population for only one of the same categories (maintenance, repairs, and insurance) and failed to exceed population share of the lowest income quartile for any categories.

Some 79 percent of older consumers were homeowners in 2001. A higher percentage of consumer units in the 55 to 64, 65 to 74, and 75 and older age groups reported having a mortgage in 2001 than in 1984 (see Table 6 on page 63).

Between 1984 and 2001, average annual expenditures by older consumers for mortgage interest and charges increased from $1,344 to $2,438, and charges rose 81 percent. This compares to a 34 percent increase in average annual expenditures for all consumers. Increases in average annual expenditures by older age groups for mortgage interest and charges were highest for the oldest age groups and were higher than those for all consumers. In addition, older consumers’ share of the market for mortgage interest and charges increased from 31 to 45 percent between 1984 and 2001.

Between 1990 and 2001, expenditures on owned dwellings and mortgage interest by black older consumers more than doubled.

Factors influencing these changes include low interest rates for first mortgages and home equity loans; a shift to home-secured debt due to passage of the Tax Reform Act of 1986, which phased out deductions for interest paid on nonmortgage consumer debt while maintaining such deductions for mortgage debt; and a steady increase in homeownership rates, particularly among older age

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**TABLE 5: Shelter Expenditures, 1984 and 2001**

<table>
<thead>
<tr>
<th></th>
<th>All Consumers</th>
<th>45+ Aggregate</th>
<th>45+ Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In 2001 Dollars</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shelter</td>
<td>$5,947</td>
<td>$7,602</td>
<td>28%</td>
</tr>
<tr>
<td>Owned Dwellings</td>
<td>$3,515</td>
<td>$4,979</td>
<td>42%</td>
</tr>
<tr>
<td>Mortgage Interest &amp; Charges</td>
<td>$2,132</td>
<td>$2,862</td>
<td>34%</td>
</tr>
<tr>
<td>Property Taxes</td>
<td>$718</td>
<td>$1,233</td>
<td>72%</td>
</tr>
<tr>
<td>Maintenance, Repairs, Insurance, Other</td>
<td>$665</td>
<td>$884</td>
<td>33%</td>
</tr>
<tr>
<td>Rented Dwellings</td>
<td>$1,824</td>
<td>$2,134</td>
<td>17%</td>
</tr>
</tbody>
</table>

*Note: Selected subcategories do not total 100 percent. Source: Consumer Expenditure Survey, 1984, 2001.*
groups and minorities during this period.65

In 2001, older consumers accounted for 65 percent of expenditures for home maintenance, repairs, and insurance.

In addition, older consumers made over three-fifths of expenditures for property taxes (62 percent). The oldest age groups paid the highest percentage of total expenditures for property taxes. In 2001, the 75+ age group had the highest percentage share (five percent).66 In addition, expenditures by older black consumers for property taxes almost quadrupled.

One in five older consumer units (21 percent) were renters in 2001. Between 1984 and 2001, older consumers’ expenditures on rented dwellings increased to more than a third of the market, with the average annual expenditure rising 19 percent (see Table 5 on page 67). Older consumers in the lowest income quartile were most likely to be renters among demographic groups within the older population.67

**In the Future**

Housing was older consumers’ single largest category of expenditure between 1984 and 2001, and it increased in both dollars spent and as a percentage of total annual average expenditures. The spending power of the Boomers and older consumers in the upper income quartile is attracting the attention of the housing industry, particularly those catering to the high end of the business. However, the significantly lower average annual expenditures for housing by the middle 50 percent income quartiles and the lower income

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**TABLE 6: Percent of Consumers Age 45 and Older by Housing Tenure and Age, 1984 and 2001**

<table>
<thead>
<tr>
<th></th>
<th>45–54</th>
<th>55–64</th>
<th>65–74</th>
<th>75+</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Mortgage</td>
<td>56%</td>
<td>56%</td>
<td>36%</td>
<td>42%</td>
</tr>
<tr>
<td>Without Mortgage</td>
<td>21%</td>
<td>21%</td>
<td>45%</td>
<td>38%</td>
</tr>
<tr>
<td>Renter</td>
<td>23%</td>
<td>23%</td>
<td>20%</td>
<td>19%</td>
</tr>
</tbody>
</table>

Older consumers (age 45 and older) increased their spending on health care by 23 percent between 1984 and 2001. Health care is the only key expenditure category where, in 2001, the average annual expenditure by older consumers exceeded that of all consumers ($2,832 vs. $2,182). Further, expenditures by older consumers accounted for almost $7 of every $10 spent by consumers on health care in 2001 (see Table 7). While spending on health insurance premiums and prescription and nonprescription drugs increased rapidly between 1984 and 2001, spending on medical services decreased. This may be due in part to a shift of employer health plans from traditional indemnity plans to managed care arrangements, which typically have included relatively small co-payments for medical services.

Older consumers’ expenditures accounted for almost $7 of every $10 consumers spent on health care in 2001.

Prescription for High Cost: Expenditures on Health Care

Although further discussion is beyond the scope of this overview, the presence and nature of health insurance coverage greatly affects consumer health care expenditures. For example, those who work often receive health insurance coverage through their employer, which subsidizes employees’ premiums at varying levels. Consumers without

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**TABLE 7: Distribution of Consumer Health Care Expenditures, 1984 and 2001**

<table>
<thead>
<tr>
<th></th>
<th>In 2001 Dollars</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All Consumers</td>
<td>45+</td>
<td>45+</td>
<td>45+</td>
<td>45+</td>
</tr>
<tr>
<td>Total</td>
<td>$1,788</td>
<td>$2,182</td>
<td>22%</td>
<td>$2,298</td>
<td>$2,832</td>
</tr>
<tr>
<td>Health Insurance</td>
<td>$631</td>
<td>$1,061</td>
<td>68%</td>
<td>$858</td>
<td>$1,350</td>
</tr>
<tr>
<td>Medical Services</td>
<td>$774</td>
<td>$573</td>
<td>-26%</td>
<td>$913</td>
<td>$705</td>
</tr>
<tr>
<td>Drugs</td>
<td>$282</td>
<td>$449</td>
<td>58%</td>
<td>$396</td>
<td>$643</td>
</tr>
<tr>
<td>Medical Supplies</td>
<td>$99</td>
<td>$100</td>
<td>1%</td>
<td>$131</td>
<td>$133</td>
</tr>
</tbody>
</table>

employer-sponsored coverage might purchase individual policies, which tend to be less generous and more expensive for consumers than employer coverage. Other consumers may have no insurance, so they pay all of their medical costs out of pocket. Some low-income individuals qualify for the state/federal Medicaid program. Finally, most individuals age 65 and older—as well as certain disabled workers—obtain health coverage through Medicare, a federal health insurance program.

While Medicare provides important coverage for its beneficiaries, its cost-sharing requirements can be high, and its benefit package is not comprehensive (for example, in 1984 and 2001, Medicare did not cover the cost of most prescription drugs).

Consumers in the oldest age groups spent the most on health care. In 2001, older age groups’ expenditures on health care exceeded those of all younger age groups (see Figure 34). For example, total health care expenditures by the 75+ age group ($3,397) were more than six times those of the under-25 age group ($530).

Consistent with the higher average age of older single-nonearner consumers (73), compared to older single-earner consumers (57), average annual health expenditures by this group ($2,180) were 51 percent greater than those of older single-earner consumers ($1,446). In addition, the proportion of total average annual expenditures older single-nonearner consumers devoted to health care (12.9 percent) was two and a half times the percentage share by older single-earner consumers (5.1 percent) and one and three-quarters times the percentage share by all older consumers (7.3 percent).

Income is another important factor in older consumers’ expenditures on health care. In 2001, the proportion of spending on health care by the lower income quartile (11.1 percent) was more than twice the proportion of spending of the upper income quartile (4.8 percent). Despite the fact that health care accounts for a larger proportion of lower-income consumer expenditures, the average annual expenditure on health care by consumers in the upper income quartile ($3,263) was 65 percent greater than what consumers in the lowest income quartile spent ($1,975) and 16 percent greater than that of consumers in the middle two income quartiles ($2,811). Indexed spending measures indicate that the lower income quartile’s spending on health care was 95 percent of average, compared to 136 percent for the middle two income quartiles and 158 percent for the upper income quartile.

In addition, average expenditures on health care varied by race and ethnicity. For example, in 2001 older black consumers spent 42 percent less than...
all older consumers on health care ($1,910 versus $2,665). Similarly, the expenditures of older Hispanic consumers ($1,613) were 40 percent less than those of all older consumers. This finding likely reflects differences in income and insurance coverage.

In 2001, expenditures by older black consumers ($1,910) were 42 percent less than those of all older consumers ($2,665), while the expenditures of older Hispanic consumers ($1,613) were 40 percent less than those of all older consumers.

Prescription and Nonprescription Drug Expenditures
The percentage of health care expenditures for prescription and nonprescription drugs increased between 1984 and 2001 for all older age groups, particularly for the two oldest groups. Average annual expenditures on prescription and nonprescription drugs by the 75 and older group almost doubled, from $487 in 1984 to $965 in 2001, while expenditures by the 65 to 74 age group increased 73 percent between 1984 and 2001. This compares to a 58 percent increase in prescription and nonprescription drug spending for all consumers.

Consistent with overall health care spending, the amount individuals spend on drugs has much to do with their insurance coverage. In 1984 and 2001, many younger workers had prescription drug coverage through employer-sponsored health insurance. However, Medicare prescription drug coverage—scheduled to begin in 2006—will be voluntary and will entail a separate premium. Many older consumers lack such coverage in the meantime.

In the Future
Health care services and products represent an important component of older consumers’ budgets. The aging of the population means that a proportionately greater share of the population will likely devote a substantial proportion of its total spending to health. As the cost of health care services and products continues to increase, we should give particular attention to those older consumers most vulnerable to high out-of-pocket spending.
Planes, Trains, and Automobiles: Expenditures on Transportation

Expenditures on transportation by older consumers (age 45 and older) accounted for 50 percent of all transportation spending in 2001. The majority of transportation expenditures were associated with vehicle purchases and ownership. While the amount of spending for new vehicles remained relatively flat between 1984 and 2001 ($1,647 vs. $1,686), average annual expenditures by older consumers for used vehicles rose 41 percent over the study period (see Table 8).

Older consumers accounted for almost half of all vehicle purchase expenditures in 2001.

The older upper income quartile’s average annual expenditures for transportation were four times those of the older lower quartile and 80 percent more than the two older middle income quartiles in 2001. Between 1984 and 2001, average annual expenditures for transportation increased for each of the income quartiles. Increases in average annual expenditures for transportation were largest for the middle income quartiles (74 percent), followed by the lower income quartile (60 percent) and the upper income quartile (34 percent).

**Vehicle Purchase and Ownership**

Consumers age 45 to 54 operated an average of 2.6 vehicles, and 92 percent either owned or leased at least one vehicle in 2001. This was the highest level of vehicle operation among all age groups. The 55 to 64 group had the second-highest level of vehicle operation and ownership or leasing. The number of vehicles operated and owned or leased declined for older age groups, with each member of the 75 and older group operating an average of 1.2 vehicles.

Expenditures for vehicle purchases increased for all income groups, with the upper income quartile having the largest average annual expenditures for new vehicle purchases. In fact, the upper income quartile had an indexed spending measure of 181, compared to 86 for the middle 50 percent income quartiles and 43 for the lower income quartile. At the same time, the middle 50 percent income quartiles’ average annual expenditure on used vehicles was greater than the amount spent on new vehicles (see Figure 35 on page 74).

For older Hispanic consumers, the average annual expenditure in 2001 for transportation ($7,059) was almost equal to that of all older

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**TABLE 8: Expenditures Associated with Vehicle Ownership, 1984 and 2001**

<table>
<thead>
<tr>
<th>In 2001 Dollars</th>
<th>All Consumers</th>
<th>45+ Aggregate</th>
<th>45+ Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>$7,336 $7,633 4%</td>
<td>$6,920 $7,221 4%</td>
<td>46.2% 50.4%</td>
</tr>
<tr>
<td><strong>Vehicle Purchases (Net Outlay)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cars and Trucks, New</td>
<td>$3,090 $3,579 16%</td>
<td>$2,772 $3,267 18%</td>
<td>44.0% 48.6%</td>
</tr>
<tr>
<td>Cars and Trucks, Used</td>
<td>$1,756 $1,685 -4%</td>
<td>$1,647 $1,686 2%</td>
<td>46.0% 53.3%</td>
</tr>
<tr>
<td>Other Vehicles</td>
<td>$1,289 $1,848 43%</td>
<td>$1,095 $1,544 41%</td>
<td>41.6% 44.5%</td>
</tr>
<tr>
<td><strong>Other Vehicle Expenses</strong></td>
<td>$46 $46 0%</td>
<td>$29 $22 -26%</td>
<td>30.9% 25.1%</td>
</tr>
<tr>
<td>Gasoline and Motor Oil</td>
<td>$1,803 $1,279 -29%</td>
<td>$1,759 $1,226 -30%</td>
<td>47.8% 51.1%</td>
</tr>
<tr>
<td>Other Vehicle Expenses*</td>
<td>$2,008 $2,375 18%</td>
<td>$1,911 $2,300 20%</td>
<td>46.7% 51.6%</td>
</tr>
</tbody>
</table>

*Note: Other vehicle expenses include vehicle finance charges; maintenance and repairs; vehicle insurance; and vehicle rental, leases, licenses, and other charges.

consumers ($7,173). The majority of expenditures for older Hispanic consumers’ transportation are associated with vehicle purchase and operation. The average annual expenditures for vehicle purchases by older Hispanic consumers ($3,654) in 2001 exceeded those of all older consumers ($3,267). Further, average annual expenditures for vehicle finance charges were higher ($326) for older Hispanic consumers than they were for all older consumers ($304).

In 2001, average annual expenditures for transportation by the older upper quartile were four times those of the older lower quartile and 80 percent more than those of the two middle income quartiles.

Insurance
Older consumers accounted for more than half (55 percent) of all spending on vehicle insurance in 2001. Average annual expenditures for vehicle insurance by the 45 to 54 age group were the highest ($1,032) among consumers of all ages. The 75 and older age group had the lowest average annual expenditure for vehicle insurance ($536) among older consumers, but these expenditures registered the biggest increase (59 percent) between 1984 and 2001. This compares to a 25 percent increase for the 45 to 54 age group and a 37 percent increase for all consumers.

In addition, average annual expenditures for insurance increased 58 percent for the lower income quartile and 66 percent for the two middle income quartiles. This compares to a 25 percent increase for the upper income quartile and a 46 percent increase for all older consumers.
Public Transportation

The largest portion of public transportation expenditures among all age groups in 2001 went to airline fares for out-of-town trips. Average annual expenditures for public transportation declined for all age groups except the 65 to 74 group between 1984 and 2001. The 65 to 74 age group spent the highest proportion of its public transportation expenditures on airline fares (68 percent), while the 75 and older group spent the lowest proportion (57 percent).

In 2001, average annual expenditures by older black consumers for intracity mass transit fares and local travel were 75 percent greater than those of all older consumers ($107 vs. $61).

In 2001, all older consumers’ average annual expenditures on transportation ($7,173) were 51 percent more than those of older black consumers ($4,753). However, average annual expenditures by older black consumers for intracity mass transit fares and local travel ($107) were 75 percent greater than those of all older consumers ($61) and consumed 39 percent of public transportation expenditures by older black consumers, compared to 15 percent of expenditures for all older consumers.

In the Future

The high level of expenditures related to automobile ownership and operation indicates older consumers’ general reliance on automobiles for mobility. In fact, average annual expenditures for vehicle purchases and related ownership expenses accounted for 94 percent of older consumers’ transportation expenditures. As a result, cost increases in automobiles and related products such as car insurance and gasoline will affect older consumers as they continue to use automobiles to maintain mobility. This is particularly true for consumers age 75 and older, who have seen the largest increase in expenditures for vehicle insurance despite the fact that they operate fewer vehicles than any other older consumer groups.

The general reliance on automobiles for transportation suggests that there is a need to expand transportation alternatives to ensure the continued mobility of older persons.
Protection for Tomorrow: Personal Insurance and Pensions

The key category of Personal Insurance and Pensions represents financial security in the form of deferred consumption. In addition to other savings, people spend a portion of annual income on premiums and pension contributions until retirement or other life events force them to draw on their savings for consumption. This section examines the market share and expenditures of the population age 45 and older on all personal insurance other than health insurance as well as average annual contributions to pensions and Social Security.

**Personal Insurance: Market Share**
Consumers age 45 and older accounted for two-thirds (66 percent) of the market for personal insurance in 2001, yet they only comprised about half (53 percent) of the total population. Figure 36 illustrates the market share for various age groups as well as their share of the total population.

Market share declines with age, from a high of 27 percent for 45 to 54 year olds to only 6 percent for consumers age 75 and older.

Consumers age 45 and older accounted for two-thirds of the market for personal insurance, other than health insurance, in 2001.

**Personal Insurance: Average Annual Expenditures, 2001**
Consumers age 45 and older reported spending an average of $512 annually on personal insurance in 2001, about 25 percent more than the total population average of $410. The 55 to 64 age group had the highest average expenditures ($653) of any age group in 2001, while consumers 75 and older spent the least ($262) (see Figure 37 on page 76).
Of all age groups, consumers age 55 to 64 spent the most money on personal insurance in 2001, an average of $653 per consumer unit.

**Pensions: Average Annual Contributions**

Public and private employers generally base annual expenditures on pensions, including Social Security, on the total amount of money income (such as wages) an individual receives. Employers alone fund traditional defined-benefit pension plans, while workers primarily fund defined-contribution plans such as 401(k)s, although employers may supplement these funds. Social Security, which provides retirement income that cannot be outlived, is funded through equal contributions by workers and their employers. Workers and employers each contribute 6.2 percent of income, up to a maximum of $87,900 in 2004. (Self-employed workers contribute as both worker and employer.) More than 96 percent of all U.S. workers participate in the Social Security system.

Figure 38 illustrates the average annual amount all consumers contribute to Social Security by age group. Not surprisingly, expenditures on Social Security drop dramatically for the 65 to 74 age group, reflecting the fact that workers can receive reduced retirement benefits at age 62 and full benefits at age 65 or 66 (depending on their year of birth). Contributions beyond age 66 demonstrate that some consumers continue to work well past the age at which they can collect full benefits.

Consumers age 45 and older who participated in a public or private pension plan had an average annual expenditure on pensions of $4,667 (see Figure 39).

However, it is important to keep in mind that not all consumers have access to pension plans or participate in available plans. A recent Congressional Research Service study found that only 62 percent of full-time wage and salary workers (ages 25 to 64) had access to any type of pension plan in 2002, and only 54 percent of these workers participated in their employer’s pension plan.

---

**FIGURE 37: Average Annual Expenditures on Personal Insurance Were Highest for Consumers Age 55–64 in 2001**

![Bar chart showing average annual expenditures on personal insurance by age group.](chart.png)

FIGURE 38: Consumers Age 35–54 Had the Highest Expenditures on Social Security in 2001

Source: Consumer Expenditure Survey, 2001 (completed income surveys).

FIGURE 39: Average Annual Pension Contributions by Age Group Among Persons with Pensions, 2001*

*Note: Contributions comprise payroll deductions to public or private retirement plans but not contributions to Social Security. Average amounts among consumers reporting payroll deductions for a public or private pension plan.

plan. In contrast, participation in Social Security is nearly universal among part- and full-time workers, and provides benefits for spouses and other dependent family members as well.

Social Security provides lifetime benefits to more than 96 percent of all U.S. workers and their eligible family members. In contrast, only 62 percent of full-time workers had access to any type of pension plan in 2002.

In the Future
Social Security is the primary source of retirement income for most Americans. Nearly seven out of ten beneficiaries today derive more than half of their income from Social Security. Among poor households of retirement age, Social Security is virtually the only source of retirement income. But Social Security is more than a retirement program: It is a social insurance and family protection plan against financial hardships that cannot always be anticipated or prevented.

The low savings rate in the United States makes safeguarding Social Security and the pension system a critical public policy issue. Policies should give more attention to educating consumers about the importance of saving, contributing, and investing prudently in any retirement accounts available to them as well as the purchase of personal insurance when appropriate.

Logging in: Computer Expenditures and Adoption of Technology by Older Consumers

Between 1990 and 2001, older consumers increased their spending on computer products by 295 percent, compared to a 209 percent increase by consumers of all ages. Consumer units age 55 to 64 showed the largest increase in computer product expenditures, spending 767 percent more on computer products in 2001 than they did in 1990 (see Figure 40).

While older consumers have approached computers and the Internet with caution, they have quickly recognized the benefits of these technologies. Although a smaller percentage of older consumers uses computers than do younger consumers, older consumers are the fastest-growing group of computer users. Similarly, older consumers are the fastest-growing group of consumers online.

Interestingly, once older consumers gain access to the Internet, they spend more money online per person than their population share would suggest. Although comprising only 11 percent of the online population, they accounted for 18 percent of online spending in 2002. Experts predict that online spending by older consumers will grow to $26 billion by 2007, a quarter of total online spending. Older Internet users—age 55 and older—also use high-speed Internet access (broadband) at a similar rate and spend similar amounts of time online as younger users (see Table 9).

Research suggests that consumers, including older consumers, tend to adopt technology based on its utility, convenience, safety, and ease of use. A brief look at other technologies many older consumers have adopted provides additional support for this premise.

<table>
<thead>
<tr>
<th>TABLE 9: Internet Use by Older Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older Users (age 55 and older)</td>
</tr>
<tr>
<td>Online for 5+ years</td>
</tr>
<tr>
<td>Average time online/week</td>
</tr>
<tr>
<td>Have high-speed access</td>
</tr>
</tbody>
</table>

Cellular Telephones
Cellular telephone use among older consumers demonstrates their willingness to use new products that are useful or provide security. A recent AARP survey found the rates of cell phone ownership among 18 to 49 and 50 to 64 age groups to be similar (55 percent and 50 percent, respectively). More than half (57 percent) of the 50 to 64 age group with cellular service identified convenience as their primary reason for having it. For those respondents age 65 and older, one-third reported having cellular service, and, of these, almost three-fifths (58 percent) identified security in case of an emergency as their main reason for adopting cellular service.

Electronic Funds Transfer
Analysis of 2001 Survey of Consumer Finance (SCF) data shows that using direct deposit increases with age, while other forms of electronic funds transfer, such as ATMs, cash cards, and Internet banking, decrease. Researchers suggest that the differences reflect the relative safety, convenience, and ease of use of direct deposit, which requires only a one-time sign-up, as opposed to the multistep procedures involved in Internet banking (that is, accessing the bank Web site, navigating to the online banking page, logging in with a user name and password, then navigating among several submenus). Drawbacks to ATM use could include long lines, complicated on-screen user guides that vary among ATMs, and unsafe locations.

Cable Television
In 2001, 46 percent of all persons viewing cable television were age 45 and older (68.2 million persons). Persons age 55 to 64 had the highest rate of viewership (76.5 percent) among all age groups. The high rates of cable television subscribership among older adults seem to be a natural outgrowth of this population’s strong affinity for television. Frequency of television viewing tends to increase with age; in 2001, persons age 65 and older had the highest viewing rate (96.9 percent) of all age groups. Watching cable is virtually identical to watching broadcast television, and older adults have responded to the ease of moving to this new technology with a solid adoption rate.

Internet
The growing rate of Internet use among older consumers reflects their increasing awareness of its utility. The most popular online activities of older consumers are sending and receiving e-mail (95 percent of all older users) and searching for information (76 percent). Older users most frequently visit sites about health, travel, and investment advice as well as those specifically tailored to seniors’ issues. One study found that 48 percent of users age 65 and older—not compelled to use the Internet for school or work—went online because family members wanted to keep in touch with them. Once online, more than half of these users (56 percent) reported that they were in touch more often with their families because of the Internet.

**FIGURE 40: Older Consumers’ Expenditures on Computer Products Increased Dramatically from 1990 to 2001**

All 209% 45+ 295% 45–54 171% 55–64 767% 65+ 280%

On the other hand, many older people who do not access the Internet simply do not think that doing so will benefit them in any way. A 2000 AARP study found that one-fifth of the computer users surveyed did not have access to the Internet. Almost half of this group (46 percent) cited a lack of interest as the main reason they did not have Internet access. Most of the nonusers were over age 65 and described themselves as inexperienced computer users.

Among older persons who access the Internet, safety considerations often play an important role in their decision to adopt or reject more advanced products and services. For example, the AARP survey revealed that although about half of older Internet users used the Internet to research and compare products, only 39 percent of those who browsed actually made purchases over the Internet. Of those users not choosing to purchase anything over the Internet, one-third cited concern about the privacy of their personal information, safety of payments, and possible fraud.

A 2000 Pew report found that 68 percent of all Americans are concerned about misuse of their credit card number online. The report also noted that 53 percent think that Internet tracking is an invasion of privacy. Data from this report illustrate the fact that older users are more concerned with privacy than are other age groups (see Table 10).

Poor Web page design also influences Internet use. Web sites with small font sizes, tightly clustered and nondistinct links, moving or flashing interfaces, and unforgiving search engines do not take into account the physiological effects of aging.

Once older consumers gain access to the Internet, they spend more money online per person than their population share would suggest.
TABLE 10: Concerns about Internet Privacy by Age

<table>
<thead>
<tr>
<th>Behaviors/Concerns</th>
<th>Percent of Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All Ages</td>
</tr>
<tr>
<td>Not very/not at all confident online activities are private</td>
<td>46%</td>
</tr>
<tr>
<td>Think Internet tracking by companies is harmful</td>
<td>54%</td>
</tr>
<tr>
<td>Provided real name, personal information, or e-mail address to use a site</td>
<td>54%</td>
</tr>
<tr>
<td>Made friends with a stranger by communicating online</td>
<td>25%</td>
</tr>
<tr>
<td>Think Internet companies should not track online activities</td>
<td>62%</td>
</tr>
</tbody>
</table>


One study investigating Web usability by older persons showed that the study’s older group found the Web significantly less usable than did the younger control group. The study reported a strong correlation between successful completion of assigned tasks and a high satisfaction rating among the older group. In other words, older participants strongly preferred the Web sites that they found easier to use.

In the Future
Improvements in privacy protections and Web site design could influence older consumers to adopt technology and encourage access to information and the online marketplace.

Summary of Findings from Key Expenditure Category Reports

**Food**
- Between 1984 and 2001, older consumers decreased their average annual expenditure on food by 6 percent. Expenditures on food at home decreased by 11 percent, while those for food away from home increased 1 percent.
- In 2001, consumers age 35 to 54 (which include Boomers) accounted for 51 percent of spending on food away from home, while only comprising 42 percent of all consumers. The wealthiest older consumers spent 25 percent of all food-away-from-home dollars.

**Housing**
- Older consumers in the lowest income quartile spent the highest percentage of total expenditures for housing (36 percent), while those in the upper income quartile spent the highest dollar amount ($19,822) and had the lowest percentage of total expenditures (29 percent) in 2001.
- In 2001, consumers in the 35 to 54 age group—which includes Boomers—accounted for half of all housing expenditures.
- Older consumers’ expenditures for utilities accounted for 55 percent of the market in 2001, and average annual expenditures in this
category for older consumers were higher than those for all consumers.

- Between 1984 and 2001, expenditures for mortgage interest and charges by older consumers increased by 81 percent, compared to 34 percent for all consumers. Market share increased from 31 to 45 percent.
- In 2001, older age groups spent the most of all age groups on home maintenance, repairs, and insurance in terms of both dollars spent and percentage of total average annual expenditures.

**Health Care**

- In 2001, health care expenditures by older age groups exceeded those of all consumers and all younger age groups. The market share of older consumers was 69 percent.
- The group age 65 to 74 had the highest average annual expenditures ($3,583) for health care among all age groups in 2001.
- In 2001, the proportion of older consumers’ spending on health care in the lower income quartile (11 percent) was more than twice the share that older consumers in the upper quartile spent (5 percent), but the average annual expenditure by the upper quartile was 65 percent greater than the lower income quartile ($3,263 vs. $1,975).

**Transportation**

- Older consumers accounted for half of all transportation spending in 2001 and almost half of all vehicle purchase expenditures.
- Older consumers accounted for 55 percent of all spending on vehicle insurance in 2001.
- In 2001, average annual expenditures for transportation by the upper income quartile of the older population were four times those of the lowest income quartile and 80 percent more than those of the two middle income quartiles.

**Personal Insurance and Pensions**

- Expenditures by older consumers comprised two-thirds of the market for life and other personal insurance, other than health insurance, in 2001.
- Of all age groups, consumers age 55 to 64 spent the most money on personal insurance in 2001, an average of $653 per consumer unit.
- Social Security provides lifetime benefits to more than 96 percent of all U.S. workers and their eligible family members. In contrast, only 62 percent of full-time workers had access to any type pension plan in 2002.

**Computers**

- Expenditures by older consumers on computer products increased by 295 percent between 1990 and 2001, compared to a 209 percent increase for consumers of all ages.
- While older consumers comprised 11 percent of online users, they accounted for 18 percent of all online spending in 2002.
This section explores consumer information issues by looking at two key markets for older consumers: mortgage lending and online services. As the analysis of the Consumer Expenditure Survey in Part I highlighted, housing is the single largest category of expenditure for older consumers. For most older consumers, the home is not only a place to live, it is their main asset in retirement. As we noted in the conclusion of Part II, the percentage of retirement-age homeowners with a mortgage is increasing. Therefore, practices in the mortgage market are increasingly significant to this population.

The World Wide Web is today’s frontier of consumer activity and, increasingly, a playing field for older consumers, especially Boomers. The Web provides an unprecedented opportunity to access a vast array of resources, but it also presents pitfalls that may prevent consumers from finding the information they need and want most. This sector study focuses on issues concerning search engines, access to high-speed Internet networks, and the problem of information credibility.
**Sector Study 1: Mortgage Lending**

The American mortgage finance system is justifiably the envy of the world. It has offered unparalleled financing opportunities under virtually all economic conditions to a wide range of borrowers, leading to the highest homeownership rate in the nation’s history.⁹⁰

Many older persons, while not in the mortgage market to purchase their first home, have substantial equity in their home and, for a variety of reasons, choose to refinance. According to the U.S. Census, the total home equity of persons age 65 and older in the United States is at least $1.75 trillion.⁹¹

The process of obtaining a mortgage—first purchase or refinance—is complicated and costly for borrowers and lenders alike. Americans currently spend $50 billion a year on settlement costs associated with buying or refinancing a home without fully understanding what they are paying for.⁹² Loan originators (that is, lenders and brokers) express concerns that the current mortgage process is cumbersome.

For most consumers, closing day is the most highly anticipated step of the lending process. Homeowners who have financed or refinanced a home remember the “closing” or “settlement” and the legal and technical terms they are required to sign—a stack of paperwork that would take days to actually read and comprehend.⁹³

The closing process, often described by borrowers as intimidating, confusing, and exhausting, is, in reality, the culmination of earlier efforts of the borrower and the lender/broker. Some borrowers go out and seek a loan, while others respond to television advertisements, direct mail, or Internet solicitations. Once actively seeking a loan, borrowers often find that getting approval for the loan is the easy part; comparing loan terms, choosing (and knowing the difference between) a broker or lender, and reading and understanding documents are a different story.

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**Prime or Subprime?**

Over the last ten years, subprime mortgage lending has evolved from a small industry to a market valued at over $200 billion annually, approximately 10 percent of the overall mortgage market.⁹⁴ The term, “subprime,” covers a wide range of mortgage products and practices. In simplest terms, it is mortgage lending where the cost of credit is higher than that offered by prime loan originators.⁹⁵

The industry originally designed subprime mortgages as refinancing loans to consolidate debt.⁹⁶ Survey data show that debt consolidation or cash-out refinancing accounted for 57 percent of subprime loans.⁹⁷ In contrast, only 16 percent of prime loans were for that purpose. These rates vary among lenders and over time, but, in general, subprime refinance loans recapitalize borrowers who may have current or past financial problems.

A recent study found that borrowers 65 years of age or older were three times more likely to hold a subprime mortgage than were borrowers younger than age 35.⁹⁸ Figure 41 shows that for borrowers age 45 and older, 56 percent of mortgages were subprime, while for borrowers younger than age 35, only 12 percent of mortgages were subprime.
For borrowers with less than perfect or no credit, getting a legitimate subprime loan may be a necessary step toward homeownership. For other borrowers, however, especially current homeowners considering refinancing, several aspects of the subprime mortgage lending market should be of concern.

First, market segmentation in mortgage lending results in differential access to prime credit for many borrowers. Studies have shown that minority and older borrowers are disproportionately represented in the subprime refinance market. Further, two recent studies suggest that between 30 percent and 50 percent of subprime mortgage borrowers could qualify for lower-cost “A” loans, but are paying for more expensive subprime loans instead.

Second, there is evidence of predatory lending practices in the subprime mortgage market. One recent study found that more than one-third of subprime refinance borrowers’ loans may have included predatory terms.

Third, there is concern about the increasing percentage of foreclosures associated with subprime mortgage lending. Studies in both urban and suburban areas have found that the volume of foreclosures associated with subprime loans has increased considerably in recent years.

Additionally, a survey of older refinance borrowers found that subprime borrowers were less satisfied with their loan than were prime borrowers. Older subprime refinance borrowers were less likely than were older prime borrowers to feel they received the loan that was best for them, fair rates and terms, and accurate and honest information. In addition, subprime borrowers were less likely to want the same loan again or to recommend the broker/lender to a friend (see Figure 42).

Broker or Lender?
Since the advent of mortgage brokers in the mid-1980s, borrowers have been confused about brokers’ functions and fees, such as whether brokers do or do not shop around on the borrower’s behalf and who pays the broker and how much they are paid. Some mortgage brokers tell borrowers that they will, in essence, act as their agent to shop for the best mortgage loan for them, while other brokers state that they work with a number of funding sources to provide loans and will arrange a favorable loan with one of them.

![FIGURE 42: Older Subprime Refinance Mortgage Borrowers Express Less Satisfaction with Their Loans Than Older Prime Borrowers*](image-url)

*Refinance borrowers at least 65 years of age.
According to some estimates, mortgage brokers today originate more than 60 percent of the nation’s mortgages.

It is not surprising, therefore, that borrowers often perceive brokers as shopping on their behalf for the best loan to meet their needs. This perception frequently deters borrowers from searching on their own for the loan originator and mortgage product that best meets their needs.

**Broker Compensation**

Mortgage brokers receive compensation for their services in a variety of ways. The borrower may pay a broker directly, the lender or wholesale lender who purchases the mortgage loan may pay the broker, or payment may come from a combination of both. Brokers may charge borrowers directly at or before settlement for loan origination as well as for other services, including the application, document preparation, and document review.

HUD describes mortgage broker compensation as follows:

“In some cases, broker origination charges may be denominated as an origination fee and sometimes as an ‘origination point’ (one point equals one percent of the loan amount), while other fees for named services (for example, application fees, document preparation fees, processing fee, etc.) are charged as separate cost items on the Good Faith Estimate (GFE). Some brokers receive both percentage-based fees and fees for named services. Where brokers receive a payment for compensation from someone other than the borrower, most commonly the lender, it is called indirect compensation. Such indirect compensation from lenders is ordinarily based upon an above-market interest rate on the loan entered into by the broker with the borrower. We often refer to this type of compensation as ‘yield spread premium’ (YSP) although it sometimes shows up under a different label, for example, servicing release premium.”

According to an AARP study, 52 percent of older borrowers with lender-originated loans and 70 percent with broker-originated loans relied “a lot” on a broker or lender to get them the best loan.
Along with the complexities of broker fees, fees for document preparation and other costs further complicate comparison-shopping and may inhibit the borrower from shopping.

In 1974, Congress enacted the Real Estate Settlement Procedures Act (RESPA) to improve the mortgage settlement process. Among the Act’s stated purposes are improving the effectiveness of advance disclosure of settlement costs to homebuyers and sellers and eliminating kickbacks or referral fees that tend to increase the costs of certain settlement services unnecessarily. Regulators have not substantially revised RESPA, which predates the widespread use of many current broker compensation practices, in decades. HUD recently proposed a rule to improve and simplify the mortgage process and reduce consumers’ settlement costs.¹¹⁰

Some borrowers understand, agree to, and properly use higher interest rates to lower up-front settlement costs. Many borrowers, however, find it difficult to determine whether they are getting optimum loan terms. Is the borrower receiving any benefits (reduced up-front costs, for example) for a slightly higher interest rate? Is the borrower receiving any of the benefit from the YSP, or is it solely compensation for the broker?

Mortgages: Bought, Sold, or Information Overload?
In a market where consumers have the ability to comparison shop, prices can be competitive.¹¹¹ Unfortunately, given the bewildering array of mortgage products available from a growing number of sources, even the most sophisticated borrower has difficulty evaluating the details of the mortgage. How can borrowers, who generally make this transaction infrequently, possibly keep up with ever-changing terms and products? How can they wade through the complex and endless choices of mortgage products and determine which, if any, loan is best for them?

As we noted earlier, most borrowers rely a great deal on the loan originator for expertise and guidance. After all, it is the lenders’ and brokers’ job to be knowledgeable about the credit market and mortgage products; they “do this every day for a living.” In fact, according to Fannie Mae’s 2002 Housing Survey, over one-third (39 percent) of consumers erroneously believe that the law requires lenders to give borrowers the best possible rates on loans (see Figure 43). This was true for more than half of African Americans (51 percent) and Hispanics (56 percent) and nearly two-thirds (64 percent) of Hispanic immigrants.

Information Overload
With the increasing availability of nonprime (that is, subprime) products, whose terms are often more complex and less standardized, comparison-shopping is more difficult, yet even more essential. And, as noted, the law does not require lenders to

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**FIGURE 43: Many Consumers Believe That Lenders Are Required by Law to Give Borrowers the Best Possible Loan Rates**

<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic Immigrants</td>
<td>64%</td>
</tr>
<tr>
<td>Hispanics</td>
<td>56%</td>
</tr>
<tr>
<td>African Americans</td>
<td>51%</td>
</tr>
<tr>
<td>All Adults</td>
<td>39%</td>
</tr>
</tbody>
</table>

Source: Fannie Mae 2002 Housing Survey.
give borrowers the best possible rate, even though borrowers rely a great deal on lenders’ expertise. It is not surprising to find that, according to a recent AARP study, many recent prime and subprime borrowers report that they are unfamiliar with terms and conditions of the mortgage process (see Figure 44). More than 50 percent of consumers did not understand the terms of one of the mortgage forms, the Truth-In-Lending disclosure.112

Getting the best mortgage should be easy, right? You don’t even have to find a bank because lenders and brokers find you. It is nearly impossible to open the mail, watch television, access the Internet, or open a newspaper without seeing an advertisement for “debt consolidation” or promising “lower monthly payments.” In fact, a recent AARP study found that 70 percent of homeowners age 45 and older had received information “offering the opportunity to borrow money against the equity in their current home”; of these recipients, 87 percent had received such offers via direct mail. In the face of so much information, how can a consumer interpret all of it and make the best financial decision? And how can a borrower be sure that there are no surprises in the small print of all of the paperwork at closing?

Federal and state consumer protection statutes provide certain basic rights and prohibit certain practices. When predatory lenders victimize older homeowners, these consumers have several legal options under the Truth-In-Lending Act, the Home Ownership Protection Act, the Real Estate Settlement and Procedures Act, and state consumer laws.

In addition, numerous homeownership education and counseling (HEC) programs offer important information about the mortgage process. HEC programs have received wide support based on several perceived values, including the notion that borrowers who receive counseling are better able to handle the responsibilities of achieving and maintaining homeownership. Research findings about the effectiveness of HEC programs, however, are “highly ambiguous” and have “serious limitations . . . [which] severely compromise the value of such findings.”113

HEC programs primarily target home purchasers, perhaps with the false notion that after homeowners have gone through the mortgage process, they are better educated and less vulnerable. However, increasing numbers of equity-rich homeowners,
many of whom are also unfamiliar with the current and ever-changing mortgage market and mortgage products, are refinancing.

Mortgage lenders overwhelmingly use credit scores. By one estimate, over 75 percent of all home mortgage loan decisions use credit scores as a significant factor in the decision-making process.

Credit bureaus are increasingly holding consumers responsible for assuring the accuracy of the information the bureaus use to calculate their “score,” which in turn, affects the interest rate (that is, the price) of the loan for which they qualify. Experts recommend that consumers request their credit report from each of three credit bureaus annually and take steps to correct erroneous information.114

Consumers receive a “credit score” based on credit report information, but they do not have access to the proprietary formulas that generate their “scores.”

Bought or Sold?

“Push marketing,”115 which may lead some persons to originate loans that are not in the borrower’s best financial interest, has raised a concern that many loans, particularly refinance loans,116 are “sold, not sought.”117

Forty percent of older borrowers with broker-originated loans and 31 percent of older borrowers with lender-originated loans reported that they responded to guaranteed loan advertisements at least “a little.”

In a recent AARP study, many older borrowers (24 percent of those surveyed) reported that the lender initiated contact about their current loan, and 56 percent said the broker initiated contact (see Figure 45).

Policy Options

If the mortgage marketplace is to work efficiently and effectively, borrowers must have access to fair credit. Fair credit is defined as credit that is priced (that is, the interest rate and related fees) appropriately, based on the risk that the borrower will repay the loan. Further, choice and competition in the marketplace require that consumers have adequate, timely information about the loan terms and role of the loan originator. In addition, consumers must have confidence that inappropriate loan terms are not hiding in the stacks of paperwork or that the terms are unlawful. The mortgage process, while onerous, must assist borrowers in navigating the complexities of the process and obtaining fair credit.

Policymakers have attempted to assure access to fair credit, prohibit egregious lending practices, and assure adequate and timely disclosures that enable consumers to compare loan products. In addition to existing federal protections,118 many states have recently enacted legislation on high-cost home loans that includes provisions addressing such
predatory lending practices as: requiring lenders and brokers to consider the borrower’s ability to repay the loan, not just the amount of equity offered as collateral; restricting unfair prepayment penalties; limiting the closing costs or other fees financed in the loan amount; and prohibiting or limiting the use of balloon payments.

Recently, the Department of Housing and Urban Development (HUD) issued a “Homebuyer Bill of Rights” that provides some basic principles to guide the mortgage settlement process. HUD asserts these five principles to be essential rights of consumers in the home-buying process.

Harvard University’s Joint Center for Housing observes that regulatory oversight has not kept pace with dramatic changes in the mortgage lending industry, and that “closing the homeownership gap requires efforts that not only expand financing options for minorities, but also…ensure that recent minority first-time buyers are able to remain homeowners.” Home equity remains the primary source of wealth in old age and continues to be a major component of older persons’ financial security and independence. A combination of enhanced legal protections and market-oriented reforms must protect this key asset.

- **Congress could strengthen the Real Estate Settlement Protection Act regulations to clarify the closing process and protect consumers from inappropriate fees and charges as well as changes in loan terms.** Changing the way the system records lender payments to brokers and reports them to consumers, and improving HUD’s Good Faith Estimate settlement cost disclosure are among the changes that would improve the mortgage process for lenders and borrowers alike.

- **Congress and the states could enact legislation to protect homeowners from abusive practices and resulting foreclosures.** Predatory lenders often target equity-rich older homeowners and strip their equity through deceptive terms and inappropriate multiple refinancings (that is, “flipping”).

- **Providers, researchers, and policymakers could explore ways to make home education counseling more effective.** Legislators should consider expanding access to HEC for older persons, persons engaged in refinancing, and other “nonfirst purchasers.” One often assumes that after homeowners have gone through the mortgage process, they are more knowledgeable and less vulnerable. However, choices in mortgage products change every day, and even if borrowers have gone through the mortgage process before, they are likely to come across unfamiliar terms and aspects of the process.

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**Homebuyer Bill of Rights**

- Homebuyers have the right to receive settlement cost information early in the process, allowing them to shop for the mortgage product and settlement services that best meet their needs.

- Homebuyers have the right to have the disclosed costs be as firm as possible, to avoid surprises at settlement.

- Homebuyers have the right to benefit from new products, competition, and technological innovations that could lower settlement costs.

- Homebuyers have the right to simplified disclosure and access to better borrower education.

- Homebuyers have the right to know they are protected through vigorous RESPA enforcement and a level playing field for all industry providers.

Sector Study 2: Accessing Information Through the Tangled Web

Every day, millions of consumers connect to the vast and diverse World Wide Web in search of information to meet their specific needs. The information they seek may be as varied as stock prices, hieroglyphics, or gardening tips, just as whoever provides that information could include the U.S. government, a fourth-grade student at the local elementary school, a Fortune 500 company, or an almond farmer in Eastern Europe. The Web serves as a popular door to the Internet—the fastest-growing information medium of all time—by providing an easy way to access huge amounts of online information, including files of text, images, audio, and video. Its existence creates immeasurable opportunities for consumers. At the same time, the Web contains significant hidden hazards that prevent many users from finding the information they need. Three of these perils are: the notion that because the Web contains so much information, it must include everything that is available; search engines that give prominence to the most commercial, most popular, and best-designed Web pages regardless of their quality; and the existence of inaccurate or incomplete information that is often difficult to distinguish from accurate information.

The Deep Web

One major hazard to using public Web information is the mistaken notion that because the Web contains so much information, Web users must have access to all existing information. In fact, much of the highest quality information is not available publicly.

The World Wide Web contains about 92,017 terabytes of information. To put this in perspective,
consider that one byte provides the amount of memory space necessary to store a single character such as a letter, number, or symbol. A single terabyte, which equals one trillion bytes, is large enough to store all of the words printed on paper from 50,000 trees. Ten terabytes is roughly equivalent to the entire print collection of the Library of Congress, the world’s largest library.

Despite the existence of all of this online information, Web users generally do not have access to most of it. In fact, researchers estimate that commonly used search engines only access about 167 terabytes of the more than 92,000 terabytes of information on the Web. This smaller, more popular portion of the Web goes by the term, surface Web or visible Web. Terms for the much larger, usually unreachable portion of the Web include the deep Web, hidden Web, or invisible Web. The deep Web resists search engines for a variety of reasons:

Relational Databases—Many databases have their own specific search tool, which provides the only access to the data. General search engines typically are unable to complete the interface with the database search tool.

Dynamically Generated Content—Some Web site developers use a technology known as dynamically generated content HTML, which assembles a Web page only in response to a specific database query. The Web page does not exist either before or after the query, making it very difficult for search engines to index. For example, a Web site that constantly updates its national database of movies, show times, and theater locations can generate a Web page of local information for moviegoers who enter their ZIP code.

Private Information—Some Web sites provide information for a fee and require member login to access content. Many other sites don’t charge a fee, but still require registration and member login. Some Web sites exist on an intranet or behind a firewall. Some sites code other Web content to direct search engines to exclude that information from their index.

New Information—Search engines only index Web pages with links to other indexed pages or those submitted on behalf of the specific Web site. Typically, search engines take at least several weeks and sometimes much longer to discover newly posted information.

Old Information—Many individuals or groups that launch a site deactivate it and remove its content from the Web. Many others move the content of their site from one Web address to another. In fact, the average estimated life span of a Web page is only 100 days. However, several sources, including a few search engines, are available to help find Web pages as they used to exist. In fact, when they index a Web page, a few search engines take a snapshot, which can serve as a backup in case the original page becomes unavailable.

Too Much Information—The largest search engines currently index more than three billion Web pages but miss or purposely exclude many more pages deep within Web sites. For example, search engines may choose to ignore pages formatted using little if any HTML text (the standard programming language of the Web) because content in special file formats, such as high-performance multimedia animations and streaming audio and video, are currently difficult to index, or people search them infrequently.

Much of the deep Web contains high-quality information in databases from government agencies, universities, associations, libraries, and businesses. Each of these databases typically covers more specialized and frequently updated material than a general-purpose search engine. Examples of information stored as part of the deep Web include the following:

- available airline flights and hotel rooms
- basic demographic information
- clinical trials
- dated newspaper articles
- dictionary definitions
- job postings
- laws
The World Wide Web and Search Engines

According to a survey by the Pew Internet Project, 85 percent of American Internet users have consulted a search engine, while 29 percent rely on one every day, making searches the most popular activity after reading or writing e-mail. Moreover, consumers connect to search engines to find a variety of important information, such as learning about health care options, seeking financial advice, or selecting a vacation destination. Obviously, the use of incorrect or incomplete information could have potentially devastating consequences. More specifically, “[s]earch engine indexing and ranking may have economic, social, political, and scientific effects. For example, indexing and ranking of online stores can substantially affect [sic] economic viability; delayed indexing of scientific research can lead to the duplication of work; and delayed or biased indexing may affect social or political decisions.”

Different Search Engines, Different Results

People frequently use the term “search engine” to describe two different types of tools for searching the Web: spider-based search engines and human-edited or human-powered directories. Spider-based search engines use automated software known as “spiders,” “robots,” or “crawlers” to inspect and retrieve the full text of pages on the Web. Most spiders collect and index the full text, or part of the full text, of Web pages by starting with a seed collection of Web addresses (URL’s), and then following the links embedded in each one to find additional pages that are linked to the first set. No search engine has a complete index of all the pages on the Web. In fact, search engines may exclude certain sites, not find links to others, or encounter still others that do not allow crawlers to index all or part of that site’s materials. Once they have collected the text from a page, spiders build search indexes from the words in each of the pages. Note that the web search engine is not searching Web pages when they answer a query. Instead, they are searching their index, which may or may not contain any particular page.

Other search engines collect information in a different manner. Human-edited or human-powered directories depend on humans instead of spiders to enhance their database of Web pages. In compiling this manual index, editors or subject experts process submissions of Web sites, update current listings, resolve dead links, and discover new topics to add. An increasing number of search engines offer both spider-based and human-edited results. However, spider technology is essential because the rate at which people and sites create new Web documents greatly exceeds any manual indexing capacity.

The databases of large spider-based search engines are growing rapidly; the largest search engine now covers more than three billion Web addresses. The fast-growing nature of the Web also means that spider-based search engines that crawl the Web with the smartest and most active spiders have an advantage over their competitors. For example, some of the larger search engines now use spiders that can index relatively new types of documents, such as Portable Document Format (PDF) files, that lesser spiders are unable to crawl. Nevertheless, no single search engine covers all of the Web pages available. In fact, research shows that about half of the Web pages in any search engine database exist only in that database. Thus, Web users who use more than one search engine may find useful information that they would not have found had they limited their search to one engine, regardless of which one they used.

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For search engine companies, keeping their index up to date is the most challenging, resource-intensive, and costly aspect of maintaining a large database of Web pages. In this regard, without some sort of notification, spiders have no way of instantly knowing that a new page has appeared on the Web. Some companies may program their spiders to delay return trips to Web pages that typically do not change very often so that they can concentrate on more changeable, popular, or newer pages. Others may decide to save time and money by having their spiders crawl only the first half of a Web page. No matter what strategies they use, however, with new Web pages coming online every second, and other pages disappearing just as fast, portions of a search engine database become outdated, and search engine users can not find all the relevant or accurate information on a topic that exists. The fact that this is a problem for all search engines, and the extent to which Web page freshness is a problem for any specific search engine, are issues (see “Wrong Information on the Web” on page 98 for more on outdated information) that more Web users need to recognize.

Assuming that a search engine actually has indexed a page that has the information to answer a query, the key to search engine effectiveness is the criteria, or algorithms, that each search engine uses to decide which Web pages in its database are relevant to a user’s query. Using these algorithms, search engines select the listings of Web pages that match the query and rank the identified listings so that the most relevant come first. In an ideal world, Web search tools would retrieve and prioritize the exact same Web pages—and only those Web pages—that each individual searcher would select if he or she were able to review every Web page in the search engine database thoroughly. However, since queries are typically incomplete, words are ambiguous, and relevance is in the eye of the beholder, search engines are unlikely to return perfect results for every search.

Determining Relevance
The challenge then is to find a search engine(s) that comes closest to returning the documents that best fulfill the real information need behind a search query. All Web search engines use essentially the same basic criteria for determining whether a page is relevant to a query or not—how frequently the query term occurs on a particular page, and how prevalent that same term occurs in the entire Web search index. They all also use additional criteria to determine the relevance of a Web page. These may include such measures as where the word appears on a page, how close the query terms are to each other, whether the term is in bold text, or how many pages link to that page. Most search engines, however, do not make clear the relative importance that they attach to these criteria. In fact, search engine companies do not disclose the exact procedures they use to select and rank the Web pages in their database. They guard this information closely to keep it away from Webmasters, who may seek to manipulate their search result rankings, and competitors.

On-Page Criteria
Each search engine uses complex, different ranking procedures and adjusts them frequently in a constant attempt to provide searchers with more pertinent and valuable documents. All search engines consider the content of a Web page, also known as the “on-page” information, to determine whether and to what degree the page is relevant to a searcher’s query. More specifically, search engines assume that the relevance of a Web page increases if it contains more occurrences of the search keywords. They also assume that the position of a search keyword is important: each search engine gives extra weight to Web pages in which search keywords occur near the top of the document and when several or all search keywords appear in a phrase or even close to each other. Some search engines place value on information contained in a “metatag,” an optional area of a Web page, not visible to general users, in which the Web page author can add appropriate
subject terms, highlight keywords from the page or write a one- or two-sentence description of the page.

While using keyword frequency and other on-page criteria is a logical approach to returning more relevant listings, no search process using only this approach can provide every searcher with flawlessly relevant and useful results from just a couple of keywords.\(^\text{138}\) Too many words in a given language have multiple meanings. As such, the search engine cannot infer the searcher's desired meaning unless the searcher puts the words into context. Moreover, the voluminous amount of information on the Web encompasses a wide range of pages that vary dramatically in terms of size, type, and quality. Accordingly, search terms appear in many irrelevant or poor-quality Web pages. Another concern about using this retrieval technique is that Web page developers have the ability to manipulate on-page factors as a means to get higher rankings in search engine results and draw more searchers to their Web page. One such tactic, known as spamdexing (as in flooding or spamming a search engine's index), involves repeated use of certain extraneous keywords—such as the name of a celebrity, a popular product, or fashionable company—on one's Web page in a manner that is invisible to the Web user but that search engines can read. By using this approach, Web page developers seek to raise their search engine ranking by capitalizing on the popularity or relevancy of these keywords. Search engine companies catch many of the more blatant spamdexers and penalize them by rejecting, removing, or at least lowering their pages' rankings.

**Off-Page Criteria**

Most search engines also look beyond the content of a page to determine its overall relevance to a keyword. In this regard, they use “off-page” ranking criteria that developers cannot control by making Web page edits. Probably the most significant of these is link analysis, which weighs the relevancy of a Web page by analyzing the links between it and other pages.\(^\text{139}\) The theory is that a link from one Web page to another is the equivalent of a vote for the importance or relevance of the second page by the author of the first page.\(^\text{140}\) With this approach, a Web page with
many links to it is more relevant than a page with fewer links. Link analysis also values some links more than others do. A link from a more “important” Web page weighs more heavily. However, in many instances, a link from a Web page that connects to many other pages may be somewhat less valuable than a link from a page with only a few outbound links.\footnote{141}

A search engine’s use of link analysis may make it more difficult for Web developers to influence their position on a results page. However, this approach to determining Web page relevancy has its limitations as well. First, the number of links to a Web page can be a measure of that page’s quality or popularity, but a page may be popular for reasons other than the importance, relevance, or quality of its content. People add links to Web pages for a variety of reasons, some of which have nothing to do with the quality of the pages.\footnote{142}

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**Reciprocal Links**—Exchanging links with other, often similar, Web pages.

**Link Requirements**—Some people require a link to their Web page in exchange for the use of proprietary material, such as pictures or graphics.

**Friends and Family**—Many people add links to Web pages their friends and family have developed.

**Free Page Add-ons**—Some companies provide Web page graphics, icons, and tools, such as hit counters and guestbooks, in exchange for a link to their Web page.

Second, while many important and high-quality Web pages are popular, some others are
not as connected on the Web. For example, link analysis undervalues the merits of newer Web pages, which generally have fewer links initially, even though they may become very popular over time. Moreover, developers of new Web pages may find it difficult to add “high-quality” links to improve their ranking now that at least one of the major search engines identifies, on a crude scale of 0 to 10, the level of importance it assigns a particular page.\textsuperscript{143} In this regard, Web page developers seeking to maintain or raise their relevancy ranking may not want to link to new pages or other “less important” pages.

Third, while it is more difficult to influence link analysis than to influence other ranking criteria, significant abuse still occurs. “Link farming,” one of the most popular manipulation techniques, refers to the process of exchanging reciprocal links with a Web site (a link farm) for the sole purpose of increasing the number of links to each Web page added to the link farm. Other tactics include purchasing links to Web pages that have higher rankings\textsuperscript{144} and adding a link in the comment areas of a blog—basically a Web page that functions as an online diary or personal journal—to capitalize on the typically high rankings of well-read blogs.\textsuperscript{145} The goal of these artificial linking tactics is to boost Web page rankings by accumulating hundreds or even thousands of inbound links. However, all search engines seek and frequently uncover efforts to manipulate link analysis. Most also penalize such abuse by reducing the ranking of the offending Web page or even banishing it altogether.

**Paid Inclusion**

Participating in a “paid inclusion” program is another factor that may improve the position of a Web page on a user’s list of search results. Search engine companies that offer paid inclusion receive money in exchange for a guarantee that they will add specific Web pages, as long as these pages meet certain quality review criteria, to their search engine’s database and regularly return to these pages to record any changes or new information. Unlike “paid placement” programs, which label advertiser-sponsored listings as such and/or appear above or adjacent to the keyword search results, paid inclusions typically are indistinguishable from unpaid listings.

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Most search engine companies emphasize that participation in their paid inclusion program does not ensure a high position in the search rankings.\textsuperscript{146} However, several search engine experts and a recent investigation by *Business Week* ("based on 30 interviews and analysis of dozens of Internet searches") suggest that Web operators receive higher search engine rankings after subscribing to a paid inclusion program.\textsuperscript{147} Search engine companies that use these programs disagree with this suggestion and assert that paid inclusion serves customers’ interest because it improves the relevance of their results. Nevertheless, these companies receive significant revenue from paid inclusion programs. One study predicts that spending on paid inclusion programs will increase, after a decline in 2004, from $167 million in 2003 to $293 million in 2006.

In addition, at least one of the larger paid inclusion programs\textsuperscript{148} using a pay-per-click pricing structure creates further incentive for a search provider to improve the rankings of its paid inclusion participants. Under this pay-per-click model, larger Web page operators (over 1,000 Web pages) pay the search engine company between 15 cents and $1 each time a Web user clicks on one of their listings.\textsuperscript{149} Establishing such a pricing structure creates an inherent conflict of interest. Search engine companies make more money when users click on these listings more often, so they have an incentive to give higher rankings to participants than to more relevant listings from nonparticipants.
Quality and Trustworthy Searching?
By not disclosing relevancy criteria, search engines seriously limit the ability of a Web user to assess the quality of its search results. In this regard, the results of every search engine query represent calculated judgments by the search provider about which Web pages in its collection correspond to the query. Each search engine is free to choose which Web pages it recommends and how it chooses to recommend them. Of course, each Web user is also free to choose an alternative search engine. The problem, however, is that without knowing specifically how search engines make their choices, Web users lack sufficient information to understand the different strengths and weaknesses inherent in each search engine.

In addition, some important information about the factors that influence how search engines collect and present their results is available, but much of the searching public does not understand it. The participants in a Consumer WebWatch study selected links from the first page of search results almost 50 percent of the time because they trusted their search engines to present the most relevant results on the first page. Consequently, 41 percent of the listings these participants selected were paid search results.

The findings from this and other studies suggest that consumers are unaware that search engine optimization is a thriving industry, and that many companies spend tens of thousands of dollars to improve search placement, often without changing the substantive content of their Web site. They also suggest that Web users are unaware that search engines penalize Web operators by lowering their Web pages’ relevancy rank or even removing these pages from their database, usually because of something unrelated to any change in the substantive content of the particular Web site. For example, search engines may remove Web pages if they find evidence that Web page developers have used false means to achieve higher search engine rankings.

Search engine companies are increasingly able to frame the way consumers learn about the world as more consumers use the Web as their primary method for accessing information. As such, these companies wield increasingly enormous power. Some consumer advocates contend that search engine companies also have the opportunity and the financial incentive to abuse their power. Further, they argue that the public’s increasing reliance on search engines for all types of information necessitates standards for what constitutes credibility and quality on the Web.

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In general, policymakers have refrained from adopting any rules or regulations for search engines, asserting that the market, unfettered by government regulation, will provide incentive for search engine companies to produce the most objective, least biased search results. In this regard, a 2002 Federal Trade Commission (FTC) letter to several search engine companies urging them to make “clear and conspicuous disclosures” to distinguish sponsored or paid search results from nonpaid results essentially represents the extent of government action to protect search engine users against deceptive or misleading practices.

More than a year after sending its letter, the FTC has expressed satisfaction with the efforts by search engine companies to clearly distinguish paid placement listings on a results page. However, a recent Consumer WebWatch report suggests that many consumers still find paid listings too difficult to recognize. Further, the FTC is less satisfied with paid inclusion programs and, in fact, has expressed concern that these programs might mislead the public about the independence of search listings.
Wrong Information on the Web

The Problem
As is the case with any information source, not all of the information on the Web is of good quality. Caveat emptor is the rule. Many of the same attributes that facilitate open and wide access to useful information also encourage dissemination of bad information. For example, the decentralized nature of the Internet promotes access to a diversity of opinions but, in many instances, also allows Web page developers to claim anything they want regardless of their expertise or bias. The dramatic reach of the Internet ensures easy access to helpful information from all over the world, but it also facilitates the rapid and widespread dissemination of poor-quality information.

In general, the reliability, accuracy, and value of the information on the Web vary across the spectrum from very good to very bad. The significance of this variation is huge. Access to good information empowers people at all levels of society to make rational decisions and to improve the quality of their lives. Conversely, using wrong or incomplete information may have minor or even serious consequences.

For example, a Web page that misidentifies the street address for the location of an upcoming meeting may force the planners to delay or postpone the meeting or cause potential attendees to waste time or money trying to find it. More significantly, a Web page containing misinformation about a health issue may lead some consumers to make bad decisions that could have life-threatening consequences.
Inappropriate Quality of Information

This category includes information that is of poor quality for one group of users but not necessarily for others. For example, both a doctoral dissertation and a junior high school textbook might examine the history of the Vietnam War. While the textbook's treatment of this issue is appropriate for junior high school students, dissertation advisors would express grave concern if a doctoral candidate submitted a similar-quality document as a dissertation.

The wide variety of documents on the Web ensures that many consumers will encounter information that is relevant to the topic of their search but of inappropriate quality. This issue is particularly relevant in light of the growing popularity of Web logs, or blogs for short. Essentially online diaries, blogs often present an individual's unedited ideas or other information that he or she finds interesting. Web users may turn to a blog as a source of news, as many Californians did when wildfires ravaged portions of the state in October 2003. In this regard, blogs provide timely and essential bits of information, update this information more frequently than do more traditional news sites—which require all articles to meet certain standards and editorial requirements—and generally offer a unique perspective on the subject. However, for consumers expecting the level of objectivity associated with a major newspaper, the information in blogs, in many instances, may be inappropriate.

Deliberately Misleading or Fraudulent Information

On the Web, intentional use of false information is a serious problem. Numerous individuals and companies create deliberately deceptive Web sites to disseminate misinformation and/or manipulate others to obtain money or something else of value.

According to the Securities and Exchange Commission (SEC) and the Federal Trade Commission, many fraudsters create intentionally misleading Web sites that appear to be incredible investment opportunities to entice visitors to give them money. Recognizing that this problem is increasing, the two commissions have even created a Web site that promotes a nonexistent company, McWhortle Enterprises, Inc., to alert investors to potential online frauds. The site includes several pages of information that replicate the typical language and approach online fraudsters use on their Web sites. After looking at a minimum of two pages on this phony site, visitors may click on a link to learn more about investing in McWhortle Enterprises. Instead, the connection is to a Web page that reveals that the company is a fabrication and provides links to the SEC, FTC, and other sites offering information about online fraud.

While the McWhortle Enterprises site includes many of the fraudulent and illegal tactics con artists use on the Web, some deliberately misleading Web sites do not break the law. One example is the Web site, www.ConsumerProtectionAgency.us. Before its operator shut down this Web site in 2003, consumers could use it to file a complaint with the Better Business Bureau (BBB) and various government agencies for a fee. The site's official-looking name and its use of images such as the U.S. Capitol dome and the Stars and Stripes gave visitors the impression that its operator was a government agency. In fact, many consumers thought that the Web site would resolve their complaints. In reality, the business that operated the site simply sent copies of a consumer's complaint to the Federal Trade Commission (FTC), the appropriate state's Attorney General's office, the BBB, and the National Consumers League.
Each customer paid $4.95 for this service, even though all of these organizations accepted complaints online at no charge and through the mail for the price of a stamp, and the FTC operated a program to share consumer complaints with every state attorney general and law enforcement agencies nationwide.

Some individuals and organizations purposely present wrong or misleading information on a Web site for reasons other than defrauding consumers out of money. Some are deliberately deceptive in an attempt to be humorous or to entertain. The Onion (www.theonion.com), for example, is a parody newspaper featuring world, national, and community news. Visitors to the farcical site, www.thedogisland.com, read about an island where dogs go to “live the free and natural life.”

Other sites use intricate deception for political purposes. The World Trade Organization (WTO), established in 1995 to succeed the General Agreement on Tariffs and Trade (GATT) as the organization responsible for the global rules of trade between nations, has its Web site at www.wto.org. However, a group protesting the policies of the WTO operates a parody site (www.gatt.org) that very closely resembles the real site. In fact, the protestor’s site has deceived numerous journalists and even those organizing international trade conferences and seminars, who have sent speaking invitations through the fake Web site to the WTO’s director-general. The protestors, known as the Yes Men, have accepted these invitations and proceeded to offer preposterous proposals on behalf of the WTO.

While a professional-looking Web page may be better able to misguide its visitors, some people only need a fake Web address to disguise their true intentions. The World Intellectual Property Organization, the United Nations’ trademark and copyright agency, released a report in 2003 identifying several sites that use popular brand names as part of their Web address in an attempt to redirect customers of various airlines, car rental companies, and hotels to an unaffiliated Web site that advertises travel deals. Many of these sites, including www.airfranceairlines.com, have already ceased operations, but at least one site (www.us-airways.net) is still on the Web.

Biased or Nonobjective Information

Pure objectivity does not exist. All of the information on the Web reflects the point of view of its author and possibly others, no matter how much they try to control their biases. However, some individuals and organizations present information that is intentionally subjective as a means of bolstering their particular point of view. In many instances, a subjective source may offer accurate and useful information and serve to balance sources expressing an alternative point of view. Problems usually arise, however, when Web users do not recognize the biases and subjectivity in such information. In this regard, various Web sites claim objectivity but, in fact, they disguise or conceal biases and thus increase the likelihood of spreading wrong information.

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The Web sites of several antivaccine activists that appear among the first results of a Web search for the word “vaccination” are examples of subjective sources of information that feign objectivity. The first words visitors to Vaccination Debate (http://www.vaccinationdebate.com) notice are a quote from Benjamin Franklin, “When men differ, both sides ought equally be heard by the public, for when truth and error have fair play, the former is always an overmatch for the latter.” Both the quotation and the title of the Web site suggest that its contents include alternative points of view about the benefits and risks of vaccinations. In reality, the site offers no debate, just a monologue on antivaccination topics, such as “Why Vaccines Are Ineffective” and “Health—The Only Immunity.” Similarly, another antivaccination site (http://www.vaccinationnews.com) lacks information about the benefits of vaccination and
yet prominently displays the slogan, “Reporting All Sides of the Vaccination Controversy!!” on its title page.

**Incomplete Information**

A Web site may contain accurate and relevant information but still mislead users because of what it does not include. For instance, a cell phone company that uses its Web site to highlight a service plan with a low monthly rate may confuse and mislead consumers if it does not clarify that the particular rate increases significantly after the first six months. Defining complete and explicit information may vary, however, by the purpose of the site and needs of the visitor. In this regard, most consumers shopping at the cell phone company’s Web site do not need to know about the types of phones the company offered in 1997.

The comprehensiveness and accuracy of health-related information on the Web is particularly important. Nevertheless, many health sites lack important information. According to a study by the U.S. Department of Health and Human Services (HHS), for example, numerous Web sites for clinical trials, which use human volunteers to determine whether experimental treatments or new therapies are safe and effective, exclude key information. More specifically, the study examined 110 clinical trial listings from 22 clinical trial Web sites and found that not one included any information about risks to human subjects; 77 failed to identify the sponsor for the clinical trial; 69 did not indicate the phase of the clinical trial; and 56 lacked a general description of the trial. Similarly, a study of 40 Web sites that provide information to help users choose a physician found that many sites did not include all physicians in a coverage area and some only identified a few providers. Further, only one site allowed users to search for physicians who were currently accepting new patients, and a just a third of the sites allowed users to search for doctors who spoke a specific language.

**Out of Date Information**

In many instances, the value of information on a Web site may depend, in part, on the date when the site posted the information. Consumers who use a particular Web site to check the price of an automobile at a new car dealership may waste
time and money if the dealer does not update the site as frequently as the dealer changes its prices. Even some of the most respected sources on the Web may contain out-of-date and potentially misleading information. One of the first listings in a search of the word, “Czechoslovakia,” is a page (http://lcweb2.loc.gov/frd/cs/cstoc.html) that the Library of Congress put online as part of its Country Study Series. The series covers 102 countries and regions, but does not include entries for the Czech Republic or Slovakia, the two independent states that came into being in 1993 when Czechoslovakia ceased being a single country. The first page a visitor sees after clicking on the listing from the search result is the table of contents from the Czechoslovakia study. This page offers no indication that the information is out of "of contents, a user may notice a line at the bottom of the page that states, "Data as of August 1987."

Policy Options
The World Wide Web provides access to vast amounts of information on countless topics, and its existence creates immeasurable opportunities for consumers. At the same time, however, the Web also contains significant hazards or obstacles that prevent many users from finding the information they need. Individual searchers should shoulder some of the responsibility for accessing accurate and reliable information. Careless research techniques, unthinking search strategies, lackluster effort, or even poor judgment often prevent Web users from accessing information that satisfies their search objective. On the other hand, much of the public does not have ready access to huge amount of information on the Web. In fact, some of this information is only available through fees, memberships or subscriptions to online information services. Moreover, search engines do not index everything on the Web. In other instances, the barrier to the most relevant and useful information occurs elsewhere. The obstacle may be a search engine that purposely produces biased results or a Web site that contains deliberately misleading information. In this regard, the following policy options would make it easier for Web users to access the right information.

Search Engines
The Federal Trade Commission (FTC) could review the progress made by the search engine companies that received the Commission's warning letter in 2002 and determine the extent to which these companies clearly distinguish paid search results, whether they appear under paid placement or paid inclusion, from pure search results. In addition, the FTC could urge all search engine companies to incorporate the following guidelines into all of their search and navigation services:

- Search engine Web sites prominently display a comprehensive list of major content sponsors and advertisers and make it easy to access.
- Search engine Web sites prominently display basic explanations of the methods search engines use to determine which Web sites are relevant to a search query, the ranking of Web sites in a results page, and how the sites include paid results in a results page and make them easy to access.
- Search engines reveal their policies on what they crawl and how often, and perhaps offer a process for noting outdated or Error 404 (not found) pages.

Wrong Information
The private sector, foundations, federal and state governments, and others could initiate, fund, publicize, or otherwise support efforts to help consumers better ascertain the credibility of information on the Web. These organizations might consider adopting specific guidelines or best practices to help standardize the reliability of information on the Web. Such activities could include collaboration with any of various independent organizations, such as Consumer WebWatch, Stanford Web Credibility Project, and Health on the Net Foundation, that have already established such guidelines.