Montana Department of Revenue

Dan Bucks
Director

Brian Schweitzer
Governor

MEMORANDUM

To: Members of the Revenue and Transportation Committee
From: Dan Bucks, Director of Revenue
Date: July 19, 2012
Subject: Biennial Recommendations Concerning Tax Haven Jurisdictions

This memorandum, combined with the more detailed, technical memorandum attached from Brenda Gilmer, Senior Tax Counsel, comprises the Department's biennial recommendations for modifying the list of tax haven jurisdictions for corporate tax purposes and for related improvements with regard to the ensuring of equitable reporting of income earned in Montana by multinational corporations. Both memoranda cover the list of tax havens, while this memorandum contains one additional recommendation for improving the equity of the water's edge election.

Executive Summary of Recommendations

1. The Department recommends adding to the list of tax haven jurisdictions in 15-1-322 (1)(f), MCA, the nations of Hong Kong, Ireland, the Netherlands, Singapore, and Switzerland.
2. The Department recommends retaining Luxembourg as a tax haven.
3. The Department recommends updating the tax haven list to reflect the October 2010 dissolution of the Netherlands Antilles and its effective replacement as tax havens by a set of jurisdictions within the Kingdom of the Netherlands (Aruba, Curacao, Sint Maarten, Bonaire, St. Eustatius, and Saba). The recommendation is to list the Kingdom of the Netherlands and delete the current separate listing of Aruba. The result would be the inclusion of the Netherlands and these six jurisdictions (including Aruba) as tax havens. (If the Legislature does not adopt the inclusion of the Netherlands, then Curacao, Sint Maarten, Bonaire, St. Eustatius, and Saba should be added to Aruba in the current listings to maintain the status quo prior to the dissolution of the Netherlands Antilles.)
4. The Department recommends requiring that all corporations incorporated in the United States that are part of a unitary business be included in the water's edge combined report.

Montana Law on Measuring Income Earned in this State

As background, Montana corporate tax law requires as its general filing method a worldwide combined report to define the income tax base of a corporate taxpayer prior to apportioning income to Montana through use of a standard three-factor formula using sales, property and payroll. In a worldwide combined report, a corporation includes all of its affiliated corporations or business entities based anywhere so long as those affiliates are part of the unitary business operating in Montana. Since 1987,

corporations have been allowed the option of filing a "water's edge combined report" that is limited to most (but not all) of its unitary U.S. corporations and businesses. Since 2003, the water's edge option has also required a corporation to include its unitary affiliates incorporated in listed tax haven jurisdictions.

It is important to note that the U.S. Supreme Court has upheld the use by states of the worldwide combined reporting method as constitutional and reflecting a fair and equitable method of apportioning income to a state.

The stated goal of Montana's law is to ensure that the income reported by each corporation fairly represents the extent of business activity in this state (15-31-312, MCA). This goal as implemented through combined reporting and formula apportionment constitutes a "rule of proportionality." Income should be reported to and taxed by a jurisdiction in proportion to the real economic activity in a state as measured by sales, property and payroll in the state. If applied consistently, this "rule of proportionality" holds all corporations operating in Montana—from the smallest Montana Company to the largest multinational corporations— equally accountable for the income they earn in Montana.

The state system of worldwide income apportionment is vastly superior to the federal approach in ensuring that income is reported properly to the jurisdictions where the income was earned. Thus, prior to the 1987 water's edge law, Montana's corporation tax did an excellent job of treating all corporations equally. Now, however, that system of equal accountability ends at the international border for the few hundred corporations making a water's edge election at their discretion. Those corporations are allowed to shift income internationally out of the United States and Montana quite readily and to underreport their income to Montana as measured against their real economic activity in the state. For example, the Department reviewed three large scale multinational corporate cases wherein those corporations have been able to reduce their Montana net income by amounts ranging from 23% to 87% through a water's edge election. Overall, these three corporations reduced their tax liabilities by a total of $8.25 million over a two-year period. The result is to create an unfair tax advantage for a few hundred multinational corporations as compared to over 14,000 other corporations and to undermine state revenues that should and would otherwise be collected in proportion to the business activities being conducted within the state. It should be noted that the water's edge election is available only to multinational corporations and provides discretionary benefits to those corporations only to the degree they can engage in sophisticated international income shifting transactions.

When the 2003 Montana Legislature enacted the tax haven law, it was an effort to restore some of the equity to the corporate tax that was lost in 1987 when Montana gave multinational corporations the option to elect out of a worldwide system of reporting and to file a "water's edge report" instead. Water's edge reporting subjected the state to the adverse effects of the arbitrary and artificial international shifting of income that federal law is inadequate to prevent.

The failure of the federal approach to international income issues—an approach the U.S. encouraged other nations to adopt from the 1960s forward—has become increasingly obvious as corporate shifting

of income internationally has grown dramatically over recent decades. [See for one example the attached article detailing Apple's income shifting strategies from the New York Times, April 29, 2012.} The federal government and other nations have been notably ineffective in addressing this problem. In this context, Montana's 2003 tax haven law aims to correct not all, but at least the most egregious cases of multinational income shifting. By bringing income earned in Montana but shifted to tax havens back into the scope of the state system of combined reporting and formula apportionment, the proper and equitable reporting of income earned in Montana to this state for tax purposes is improved. These tax haven provisions are effective in helping achieve equity only to the extent that tax havens are properly and adequately identified. Hence, there is a need for a periodic review and updating of the list of tax havens.

Often the Department is asked, "but isn't all this multinational income shifting legal?" The answer at the federal level is that no one really knows. Of course the corporations and the large accounting and law firms who advise them say "yes." However, the approach—referred to as the arm's length method—by which the federal government and other nations attempt to divide income among nations is so unwieldy, indefinite and cumbersome that the final answer to the question is inconclusive and lost in a tangle of confusion and complexity. Former Senator Byron Dorgan of North Dakota, who is also a former North Dakota Tax Commissioner, got it right when he described the current federal system as "the equivalent of asking the Internal Revenue Service to connect the ends of two different plates of spaghetti." So in terms of federal law, there is no clear answer to the legality of many of the income shifting practices.

The answer is much clearer when the multinational income shifting practices are measured against the higher and more equitable standard of state law. Again, the standard of state corporate tax laws is that income should be reported to a state in a manner that fairly represents the business activity of the taxpayer in that state. Multinational income shifting violates this standard. Thus, corporate accounting practices that may or may not be legal under federal law are clearly unacceptable at the state level when measured against the standard that taxes should be proportionate to the real business activity in a state. States, including Montana, simply, effectively and equitably apply the rule of proportionality to the extent that its laws allow the application of combined reporting and formula apportionment. Listing tax havens is all about applying the rule of proportionality to correct the most serious multinational income shifting problems.

Biennial Tax Haven Recommendations

1. The Department recommends adding to the list of tax haven jurisdictions in 15-1-322 (1)(f), MCA, the nations of Hong Kong, Singapore, Switzerland, Ireland, and the Netherlands.

   These nations are proposed for listing because there is strong governmental and expert evidence that multinational corporations use these jurisdictions to shift income out of the United States to these locations with the effect of reducing their U.S. net income—and by extension, Montana net income. These jurisdictions are consistently identified as tax havens in official U.S. government reports, academic studies and reports by recognized international tax

experts, and reports by non-governmental organizations with expertise in international taxation. Considerable weight in making these recommendations is given especially to U.S. governmental reports and those academic studies and expert reports that seek to quantify the extent to which income is shifted to these jurisdictions.

Many advances have occurred in the quantity and quality of tax haven analysis since the Montana tax haven law was enacted in 2003. Ms. Gilmer's memorandum reviews a large volume of the recent, most serious studies of tax havens. These studies use more data and path-breaking analytical methods not available even a few years ago. Of special note are the reports by the U.S. Governmental Accountability Office, "Large U.S. Corporations and Federal Contractors with Subsidiaries in Jurisdictions Listed as Tax Havens or Financial Privacy Jurisdictions, and separate research studies by economists Kimberly A. Clausing and Martin Sullivan. Read together these and multiple other sources map connections among a) preferential tax laws and financial secrecy provisions that facilitate income shift, with b) levels of corporate income reported to these nations that are disproportionately large compared to the economic activity in those jurisdictions, and with c) specific multinational corporations that avail themselves of the tax and secrecy provisions offered by these same nations. In other words, the studies reviewed by Ms. Gilmer connect the dots among multinational income shifting locations and find the jurisdictions missing in Montana's tax haven list are Hong Kong, Ireland, the Netherlands, Singapore, and Switzerland. While there are some variations among these and other studies, the prevailing evidence of income shifting among nations supports the addition of these five countries to the list of tax havens in Montana law.

While implicit in the paragraph above, the answer to the question of what criteria the Department uses in recommending additions to the tax haven list, is simply that there is substantial evidence that corporations use the favorable tax and financial secrecy provisions of a jurisdiction to shift disproportionate amounts of income to that jurisdiction as compared to its real economic activity measured by property, payroll and sales—income derived from and that should have been reported to the United States for tax purposes.

A few specific comments on these additional tax haven jurisdictions are in order. Ireland and the Netherlands effectively function as conduits for transferring corporate profits from the most economically advanced nations to tax havens. One well known mechanism for this transfer of income is the combination of the "Double Irish and Dutch Sandwich" which the Department has reviewed previously with the Legislature. This technique is described once again in the New York Times article attached concerning the success of Apple in shifting income away from where it was earned to tax haven locations for tax purposes.

Switzerland, Singapore, and Hong Kong are financial centers comparable to Luxembourg that have tax and financial secrecy regimes that also facilitate disproportionate income shifting. A typical activity that occurs in these jurisdictions is "earning stripping." A simple example of earnings stripping involves a multinational corporation transferring financial assets to a

subsidiary in one of these countries, borrowing those funds back by the rest of the corporate structure conducting real economic activity in other nations and thereby generating tax deductible interest deductions in those nations. The effect is to shift income for tax purposes from where it was actually earned to Switzerland, Singapore, and Hong Kong (and to the already listed Luxembourg as detailed below).

2. The Department recommends retaining Luxembourg as a tax haven for these reasons:

   a. Luxembourg is the top nation on the current list of tax havens in terms of the amount of Montana net income derived from this state that corporations shift elsewhere. In 2010, Luxembourg was responsible for 41% of the Montana income that corporations were required to report to this state after otherwise having been shifted to the top five listed tax havens. Corporations had shifted $41.49 million in income to Luxembourg out of a total $101.91 million shifted to the top five tax havens in total. The tax haven listing for Luxembourg required corporations to report this income to Montana with a tax effect of $2.9 million out of a total tax effect of $7.1 million for the top five tax havens—again 41% of the total tax effect. Stated simply, income derived from the natural resource sector of the Montana economy ended up in Luxembourg due to its tax and financial secrecy laws, and Montana's tax haven law has effectively intervened to properly return that income to Montana for tax purposes.
   b. Luxembourg is one of the most frequently cited tax havens in reports and studies on the subject. Luxembourg is widely known for facilitating earnings stripping by corporations for income earned in other nations. Luxembourg's zero tax rate on interest received enables this type of earnings stripping activity.
   c. Economists have independently identified large amounts of income shifted to Luxembourg out of proportion to the real economic activity conducted in that nation, confirming Montana's experience described in item (a) above.
   d. The factors cited in the communications from the Ambassador of Luxembourg to the United States for why this nation should be removed from Montana's tax haven list are largely irrelevant to our state. Most importantly, the information exchange agreements cited by Ambassador Senninger are of no assistance to the State of Montana in correcting the income shifting from Montana to Luxembourg. Montana is not a party to and receives no information from those agreements. Even if Montana received information under those agreements, Montana could not use it because it is simply not feasible for a state of this size to adjust income by making transaction by transaction adjustments. Most importantly, there is no evidence that the information exchange agreements and other factors cited by Ambassador Senninger will have any meaningful impact on reducing the actual shifting of income by corporations from where it was earned to Luxembourg.

Luxembourg has a legitimate concern that Montana has not listed as tax havens other comparable financial center nations that also facilitate income shifting for tax purposes. In

particular, the listing of Switzerland, Singapore, and Hong Kong responds to that concern and would establish equal treatment by Montana among comparable financial center tax havens.

3. The Department recommends updating the list to reflect the October 2010 dissolution of the Netherlands Antilles and its effective replacement as tax havens by a set of jurisdictions within the Kingdom of the Netherlands (Aruba, Curacao, Sint Maarten, Bonaire, St. Eustatius, and Saba). The recommendation is to list the Kingdom of the Netherlands and delete the current separate listing of Aruba. The result would be the inclusion of the Netherlands and these six jurisdictions (including Aruba) as tax havens. (If the Legislature does not adopt the inclusion of the Netherlands, then Curacao, Sint Maarten, Bonaire, St. Eustatius, and Saba should be added to Aruba in the current listings to maintain the status quo prior to the dissolution of the Netherland Antilles.)

These recommendations above are described in detail in the attached memorandum by Brenda Gilmer, Senior Tax Counsel.

Additional Recommendation to Improve Corporate Income Accountability
Beyond the changes to the tax haven listings, the Department also would ask the Legislature to consider a related change in law to help ensure that income earned in Montana is properly reported for corporate tax purposes.

4. The Department recommends requiring that all corporations incorporated in the United States that are part of a unitary business be included in the water's edge combined report.

   Currently the water's edge combined report allows a unitary, majority owned U.S. corporation to be excluded from the combined report if less than 20% of their property and payroll are in the United States. These U.S. corporations are commonly referred to as 80/20s. By excluding these U.S. corporations from the combined report, these companies can serve as a "domestic tax haven" entity. A corporation can artificially shift income from its business operations to these 80/20 corporations through intercompany transactions and pricing arrangements and avoid reporting and paying tax on income earned in Montana to this state. This "domestic tax haven" loophole should be closed.

Added Note on Trends in Multinational Tax Filings: Water's Edge and Worldwide Reporting
Attached is a table that lists the number of water's edge elections by year from 1988 through 2011 and the number of multinationals filing worldwide combined reports from 2006 through 2010.

By adding together the water's edge and worldwide reporting corporations, the data indicates the number of multinational corporations doing business and filing returns in Montana rose substantially by 30.6% from 2006 through 2010—from 754 corporations to 985. Multinationals filing worldwide combined reporting returns in Montana rose by 17.8% from 621 in 2006 to 732.

Turning to multinationals electing water's edge, there has been accelerating growth in the number of those elections since 2003. Further, the percentage of multinationals filing on a water's edge basis has risen in recent years. Sixteen years elapsed from 1988 through 2003 before the number of water's edge elections exceeded one hundred: 111 in 2003. It required only eight more years from 2004 through 2011 for the number of multinational corporations electing water's edge to nearly triple to 312 in 2011. Coincidentally, Montana adopted its tax haven law in 2003. While there may be a range of explanations for the trend of accelerating elections by multinational corporations, what seems to be clear is that the addition of Montana's tax haven law does not appear to have discouraged such elections to this point.

Water's Edge Elections By Year

Year	Total
1988	7
1989	9
1990	17
1991	18
1992	27
1993	30
1994	33
1995	47
1996	56
1997	63
1998	68
1999	84
2000	87
2001	97
2002	99
2003	111
2004	109
2005	120
2006	133
2007	160
2008	193
2009	222
2010	253
2011	312

Corps Filing Worldwide Combined

Year	Number
2006	621
2007	677
2008	702
2009	695
2010	732

The New York Times

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How Apple Sidesteps Billions in Taxes

By CHARLES DUHIGG and DAVID KOCIENIEWSKI

RENO, Nev. — Apple, the world's most profitable technology company, doesn't design iPhones here. It doesn't run AppleCare customer service from this city. And it doesn't manufacture MacBooks or iPads anywhere nearby.

Yet, with a handful of employees in a small office here in Reno, Apple has done something central to its corporate strategy: it has avoided millions of dollars in taxes in California and 20 other states.

Apple's headquarters are in Cupertino, Calif. By putting an office in Reno, just 200 miles away, to collect and invest the company's profits, Apple sidesteps state income taxes on some of those gains.

California's corporate tax rate is 8.84 percent. Nevada's? Zero.

Setting up an office in Reno is just one of many legal methods Apple uses to reduce its worldwide tax bill by billions of dollars each year. As it has in Nevada, Apple has created subsidiaries in low-tax places like Ireland, the Netherlands, Luxembourg and the British Virgin Islands — some little more than a letterbox or an anonymous office — that help cut the taxes it pays around the world.

Almost every major corporation tries to minimize its taxes, of course. For Apple, the savings are especially alluring because the company's profits are so high. Wall Street analysts predict Apple could earn up to $45.6 billion in its current fiscal year — which would be a record for any American business.

Apple serves as a window on how technology giants have taken advantage of tax codes written for an industrial age and ill suited to today's digital economy. Some profits at companies like Apple, Google, Amazon, Hewlett-Packard and Microsoft derive not from physical goods but from royalties on intellectual property, like the patents on software that makes devices work. Other times, the products themselves are digital, like downloaded songs. It is much easier for businesses with royalties and digital products to move profits to

low-tax countries than it is, say, for grocery stores or automakers. A downloaded application, unlike a car, can be sold from anywhere.

The growing digital economy presents a conundrum for lawmakers overseeing corporate taxation: although technology is now one of the nation's largest and most valued industries, many tech companies are among the least taxed, according to government and corporate data. Over the last two years, the 71 technology companies in the Standard & Poor's 500-stock index — including Apple, Google, Yahoo and Dell — reported paying worldwide cash taxes at a rate that, on average, was a third less than other S.& P. companies'. (Cash taxes may include payments for multiple years.)

Even among tech companies, Apple's rates are low. And while the company has remade industries, ignited economic growth and delighted customers, it has also devised corporate strategies that take advantage of gaps in the tax code, according to former executives who helped create those strategies.

Apple, for instance, was among the first tech companies to designate overseas salespeople in high-tax countries in a manner that allowed them to sell on behalf of low-tax subsidiaries on other continents, sidestepping income taxes, according to former executives. Apple was a pioneer of an accounting technique known as the "Double Irish With a Dutch Sandwich," which reduces taxes by routing profits through Irish subsidiaries and the Netherlands and then to the Caribbean. Today, that tactic is used by hundreds of other corporations — some of which directly imitated Apple's methods, say accountants at those companies.

Without such tactics, Apple's federal tax bill in the United States most likely would have been $2.4 billion higher last year, according to a recent study by a former Treasury Department economist, Martin A. Sullivan. As it stands, the company paid cash taxes of $3.3 billion around the world on its reported profits of $34.2 billion last year, a tax rate of 9.8 percent. (Apple does not disclose what portion of those payments was in the United States, or what portion is assigned to previous or future years.)

By comparison, Wal-Mart last year paid worldwide cash taxes of $5.9 billion on its booked profits of $24.4 billion, a tax rate of 24 percent, which is about average for non-tech companies.

Apple's domestic tax bill has piqued particular curiosity among corporate tax experts because although the company is based in the United States, its profits — on paper, at least — are largely foreign. While Apple contracts out much of the manufacturing and assembly of its products to other companies overseas, the majority of Apple's executives, product designers, marketers, employees, research and development, and retail stores are in the

United States. Tax experts say it is therefore reasonable to expect that most of Apple's profits would be American as well. The nation's tax code is based on the concept that a company "earns" income where value is created, rather than where products are sold.

However, Apple's accountants have found legal ways to allocate about 70 percent of its profits overseas, where tax rates are often much lower, according to corporate filings.

Neither the government nor corporations make tax returns public, and a company's taxable income often differs from the profits disclosed in annual reports. Companies report their cash outlays for income taxes in their annual Form 10-K, but it is impossible from those numbers to determine precisely how much, in total, corporations pay to governments. In Apple's last annual disclosure, the company listed its worldwide taxes — which includes cash taxes paid as well as deferred taxes and other charges — at $8.3 billion, an effective tax rate of almost a quarter of profits.

However, tax analysts and scholars said that figure most likely overstated how much the company would hand to governments because it included sums that might never be paid. "The information on 10-Ks is fiction for most companies," said Kimberly Clausing, an economist at Reed College who specializes in multinational taxation. "But for tech companies it goes from fiction to farcical."

Apple, in a statement, said it "has conducted all of its business with the highest of ethical standards, complying with applicable laws and accounting rules." It added, "We are incredibly proud of all of Apple's contributions."

Apple "pays an enormous amount of taxes, which help our local, state and federal governments," the statement also said. "In the first half of fiscal year 2012, our U.S. operations have generated almost $5 billion in federal and state income taxes, including income taxes withheld on employee stock gains, making us among the top payers of U.S. income tax."

The statement did not specify how it arrived at $5 billion, nor did it address the issue of deferred taxes, which the company may pay in future years or decide to defer indefinitely. The $5 billion figure appears to include taxes ultimately owed by Apple employees.

The sums paid by Apple and other tech corporations is a point of contention in the company's backyard.

A mile and a half from Apple's Cupertino headquarters is De Anza College, a community college that Steve Wozniak, one of Apple's founders, attended from 1969 to 1974. Because of

California's state budget crisis, De Anza has cut more than a thousand courses and 8 percent of its faculty since 2008.

Now, De Anza faces a budget gap so large that it is confronting a "death spiral," the school's president, Brian Murphy, wrote to the faculty in January. Apple, of course, is not responsible for the state's financial shortfall, which has numerous causes. But the company's tax policies are seen by officials like Mr. Murphy as symptomatic of why the crisis exists.

"I just don't understand it," he said in an interview. "I'll bet every person at Apple has a connection to De Anza. Their kids swim in our pool. Their cousins take classes here. They drive past it every day, for Pete's sake.

"But then they do everything they can to pay as few taxes as possible."

Escaping State Taxes

In 2006, as Apple's bank accounts and stock price were rising, company executives came here to Reno and established a subsidiary named Braeburn Capital to manage and invest the company's cash. Braeburn is a variety of apple that is simultaneously sweet and tart.

Today, Braeburn's offices are down a narrow hallway inside a bland building that sits across from an abandoned restaurant. Inside, there are posters of candy-colored iPods and a large Apple insignia, as well as a handful of desks and computer terminals.

When someone in the United States buys an iPhone, iPad or other Apple product, a portion of the profits from that sale is often deposited into accounts controlled by Braeburn, and then invested in stocks, bonds or other financial instruments, say company executives. Then, when those investments turn a profit, some of it is shielded from tax authorities in California by virtue of Braeburn's Nevada address.

Since founding Braeburn, Apple has earned more than $2.5 billion in interest and dividend income on its cash reserves and investments around the globe. If Braeburn were located in Cupertino, where Apple's top executives work, a portion of the domestic income would be taxed at California's 8.84 percent corporate income tax rate.

But in Nevada there is no state corporate income tax and no capital gains tax.

What's more, Braeburn allows Apple to lower its taxes in other states — including Florida, New Jersey and New Mexico — because many of those jurisdictions use formulas that reduce what is owed when a company's financial management occurs elsewhere. Apple does not disclose what portion of cash taxes is paid to states, but the company reported that it owed

$762 million in state income taxes nationwide last year. That effective state tax rate is higher than the rate of many other tech companies, but as Ms. Clausing and other tax analysts have noted, such figures are often not reliable guides to what is actually paid.

Dozens of other companies, including Cisco, Harley-Davidson and Microsoft, have also set up Nevada subsidiaries that bypass taxes in other states. Hundreds of other corporations reap similar savings by locating offices in Delaware.

But some in California are unhappy that Apple and other California-based companies have moved financial operations to tax-free states — particularly since lawmakers have offered them tax breaks to keep them in the state.

In 1996, 1999 and 2000, for instance, the California Legislature increased the state's research and development tax credit, permitting hundreds of companies, including Apple, to avoid billions in state taxes, according to legislative analysts. Apple has reported tax savings of $412 million from research and development credits of all sorts since 1996.

Then, in 2009, after an intense lobbying campaign led by Apple, Cisco, Oracle, Intel and other companies, the California Legislature reduced taxes for corporations based in California but operating in other states or nations. Legislative analysts say the change will eventually cost the state government about $1.5 billion a year.

Such lost revenue is one reason California now faces a budget crisis, with a shortfall of more than $9.2 billion in the coming fiscal year alone. The state has cut some health care programs, significantly raised tuition at state universities, cut services to the disabled and proposed a $4.8 billion reduction in spending on kindergarten and other grades.

Apple declined to comment on its Nevada operations. Privately, some executives said it was unfair to criticize the company for reducing its tax bill when thousands of other companies acted similarly. If Apple volunteered to pay more in taxes, it would put itself at a competitive disadvantage, they argued, and do a disservice to its shareholders.

Indeed, Apple's decisions have yielded benefits. After announcing one of the best quarters in its history last week, the company said it had net profits of $24.7 billion on revenues of $85.5 billion in the first half of the fiscal year, and more than $110 billion in the bank, according to company filings.

A Global Tax Strategy

Every second of every hour, millions of times each day, in living rooms and at cash registers, consumers click the "Buy" button on iTunes or hand over payment for an Apple product.

And with that, an international financial engine kicks into gear, moving money across continents in the blink of an eye. While Apple's Reno office helps the company avoid state taxes, its international subsidiaries — particularly the company's assignment of sales and patent royalties to other nations — help reduce taxes owed to the American and other governments.

For instance, one of Apple's subsidiaries in Luxembourg, named iTunes S.à r.l., has just a few dozen employees, according to corporate documents filed in that nation and a current executive. The only indication of the subsidiary's presence outside is a letterbox with a lopsided slip of paper reading "ITUNES SARL."

Luxembourg has just half a million residents. But when customers across Europe, Africa or the Middle East — and potentially elsewhere — download a song, television show or app, the sale is recorded in this small country, according to current and former executives. In 2011, iTunes S.à r.l.'s revenue exceeded $1 billion, according to an Apple executive, representing roughly 20 percent of iTunes's worldwide sales.

The advantages of Luxembourg are simple, say Apple executives. The country has promised to tax the payments collected by Apple and numerous other tech corporations at low rates if they route transactions through Luxembourg. Taxes that would have otherwise gone to the governments of Britain, France, the United States and dozens of other nations go to Luxembourg instead, at discounted rates.

"We set up in Luxembourg because of the favorable taxes," said Robert Hatta, who helped oversee Apple's iTunes retail marketing and sales for European markets until 2007. "Downloads are different from tractors or steel because there's nothing you can touch, so it doesn't matter if your computer is in France or England. If you're buying from Luxembourg, it's a relationship with Luxembourg."

An Apple spokesman declined to comment on the Luxembourg operations.

Downloadable goods illustrate how modern tax systems have become increasingly ill equipped for an economy dominated by electronic commerce. Apple, say former executives, has been particularly talented at identifying legal tax loopholes and hiring accountants who, as much as iPhone designers, are known for their innovation. In the 1980s, for instance, Apple was among the first major corporations to designate overseas distributors as "commissionaires," rather than retailers, said Michael Rashkin, Apple's first director of tax policy, who helped set up the system before leaving in 1999.

To customers the designation was virtually unnoticeable. But because commissionaires never technically take possession of inventory — which would require them to recognize taxes — the structure allowed a salesman in high-tax Germany, for example, to sell computers on behalf of a subsidiary in low-tax Singapore. Hence, most of those profits would be taxed at Singaporean, rather than German, rates.

The Double Irish

In the late 1980s, Apple was among the pioneers in creating a tax structure — known as the Double Irish — that allowed the company to move profits into tax havens around the world, said Tim Jenkins, who helped set up the system as an Apple European finance manager until 1994.

Apple created two Irish subsidiaries — today named Apple Operations International and Apple Sales International — and built a glass-encased factory amid the green fields of Cork. The Irish government offered Apple tax breaks in exchange for jobs, according to former executives with knowledge of the relationship.

But the bigger advantage was that the arrangement allowed Apple to send royalties on patents developed in California to Ireland. The transfer was internal, and simply moved funds from one part of the company to a subsidiary overseas. But as a result, some profits were taxed at the Irish rate of approximately 12.5 percent, rather than at the American statutory rate of 35 percent. In 2004, Ireland, a nation of less than 5 million, was home to more than one-third of Apple's worldwide revenues, according to company filings. (Apple has not released more recent estimates.)

Moreover, the second Irish subsidiary — the "Double" — allowed other profits to flow to tax-free companies in the Caribbean. Apple has assigned partial ownership of its Irish subsidiaries to Baldwin Holdings Unlimited in the British Virgin Islands, a tax haven, according to documents filed there and in Ireland. Baldwin Holdings has no listed offices or telephone number, and its only listed director is Peter Oppenheimer, Apple's chief financial officer, who lives and works in Cupertino. Baldwin apples are known for their hardiness while traveling.

Finally, because of Ireland's treaties with European nations, some of Apple's profits could travel virtually tax-free through the Netherlands — the Dutch Sandwich — which made them essentially invisible to outside observers and tax authorities.

Robert Promm, Apple's controller in the mid-1990s, called the strategy "the worst-kept secret in Europe."

It is unclear precisely how Apple's overseas finances now function. In 2006, the company reorganized its Irish divisions as unlimited corporations, which have few requirements to disclose financial information.

However, tax experts say that strategies like the Double Irish help explain how Apple has managed to keep its international taxes to 3.2 percent of foreign profits last year, to 2.2 percent in 2010, and in the single digits for the last half-decade, according to the company's corporate filings.

Apple declined to comment on its operations in Ireland, the Netherlands and the British Virgin Islands.

Apple reported in its last annual disclosures that $24 billion — or 70 percent — of its total $34.2 billion in pretax profits were earned abroad, and 30 percent were earned in the United States. But Mr. Sullivan, the former Treasury Department economist who today writes for the trade publication Tax Analysts, said that "given that all of the marketing and products are designed here, and the patents were created in California, that number should probably be at least 50 percent."

If profits were evenly divided between the United States and foreign countries, Apple's federal tax bill would have increased by about $2.4 billion last year, he said, because a larger amount of its profits would have been subject to the United States' higher corporate income tax rate.

"Apple, like many other multinationals, is using perfectly legal methods to keep a significant portion of their profits out of the hands of the I.R.S.," Mr. Sullivan said. "And when America's most profitable companies pay less, the general public has to pay more."

Other tax experts, like Edward D. Kleinbard, former chief of staff of the Congressional Joint Committee on Taxation, have reached similar conclusions.

"This tax avoidance strategy used by Apple and other multinationals doesn't just minimize the companies' U.S. taxes," said Mr. Kleinbard, now a professor of tax law at the University of Southern California. "It's German tax and French tax and tax in the U.K. and elsewhere."

One downside for companies using such strategies is that when money is sent overseas, it cannot be returned to the United States without incurring a new tax bill.

However, that might change. Apple, which holds $74 billion offshore, last year aligned itself with more than four dozen companies and organizations urging Congress for a "repatriation holiday" that would permit American businesses to bring money home without owing large

taxes. The coalition, which includes Google, Microsoft and Pfizer, has hired dozens of lobbyists to push for the measure, which has not yet come up for vote. The tax break would cost the federal government $79 billion over the next decade, according to a Congressional report.

Fallout in California

In one of his last public appearances before his death, Steven P. Jobs, Apple's chief executive, addressed Cupertino's City Council last June, seeking approval to build a new headquarters.

Most of the Council was effusive in its praise of the proposal. But one councilwoman, Kris Wang, had questions.

How will residents benefit? she asked. Perhaps Apple could provide free wireless Internet to Cupertino, she suggested, something Google had done in neighboring Mountain View.

"See, I'm a simpleton; I've always had this view that we pay taxes, and the city should do those things," Mr. Jobs replied, according to a video of the meeting. "That's why we pay taxes. Now, if we can get out of paying taxes, I'll be glad to put up Wi-Fi."

He suggested that, if the City Council were unhappy, perhaps Apple could move. The company is Cupertino's largest taxpayer, with more than $8 million in property taxes assessed by local officials last year.

Ms. Wang dropped her suggestion.

Cupertino, Ms. Wang said in an interview, has real financial problems. "We're proud to have Apple here," said Ms. Wang, who has since left the Council. "But how do you get them to feel more connected?"

Other residents argue that Apple does enough as Cupertino's largest employer and that tech companies, in general, have buoyed California's economy. Apple's workers eat in local restaurants, serve on local boards and donate to local causes. Silicon Valley's many millionaires pay personal state income taxes. In its statement, Apple said its "international growth is creating jobs domestically, since we oversee most of our operations from California."

"The vast majority of our global work force remains in the U.S.," the statement continued, "with more than 47,000 full-time employees in all 50 states."

Moreover, Apple has given nearby Stanford University more than $50 million in the last two years. The company has also donated $50 million to an African aid organization. In its statement, Apple said: "We have contributed to many charitable causes but have never sought publicity for doing so. Our focus has been on doing the right thing, not getting credit for it. In 2011, we dramatically expanded the number of deserving organizations we support by initiating a matching gift program for our employees."

Still, some, including De Anza College's president, Mr. Murphy, say the philanthropy and job creation do not offset Apple's and other companies' decisions to circumvent taxes. Within 20 minutes of the financially ailing school are the global headquarters of Google, Facebook, Intel, Hewlett-Packard and Cisco.

"When it comes time for all these companies — Google and Apple and Facebook and the rest — to pay their fair share, there's a knee-jerk resistance," Mr. Murphy said. "They're philosophically antitax, and it's decimating the state."

"But I'm not complaining," he added. "We can't afford to upset these guys. We need every dollar we can get."

Additional reporting was contributed by Keith Bradsher in Hong Kong, Siem Eikelenboom in Amsterdam, Dean Greenaway in the British Virgin Islands, Scott Sayare in Luxembourg and Jason Woodard in Singapore.