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MONTEREY, CALIFORNIA

THESIS

**COMMON CENTS? THE ROLE OF PENNIES IN THE
U.S. ECONOMY**

by

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ABSTRACT

This thesis analyzes the impact that the elimination of pennies would have on the U.S. and global economies. This analysis is then compared to the Department of Defense's policy of not utilizing pennies in any of its overseas bases and examines the pros and cons of this course of action on the exchanges and its customers. The objective of this thesis is to identify the financial burden, if any, of maintaining pennies in the U.S. currency to both the government and its citizens. The body of this thesis explores whether or not the U.S. government should continue the production and use of pennies or if the DOD's model could work in the greater economy. This thesis finds that the soundest approach the government could take to deal with this issue is the current legislation proposed by Arizona Representative Kolbe, who proposes that the government stops producing pennies, and that businesses utilize the rounding approach to deal with all transactions ending in cents.

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I. INTRODUCTION

A. PURPOSE

The purpose of this thesis is to analyze the impact the elimination of pennies from the United States currency would have on the U.S. economy. There has recently been much debate on whether or not the penny should continue to be produced by the government and continue to remain in circulation in the U.S. economy. This debate stems from political and economical sources with ties to historical references. This paper explores the various reasons for both sides of the debate. This project analyzes the different approaches that the government could take, as well as the different approaches that have been practiced by other nations and by the U.S. Department of Defense.

The American penny has been in circulation since the late 1780s when Congress realized it needed a stable currency for the newly formed country. The penny was the first currency of America and has become one of the highest-volume coins coming out of the U.S. Mint annually. In the early 1900s, the penny took on a more sentimental role for the American public when the design was changed to coincide with the 100th anniversary of President Abraham Lincoln's birthday.¹ The new "Lincoln penny," as it was called, stood as a symbol for a person whom many Americans believe was the greatest president the country has ever had. With a country so rich in tradition, Americans value the penny for its sentimental purposes as much as they do for its monetary purpose. This sentiment makes the debate over the penny's existence one filled with much emotion and opinion. Some argue on practical grounds, saying that the penny has outlived its monetary usefulness, while others argue that

¹ Americans for Common Cents. "Penny History and Facts," pennies.org. (<http://www.pennies.org/facts.html>) Accessed 15 July 2006.

the penny represents a history of tradition that this country has long stood for.

In May 2006, the U.S. Mint announced that by the end of the fiscal year, the penny would likely cost more to produce than its face value. The Treasury Department, of which the U.S. Mint is a part, earns a profit of millions of dollars every year through what is known as "seigniorage." The Treasury sells the currency to banks at its face value. The difference between the face value of the money and the cost of producing it results in profit, or seigniorage, for the Treasury. This profit is then used to pay off the government's debt, thus making taxes lower than otherwise.² The yearly production and subsequent sale of pennies has earned the government as much as, if not more than, forty million dollars a year. However, if the price of production exceeds the selling price or the face value of the currency, then the government is subsidizing the production of pennies.

Although there have been movements to abolish the penny in the past, this recent announcement from the U.S. Mint has created a heightened interest in removing the penny from the U.S. economy. The most widely known move to eventually abolish the need for the penny, and the one that is fully explored by this paper, is the legislation being proposed by Arizona Representative Jim Kolbe. Representative Kolbe has proposed legislation entitled the "Coin Act," which stands for Currency Overhaul for an Industrious Nation. The Coin Act calls for the government to reduce the demand for pennies by implementing a cash transaction rounding system.³ This bill is similar to legislation he proposed in 2001 called the "Legal Tender Modernization Act." Representative

² William F Hummel. "Who is the Real Beneficiary of Seigniorage," [wfhummel.cnchost.com](http://wfhummel.cnchost.com/seigniorage.html). (<http://wfhummel.cnchost.com/seigniorage.html>) Accessed 29 July 2006.

³ Jim Kolbe. "Kolbe Announces the Coin Act of 2006," 18 July 2006. United States House of Representatives, [house.gov](http://www.house.gov). (http://www.house.gov/list/press/az08_kolbe/coin_act_07182006.html) Accessed 29 July 2006.

Kolbe believes that not only should the penny not continue to be produced given that the government would have to subsidize its production, but also that the penny is a "nuisance" primarily because its monetary value has substantially decreased over the years, making it almost obsolete.

While this movement by Representative Kolbe has garnered much support throughout the nation, it has also raised a great debate among supporters of the penny. One of the most recognized organizations that support the penny is the group known as the "Americans for Common Cents." The Americans for Common Cents believes that the government should continue to produce pennies for many reasons. One reason it claims is that the penny upholds a long-standing tradition in America since it was the first coin ever produced, and because it represents a president many consider as the country's greatest. Another reason this organization claims that the penny should continue to be circulated is that the proposed rounding system would favor business at the expense of the poor. And yet another reason the group's members think the penny should remain in circulation is that charities prosper from the collection of pennies.⁴

Both arguments for and against reducing the need for the penny in the U.S. economy are explored in this paper. These arguments are based on two realities. First, if the government is to continue producing pennies, it will have to subsidize the production of the penny once its cost of production exceeds its value. Second, the penny has outlived its usefulness in the U.S. economy due to its somewhat insignificant monetary value. Other areas such as the history of the penny, the impact that abolishing the penny would have on charities and businesses, and the prices of the components of the penny are also explored.

⁴ Americans for Common Cents.

B. IMPORTANCE

The importance of this research, at least from a DOD perspective, is that it highlights the savings realized by the Department of Defense by not using pennies at its overseas bases. In addition to analyzing the Department of Defense's model, this paper also looks at several other approaches that the government could take to resolve the issue of the penny. The author recommends an approach for the government to implement, the same solution detailed in Representative Kolbe's proposed legislation, and explains the merit of his proposal.

First, in order to effectively conduct a comparative analysis of the various approaches that the government could take, a cost-benefit analysis of the production of pennies is performed. This analysis looks at the two material components of the penny, zinc and copper, and their various price changes over the last two decades. It discusses the Treasury's profit or "seigniorage" earned by banks from the sale of pennies at their face value, and the probable subsidization that will occur if the cost to produce the penny is more than the penny's worth.

Second, the Department of Defense's model is used to illustrate the rounding approach in practice and discuss the use of cardboard coins, or "pogs" in a "combat zone." Pogs are used in place of actual coins in regions designated to be a combat zone due to their weight and the volume they assume on military transport aircraft.

The rounding approach used by the Department of Defense has been in place since the early 1980s, a change that occurred once the decision was made to stop transporting pennies to bases and facilities located overseas.⁵ Similar to the approach suggested by Representative Kolbe, the

⁵ Rich Lowry. "Ditch the Penny," 14 July 2006. townhall.com. (http://www.townhall.com/Columnists/RichLowry/2006/07/14/ditch_the_penny) Accessed 9 September 2006.

Department of Defense eliminated its requirement to conduct cash transactions with pennies by implementing the rounding system. In the early 2000s, the Department recognized its need to reduce the weight of currency that was transported by military aircraft to hostile environments. As a result, it started using cardboard coins, or "pogs," to replace actual coins. As is the case at the overseas bases, the DOD decided against using pogs to represent the penny, and instead implemented the rounding system in these situations.⁶

Third, the Department of Defense's model is analyzed for possible application to the U.S. economy as a whole. The Department's use of the rounding system and its use of cardboard coins to replace the physical coin is studied for possible extension to the entire U.S. economy, including any resulting impact this may have. The elimination of the penny and the subsequent rounding approach from other nations is explored, specifically whether or not the outcome was favorable. This analysis looks at the government's actions from the standpoint of a free-market system. Under a free-market approach, the rounding system would not be forced upon the public by the government. Instead, the government would stop producing pennies and allow people to decide how and whether to use pennies. Alternatives could include pogs or paper scrip. If given a choice, both businesses and consumers may choose to reduce the need for the penny without having this decision forced upon them by the government.

Last, in all of the approaches mentioned thus far, the elimination of the physical penny with continued use of the cent denomination has gone hand-in-hand. This final section discusses how all other democracies that eliminated their cent coin from circulation kept the cent denomination in their economy. This helps to explain why the elimination of

⁶ Desert Vets. "AAFES Pog Information," aafes-pogs.com. (<http://www.aafes-pogs.com/>) Accessed 9 September 2006.

the penny and cent do not necessarily go hand-in-hand and that the government would have a more difficult time getting rid of the cent than it would the penny.

II. APPROACHES AND ARGUMENTS

A. MAJOR DEBATES ABOUT AND APPROACHES TO THE ISSUE

1. U.S. Representative Jim Kolbe's Anti-penny Bill

One of the primary proponents of abolishing the penny in the U.S. economy is Arizona Republican Congressman Jim Kolbe. Representative Kolbe first introduced legislation to Congress in 2001 with his proposed Legal Tender Modernization Act. This movement quickly died, along with the legislation, when it did not garner support from lawmakers or other citizens. With the recent announcement from the U.S. Mint that by fiscal year's end the penny will cost more to make than what it is worth, Representative Kolbe again revisited his plan to eliminate the need for pennies. He introduced his current legislation, Currency Overhaul for an Industrious Nation, or the "COIN" Act, in order to revive his former movement to eliminate the need for pennies in the economy.⁷

The original legislation, Legal Tender Modernization Act, was not designed to necessarily abolish the penny, but rather to render it useless in day-to-day transactions. The bill introduced a rounding system that would require merchants to round each transaction either up or down, depending on the final amount. For example, any transaction, after taxes, that ended in 1 cent, 2 cents, 6 cents, or 7 cents would be rounded down to the nearest amount divisible by 5. Any transaction that ended in 3 cents, 4 cents, 8 cents, or 9 cents would be rounded up. This rule applied only for customers paying in cash. Other customers who paid with check, credit card, or other non-legal-tender means would not be affected by the rounding of the cents. Most supporters, including Kolbe's camp, believe that the rounding system will balance itself out if half of the transactions are rounded up and the other half are

⁷ Kolbe, 2006.

rounded down. This bill clearly did not ask Congress to abolish the penny but, rather, would have rendered it useless to consumers.⁸ This bill did not pass and the push to update the economy's currency was forgotten. It is important to note that Representative Kolbe's proposal essentially would force the public into using the rounding scheme instead of allowing the market to take care of itself. This characteristic of the legislation could be why many opposed his original bill and why it may not get passed once again.

Representative Kolbe revived his push to render the penny useless after the May 2006 announcement from the U.S. Mint that the penny would cost more to produce than it is worth. With the renewed interest in the usefulness of the penny, the Congressman again introduced legislation implementing his rounding system for consumers paying for a transaction with cash. His new "COIN" Act essentially uses the same language that the previous Act used, but this time with harsher words. In his press release, Representative Kolbe called the penny a "nuisance" and referred to the production of pennies as "government waste."⁹ But implementing his rounding system is only part of the Congressman's agenda to revive American currency. According to his press secretary, Korenna Cline, he is pushing for the increase in production of both the \$2 bill and the \$1 golden coin. In addition, he may include changing the composition of all U.S. coins to include metals that are less expensive than, say, zinc and copper.¹⁰

⁸ Jim Kolbe. "Legal Tender Modernization Act Proposal," 22 May, 2001. United States House of Representatives, [house.gov](http://www.house.gov/kolbe/press2001/Legal_Tender220501.html). (http://www.house.gov/kolbe/press2001/Legal_Tender220501.html) Accessed 29 July 2006.

⁹ Kolbe, 2006.

¹⁰ Business Week. "Time to Kill off the Penny?" 17 July 2006. [msn.com](http://articles.moneycentral.msn.com/News/TimeToKillOffThePenny.aspx). (<http://articles.moneycentral.msn.com/News/TimeToKillOffThePenny.aspx>) Accessed 22 August 2006.

When Representative Kolbe initially introduced his Anti-penny Act in 2001, a lot of the support he received came from other Americans who agreed that the penny was more of a nuisance than it was of value. There was not enough interest or support from his fellow Representatives to breathe life into his proposed legislation. However, the news that the penny costs more to make than what it is worth sparked a renewed interest in this legislation. Most of the nation's major news sources have since published articles about the debate. Representative Kolbe points out that as soon as the cost of producing the penny hits the 1.5 cents mark, many people will start collecting pennies for the value of the metal versus the value of the coin in exchange transactions. While the Congressman appears to have supporters on his side this time around, there are still those who are critical of his intentions. After all, he is a Congressman who represents the state with the highest production of copper. While the penny no longer contains much copper, the nickel used in penny production is made mostly of copper. If the Congressman's anti-penny movement succeeds, then the requirement for nickel will increase, thus increasing the requirement for copper. If this were to occur, then it would be a winning situation for the Congressman's constituents and his district.¹¹

2. Rise in Prices of Copper and Zinc

In May 2006, the U.S. Mint informed Congress that it will cost the government nearly 1.23 cents to make a penny by the end of the fiscal year. This rise in the production cost of pennies is due to the rise in price of the precious metal zinc. The penny is comprised of 97.5% zinc and 2.5% copper. Essentially, it is a zinc coin coated in copper.

¹¹ Christian Zappone. "Kill-the-penny bill introduced, Citing spiraling zinc costs, Rep. Jim Kolbe continues his quest to eliminate the 1-cent piece," 18 July 2006. [cnnmoney.com](http://money.cnn.com/2006/07/18/news/penny/index.htm). (<http://money.cnn.com/2006/07/18/news/penny/index.htm>) Accessed 9 September 2006.

In 2005, the penny cost the government \$.0097 to produce, which meant that the production costs rose by 27% between 2005 and 2006. Each year, over 7 billion pennies are produced by the U.S. Mint.¹² One reason for the rise in the price of zinc is the industrial boom of China in recent years. Several years ago, China opened two large zinc mines at the same time that the western economies were taking a dive. This overabundance in production and under-utilization of zinc caused the prices to plummet.¹³ For example, in 2000, the price of a pound of zinc was roughly \$.50. Today, that same pound of zinc costs nearly \$1.50.¹⁴ Additionally, China is currently experiencing an economic whirlwind. The economic growth in China has turned it from one of the world's largest zinc exporters to one of the largest zinc importers.¹⁵ As a result, many items that are comprised of zinc, as is the case with the U.S. penny, are experiencing a sharp increase in production costs. In addition to zinc, copper is another precious metal whose price has increased over the years. What cost not even a dollar per pound in 2000, the price of copper per pound in 2006 is over \$3.00. While copper makes up only a small percentage of the penny's metal input, its rise in base cost is still an important factor in its overall production costs.

While this is the first time in U.S. history that it has cost more to produce currency than the currency's value,

¹² Joseph Pisani. "Cents and Sensibility, While there are moves afoot in Congress to do away with the costly penny, plenty of Americans are weighing in with their two cents," 11 July 2006. [businessweek.com](http://www.businessweek.com). (http://www.businessweek.com/investor/content/jul2006/pi20060710_527175.htm) Accessed 29 July 2006.

¹³ Lawrence Roulston. "Zinc Market Overview," 3 August 2004. [resourceopportunities.com, kitcometals.com](http://www.kitcometals.com). (<http://www.kitcometals.com/commentaries/Roulston/aug042004.html>) Accessed 15 August 2006.

¹⁴ USGS, www.minerals.usgs.gov. (minerals.usgs.gov/minerals/pubs/commodity/zinc/720798.pdf) Accessed 15 August 2006.

¹⁵ Roulston, 2004.

the country has experienced turmoil surrounding the penny in the past. On August 15, 1971, President Nixon signed into law a policy that removed the dollar from the gold standard. During this "Nixon Shock," as this date has been described, President Nixon also unilaterally set a 90-day freeze on prices and wages. Consequently, the market was in a state of "shock" because essentially overnight it went from a free market where supply and demand set the prices to one where the government dictated prices. This resulted in significant turmoil in the U.S. economy in which the value of the dollar began to plummet. During this time, the penny was almost solely comprised of copper, unlike today where it is comprised of only 2.5% copper. Savvy Americans realized the benefit of having pennies worth more for its copper than for its face value and proceeded to melt pennies to sell for their copper. While this may be seen as an extreme case, it is very possible that history could one day repeat itself if the economy experiences any type of chaos and Americans begin to value the worth of the zinc in the penny over the penny itself.

3. Rounding Up/Down Would Hurt U.S. Economy and Taxpayers

a. Rounding Would Result in Higher Prices

There are many arguments about whether or not the rounding system that is proposed by Representative Kolbe would actually hurt or help the consumer monetarily. The standard school of thought is that half of the transactions made would result in rounding down and the other half would result in rounding up. If this is the case, then consumers and businesses would be neither better nor worse off as consumers than they were before this policy was implemented. But many disagree with this theory, including the pro-penny organization "Americans for Common Cents" (ACC). According to their website, the rounding system proposed by

Representative Kolbe would result in higher prices for the consumer. They believe that the ones who would feel a large proportion of the impact from implementation of this policy are the country's lower-income families. As stated in the proposed bill, the rounding system would pertain only to consumers who are paying with cash. The ACC states that the poor and elderly make up the majority of consumers who pay for their transactions using cash; thus, the increased prices due to rounding would "fall disproportionately on those least able to afford it."¹⁶ ACC members are not the only ones who believe the rounding system would hurt consumers. The majority of the American citizens also believe that this is the case. According to a report published by the Government Accountability Office (GAO) in 1996, the majority of Americans polled between the years 1990 and 1995 either supported retaining the penny or supported the idea that pennies were useful in the U.S. economy. The report states that while a majority of Americans would support the rounding system, they also fear that businesses would deliberately round up the majority of the time. If this were the case, then the higher costs would be realized by consumers while businesses earned more profit. What the report does not mention, however, is that this fear felt by the Americans who participated in the survey is not conclusive. If this fear was realized, and businesses could prosper from rounding, they would already be doing so.¹⁷

The rounding system was first introduced in the "Price Rounding Act of 1989" by Representative Hayes of Louisiana on behalf of himself and Representative Kolbe.¹⁸

¹⁶ Americans for Common Cents.

¹⁷ William J Gadsby. "FUTURE OF THE PENNY; Options for Congressional Consideration," 16 July 1996. General Accounting Office. Gao.gov. (<http://www.gao.gov/archive/1996/gg96153t.pdf>) Accessed 15 August 2006.

¹⁸ Thomas, the Library of Congress. "Legal Tender Modernization Act (Introduced in House)," 17 July 2001. Thomas.loc.gov (<http://thomas.loc.gov/cgiin/query/D?c107:1:./temp/~c107VQW02X::>).

While it may be a new concept for Americans, this system has been used in other democracies throughout the world to rid their country of outdated or out-priced coinage. Australia did just that in the early 1990s. After a considerable rise in its Consumer Price Index (CPI) nearly two decades before, the Australian government deemed its one- and two-cent denominations useless and removed them from its economy. The government watched closely during this transition period to ensure that there was not any "profiteering" occurring with businesses who tried to round up more than they rounded down. But the overall effect of this change proved to be positive for the Australian economy.¹⁹ Other countries that have recently rid their economies of the lowest denomination successfully include New Zealand and the Netherlands.

Some proponents of rendering the penny useless may say that the rounding system is not relevant if the market and citizens decide to not continue to use the penny. However, others believe that if the country does eventually abolish the need for the penny or the penny itself, then it is simply giving in to inflation. One point argued in the recent edition of the *Wall Street Journal* is that by abolishing the penny, the U.S. is giving in to inflation by ridding itself of its lowest denomination. The article compared this to common actions of governments of third world countries, such as Mexico, that "periodically degrade their peso currencies and create hyperinflation."²⁰ In contrast, another example given in the *Wall Street Journal* stated that the penny in 1950 was worth 1/8th of its worth today, primarily due to inflation. However, others, such as

¹⁹ Christian Zappone. "The fight against the penny; While China's industrial growth makes pennies more expensive, Rep. Kolbe wants to do away with the coin altogether," 2 June 2006. [cnnmoney.com](http://money.cnn.com/2006/06/01/news/newsmakers/penny/index.htm). (<http://money.cnn.com/2006/06/01/news/newsmakers/penny/index.htm>) Accessed 9 September 2006.

²⁰ Wall Street Journal, "A Penny Unserved," 20 July 2006. online.wsj.com. (<http://online.wsj.com/article/SB115335035831011699.html>) This is a paraphrased quote from the author of the article.

the Robert Whaples, an Economics professor at Wake Forest University, believe that:

The reason that pennies have become so useless is only partly because of inflation. Since 1950, inflation-adjusted GDP per capita has increased more than threefold. Thus, even without inflation we would eventually drop the penny because we've been getting more and more productive, so the time we waste fishing around for pennies has become more and more valuable.

According to him, Americans don't typically collect their pennies and give them to charity; rather, they discard them or they fill containers in their house with these unwanted coins.²¹ Regardless of how the conclusion is drawn, the arguments are convincing that pennies have outlived their purpose in today's economy.

b. Treasury Profits from Production of Pennies

Every coin or bill that the U.S. Mint produces carries with it several expenses including material costs, administrative costs, and manufacturing costs. When the Mint sells a coin to a bank, the Mint receives face value for the currency in return. In turn, the U.S. Mint receives "seigniorage". The U.S. Mint, which falls under the cognizance of the U.S. Treasury, accepts this seigniorage as profit which it then turns over to the Treasury Department. In turn, the Treasury can use this additional money to reduce its borrowing to pay off the national debt. Opponents of the anti-penny bill claim that by reducing the seigniorage the Treasury receives, eliminating the penny

²¹ Robert Whaples. "A Thought for Your Penny--It's Not Worth a Cent," 1 August 2006, Wall Street Journal, wsj.com (<http://online.wsj.com/article/SB115440131034223142-search.html?KEYWORDS=penny&COLLECTION=wsjie/6month>) Accessed 24 August 2006.

would result in increased federal borrowing and higher interest payments.²² The government shares in the seigniorage benefits with the private sector by a reduction in taxes, a decrease in borrowing, and an increase in spending.²³ While it is true that the U.S. government "profits" from the production of currency, the fact is that it will no longer profit from the production of pennies with the increase in the price of the precious metals.

A different view, one that comes from a free market perspective, posits that the U.S. could allow its citizens to decide whether or not they want to use the penny, and therefore not necessarily be subject only to powers of inflation.²⁴ However, in the case of the penny, the government is actually subsidizing the price of the production of pennies because it costs more to produce than its face value. Government subsidization is not a reflection of a free-market society but, rather, of a communistic society. Similar kinds of subsidies were granted in the 1970s and 1980s in the former Soviet Union. The Soviet government often spent more money drilling and excavating oil than the price that the oil sold for. In this case, a communist country was subsidizing the oil that was sold to its citizens. Subsidies from the government, or "corporate welfare," inhibit a free market from realizing its full potential.²⁵ It can be said that essentially it is the American citizen that is paying for the subsidization of pennies through his federal taxes, which is inconsistent with a free-market society. Journalist Stephen J. Dubner, who co-wrote *Freakonomics*, states that the penny has more value to the consumer and the government when the government

²² Americans for Common Cents.

²³ Hummel, 2006.

²⁴ Wall Street Journal, July 20 2006.

²⁵ Wikipedia.org.

(http://en.wikipedia.org/wiki/International_relations_within_the_Comecon)
Accessed July 29 2006.

actually profits from its production. Once the government subsidizes it, the only reason for keeping it around is for "nostalgia and inertia, and those are two pretty bad reasons for doing anything."²⁶

In the past, the U.S. Treasury has made significant profit from the production of pennies. For example, in 1994, it earned a profit of over \$40 million from the production of over 7 billion pennies with a seigniorage of \$.003 per penny. It earned a profit of over \$12 million in 2003 from the production of over 6 billion pennies with a seigniorage of \$.002. As is clear, not only has the production of pennies decreased over time, but also the amount of profit has decreased over time as well, due to higher costs. Consequently, this trend of collecting a profit on the production of pennies will end if the Mint's fiscal predictions for 2006 are accurate. The fact that the penny is the most widely used denomination that is currently in circulation would seem to indicate its usefulness in the economy.²⁷ Nonetheless, the more prices go up, the less the penny will be worth.

Another argument in support of eliminating the penny is that the U.S. Mint can focus more of its attention on producing and circulating the "golden dollar" coin. The Sacagawea dollar, as it is called, costs the government 15.89 cents to produce but is sold to the banking system for its face value of one dollar. The dollar bill, however, costs only 4 cents to produce and is sold for its value of one dollar as well.²⁸ The difference, though, is that because the dollar bill is the most widely used bill in America, the Mint must continually replace the old, fraying bills with new, sturdier ones. This replacement fee costs

²⁶ Chernikoff, Helen, "Nickel for your Thoughts? US Bill Seeks Penny's End," www.news.scotsman.com, (<http://news.scotsman.com/latest.cfm?id=1056322006>) Accessed 15 September 2006.

²⁷ The United States Mint, <http://www.usmint.gov>. Accessed 5 September 2006.

²⁸ Pisani, taken from the slideshow included with his article.

the government millions of dollars every year. In fact, the production of the dollar bill makes up 45% of the U.S. Bureau of Engraving and Printing's annual production of bills. Unlike a coin that can easily remain in circulation for 30 or more years, the lifespan of a bill is much shorter. The typical lifespan of a one dollar bill is usually only 22 months, resulting in greater production numbers.²⁹ If the government rids the economy of the penny, the standard cash register will have room for the golden dollar.

B. EVIDENCE OF THE DEBATE

1. Mixed Feelings Towards the Penny

Certain polls taken by various organizations throughout the years usually conclude with one outcome; people prefer to keep the penny around. While many claim that the penny is a "nuisance" and it has outlived its purpose, many still prefer to keep pennies in circulation. Some of this may be due in part to the sentiment Americans have toward tradition.

a. History

The history of the U.S. penny dates back to the late 1780s when Congress first realized the need for a stable currency for the newly formed country. The first currency produced by the United States was the penny. This coin was initially designed by Benjamin Franklin and was produced by a private mint. The design remained the same until it was changed in the mid-1800s to the "Indian cent," which depicted the head of an Indian princess. In 1909, to commemorate the 100th anniversary of the birth of President Lincoln, the U.S. Mint began producing what is today known

²⁹ The United States Bureau of Engraving and Printing, (<http://www.moneyfactory.gov/document.cfm/18/2230>) Accessed 5 September 2006.

as the "Lincoln penny". Although the design has gone through several changes, the Lincoln penny remains in circulation today.

In addition to the design change, the penny has gone through several composition changes throughout its life span. The first penny designed was comprised of 100% copper. Paul Revere supplied some of the copper used in the production of these early coins. This copper coin continued until the composition changed from 100% copper to 95% copper and 5% zinc during the Civil War era. This composition lasted until the mid-1900s when it was changed to a "steel cent" in order to free up copper to be used to support World War II. While the size remained the same, the weight of the coin was reduced. This penny was in production for only a short duration, by order of Congress, until it went back to the way it was before the war. In 1982, the composition of the penny changed once again due to the rising cost of copper. The composition then, as today, was 97.5% zinc and 2.5% copper.³⁰

The long-standing tradition of the penny in America is a primary reason why so many people want to keep the penny in circulation. From being America's first coin, to its history dating back to Benjamin Franklin and Paul Revere, to the sentiments many have towards President Lincoln, the penny is "part of the fabric of American culture."³¹ A recent Gallup poll shows that two thirds of Americans want to keep the penny around.³² Another indication of the penny's value in American history was presented when President Bush signed into law a bill that mandates the redesign of the penny in 2009 to commemorate

³⁰ Americans for Common Cents.

³¹ David Early, "President Bush Signs Lincoln Penny Redesign into Law; New Images on Coin's Reverse Will Mark Lincoln's 200th Birthday," 23 December 2005. [lincolnbicentennial.com](http://www.lincolnbicentennial.com). (<http://www.lincolnbicentennial.gov/press/news/news12230527.php>) Accessed 8 August 2006.

³² Jeff Donn, "Do Pennies Still Make Sense," 7 July 2006, [washingtonpost.com](http://www.washingtonpost.com/wp-dyn/content/article/2006/07/06/AR2006070601423_pf.html) (http://www.washingtonpost.com/wp-dyn/content/article/2006/07/06/AR2006070601423_pf.html) Accessed 29 July 2006.

the 200th anniversary of President Lincoln's birth. There will be four different designs produced that year to represent various stages of Lincoln's life. The fifth design after 2009 will be a representation of Lincoln's legacy in America. In order to amplify the importance of this redesign, Congress created the Abraham Lincoln Bicentennial Commission to oversee the celebration of Lincoln's anniversary and the redesign of the penny.³³

b. Evidence from Consumers and Taxpayers

The dispute about whether or not the government should end the production of pennies produces much debate from citizens throughout the country. The old Benjamin Franklin saying "a penny saved is a penny earned" is not as relevant today as it was in the past, especially since a one cent penny is now worth 1.23 cents.³⁴ Of course, the production cost is not necessarily what makes the penny less relevant as does its low value. One noted economist, N. Gregory Mankiw, currently a professor at Harvard and a former chairman of President Bush's Counsel of Economic Advisers, drives home this point by stating:

This year I will vote to eliminate the penny. The purpose of the monetary system is to facilitate exchange, but I have to acknowledge that the penny no longer serves that purpose. When people start leaving a monetary unit at the cash register for the next customer, the unit is too small to be useful. I know that some people will be upset when their favorite aphorisms become

³³ Early, 2005.

³⁴ Jay Fitzgerald, "Pennywise, It's a Pound Foolish," 12 May 2006, Boston Herald, bostonherald.com.
(<http://pqasb.pqarchiver.com/bostonherald/access/1035911301.html?dids=1035911301:1035911301&FMT=ABS&FMTS=ABS:FT&date=May+12%2C+2006&author=JAY+FITZGERALD&pub=Boston+Herald&edition=&startpage=003&desc=PENNYWISE%2C+IT%27S+POUND+FOOLISH>) Accessed 29 July 2006.

anachronistic, but a nickel saved is also a nickel earned.³⁵

In addition to the opinions of experts in the field of economics, there are also opinions of everyday consumers who believe the penny has outlived its usefulness. There are stories about consumers such as Edmond Knowles of Flomaton, Alabama, who save their pennies and cash them in for thousands of dollars. He saved more than 1.3 million pennies over four decades and was able to cash them in for over \$13,000. After experiencing the difficulties it took to turn the pennies in for other currency, he stated, "I don't save pennies anymore. It's too big a problem getting rid of them."³⁶ While this story may be rare, there are many stories of consumers who find that the penny is more of a nuisance than a coin with significant monetary value. In most convenience stores in America, it is common to find a "penny jar" where consumers can "take a penny, leave a penny." Many times, consumers will leave whatever pennies they receive in change in the penny jar, even if it's four pennies at any one time.

Anecdotal evidence suggests that consumers believe that the penny is more of a nuisance than a valuable form of payment for goods and services. There have been tales from consumers who literally throw their pennies away. While it is illegal to dispose of or deface U.S. currency, that doesn't stop some consumers who would rather toss the pennies in the garbage than have to deal with them. Many women find that after a while their purses are overflowing

³⁵ Gregory N. Mankiw, "Repeat After Me," 3 January 2006, [wallstreetjournal.com](http://www.wallstreetjournal.com). Accessed 6 October 2006.

³⁶ Cnn.com, "Anti-penny push provokes passions; Penniless America gaining currency or lacking common cents?" 2 July 2006. (<http://www.cnn.com/2006/US/07/02/poor.penny.ap/index.html>) Accessed 15 August 2006.

with pennies, making their bags much heavier than before. Cup holders in cars are often stacked high with pennies. While many cars make coin slots where drivers can separate their coins, there is usually only space for three coins; the quarter, the dime, and the nickel. Many consumers are too embarrassed to pay with pennies, even when they have thousands of them lying around. And when they do count their pennies for payment, they are usually met with annoyed glances from merchants and other customers. Many Americans who give money to beggars on the street would feel too embarrassed to give them a handful of pennies. Moreover, this action would probably elicit a negative response from the person begging for money. These are all examples of how Representative Kolbe's calling of the penny a "nuisance" actually rings true for many Americans.

2. Non-profit and For-profit Organizations' Position Towards Pennies

a. Charitable Organizations Collect Pennies

One of the primary arguments the organization Americans for Common Cents (ACC) has for keeping the penny is the idea that charities that collect money one cent at a time actually prosper from pennies. According to them, organizations such as Habitat for Humanity and the Ronald McDonald House charities prosper from various fundraisers held to collect pennies. In addition, many schools throughout the country hold drives to collect pennies to donate to various charities, which sometimes amounts to thousands of dollars collected. The ACC claims that 30% of the money collected from 7-11 convenience stores that collect change for charities is comprised of pennies. This percentage results in an amount of almost one million dollars collected annually for various charitable organizations.³⁷ While the ACC touts this as an example of why the penny is important to the economy, in today's

³⁷ Americans for Common Cents.

dollars, one million dollars collected annually by a company that has thousands of stores nationwide is an amazingly small amount.

There has recently been a campaign aimed at America's youth by organizations such as the ACC and the zinc industry to attract attention to their cause. One such drive that is currently in the news is the save-the-penny campaign by Virgin Mobile USA and other organizations. Their truck will travel across the country to collect pennies in support of the charity "The RE Generation", which is designed to connect "high-risk kids," that is, children who are poor and who some people believe are at risk of getting caught up in illegal drugs and crime, with activist groups. Kevin Federline, who is one of the celebrity spokesmen for this campaign, is the husband of pop singer Britney Spears.³⁸ A television commercial currently airing on cable stations such as VH1 advocates keeping the penny. These types of ads and celebrity-sponsored drives are appealing to the younger generation and the country's younger voters.

It is common practice for Americans to dump their pennies and other change into charity bins that are conveniently located in places such as fast-food restaurants, retail stores, and banks. While the penny may be a hassle to the individual consumer, they can add up quickly for charitable organizations. However, the amount that they eventually add up to is not really significant in today's dollars, as pointed out earlier.

b. Businesses and Pennies

Banks experience the same frustration with pennies that the individual consumer does. According to one

³⁸ Jonann Brady, "K-fed Pleads for Pennies," 21 June 2006, ABC.com.
(<http://abcnews.go.com/Entertainment/Business/story?id=2104103&page=1>)
Accessed 15 August 2006.

article, Lelawattie Jodah, a custodian of the change vault at a New York City bank, is disturbed by the nuisance of having to count thousands of pennies. Her job entails counting, sorting, storing and lugging the pennies around until her branch sells them off to another bank, just to get rid of them.³⁹

This is an example of how the same organization that profits from cents can be burdened by pennies. Unlike charitable organizations, these companies may be more likely to support a bill that abolishes the penny, as long as the cent denomination remains as part of the U.S. currency. Representative Kolbe's bill suggests just that.

³⁹ Chernikoff, July 2006.

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III. METHODOLOGY

Now that the arguments for and against the elimination of pennies have been explored, it is time to identify different approaches and examine whether or not they are actually feasible. First, a cost-benefit analysis on the price of production is done. This analysis delves into the financial gain or burden the production of pennies has on the U.S. economy. The study involves exploring the price it costs the government to produce the penny, and any seigniorage the Treasury makes, and any loss realized from the sale of these pennies to banks, which then release them into the economy for circulation. Second, the Department of Defense's model of not utilizing pennies at its overseas bases is explored. This analysis looks into the Department's policy of using the rounding approach and its use in hostile areas of cardboard coins as replacements for coins. Third, the DOD model described in the above analysis is compared to the U.S. economy as a whole, exploring the similarities and differences between the DOD's policy overseas and the U.S. economy's policy stateside. Leaving that model, the paper explores a type of "free-market" approach to deal with the penny issue. And last, an analysis is conducted on the reasoning behind the idea that eliminating the physical penny but keeping the cent denomination is the preferred course of action. This analysis provides examples of institutions that prosper from the cent denomination, yet doesn't rely at all on the penny.

A. COMPARATIVE ANALYSIS

1. Cost-benefit Analysis of the Price of Production

Every year, the U.S. Mint produces millions of new pennies to place into circulation. The penny is the most produced coin, yet it is the least circulated currency in the U.S. economy. If this is the case, it is easy to wonder

why the government continues to produce new pennies. Historically, the production of pennies and their subsequent sale to banks has resulted in big money for the government, in the form of seigniorage. In recent years, this profit has decreased significantly from what it was in the past, primarily due to the rise in the cost of copper and zinc which is used to produce the penny. In May 2006, the U.S. Mint announced that by the end of the fiscal year, the penny would cost more to produce than what its face value was worth. Hence, this seigniorage would no longer exist. Not only would the government not be earning any profits from the production of pennies, but it would also be losing money by producing them. As a result, the government would be subsidizing the production of pennies, even though they are the least circulated currency in the economy.

The penny is comprised of zinc and copper, with zinc accounting for 97.5% of the penny's composition. Zinc has increased in price every year for the past several years. In June 2004, a pound of zinc cost \$1.0895 to buy on the London Metal Exchange. In September 2006, that same pound of zinc cost \$1.4583, an increase of 74.7% in only 27 months.⁴⁰ As a reference, in 1989 the average price of zinc was \$.82 per pound. These prices show a significant increase in the price of zinc over the last 17 years. On the other hand, the price of zinc has constantly fluctuated throughout its recent history. For example, although the price of zinc was \$.82 per pound in 1989, it was only \$.38 in 1986 and after the 1989 spike it dropped back down to \$.462 in 1993. This trend proves that the cost of zinc may rise in fall in any given period of time.⁴¹

⁴⁰ MetalPrices.com, (<http://www.metalprices.com/FreeSite/metals/zn/zn.asp>) Accessed 12 September 2006.

⁴¹ Joseph Plachy, The United States Geological Survey, (<http://minerals.usgs.gov/minerals/pubs/commodity/zinc/720798.pdf>) Accessed 9 September 2006.

By year's end, the "cost" to the government and subsequently the American people to produce one penny will be \$1.23. This includes the costs of copper and zinc, and all the other costs associated with the production of pennies. This represents \$.23 in excess of the face value of the penny that will have to be subsidized by the government if the production of pennies continues. One of the other costs associated with the continued production of pennies is the loss of seigniorage which the government has typically received with the production of pennies. The "benefit" of continuing to produce pennies is that consumers and businesses will continue to use the penny in all cash transactions. Additionally, pennies will remain as a source of income for charities. In this case, it is apparent that the "costs" associated with the continued production of pennies outweigh the "benefits" to the government, consumers, and businesses.

Taking into account the regular fluctuations in the price of zinc, lawmakers and the executive branch will need to decide whether this increase in zinc is likely to be permanent, since only Congress and the president have the authority to abolish the penny. It will be their decision to either continue to subsidize the production of pennies or to eliminate their production altogether. One option lawmakers have is to temporarily halt the production of pennies without eliminating them altogether. By doing this, lawmakers could gamble on whether or not the zinc market will take a turn for the better and prices will eventually drop as they have historically done. If so, then the U.S. Mint could continue with its production of pennies. However, this is a gamble and possibly only a short-term solution to a longer-term problem. It would be delaying the inevitable if the price of zinc remains high and the cost to produce the pennies still required subsidization from the government. Another option lawmakers could explore would be to change the composition of the penny from zinc and copper

to other types of materials that have a more stable price history. By doing this, lawmakers would appease those who oppose eliminating the penny and would appease those who favor a free-market society where the government does not have to subsidize the production of its currency. If this were to happen, then the government could once again realize seigniorage from the production and subsequent sale of pennies. However, this option does not address the issue of the penny's usefulness in the economy. Representative Kolbe would have to continue to press that issue on its own merits.

2. Department of Defense Model

For more than twenty years, the Department of Defense (DOD) has eliminated the use of pennies in its facilities at its overseas bases. Since these bases are located in areas such as Japan and Germany, remote from normal circulation of U.S. money, the transportation of currency proved to be costly. These "jingle runs," as they are referred to in the Pacific region, consist of the transportation of currency on Air Force planes operated by the Air Mobility Command. The coordination of the currency transfer is operated by each of the major commands around the world. For the Pacific region, the United States Pacific Forces Command (PACOM) performs these "jingle runs." A careful analysis conducted by students at the Naval Postgraduate School determined that the cost of these runs, including transportation costs, handling costs, and transfer costs, was about \$130,000 for four trips conducted annually.⁴² And these costs do not include the transportation of pennies because the DOD had already stopped using them at the time of the NPS study. Given that these runs already prove to be pricey for the

⁴² William Hunter; Logsdon, Travis; Oberg, James, "Feasibility Study and Process Recommendation for United States Air Force Currency Transportation Mission: "Jingle Runs", December 2005, AD Number: ADA443347.

DOD, it is logical to assume that the inclusion of pennies would only increase the costs, costs that clearly outweigh whatever benefits would be gained by using the penny.

The DOD decided that it was too expensive to continue to transport pennies to these locations and instead implemented different approaches for dealing with cash transactions that ended in cents. Its approach for dealing with this is two-fold. The first approach is used at more permanent overseas bases such as those located in Germany and Italy. Here, it implemented the rounding system on cash transactions. The second approach pertains to Morale, Welfare, and Recreation activities in war zones overseas. In hostile environments, military facilities that operate in cash transactions use cardboard coins in the denominations of 5, 10, and 25 cents. Each of these approaches will be analyzed to see if they can be transferred to the U.S. economy with predictable success.

a. Rounding Approach

In the early 198's, the Department of Defense decided to stop transporting pennies to its overseas bases. Because the DOD was responsible for all costs associated with transporting U.S. currency to its facilities overseas, the agency decided that it was not worthwhile to continue transporting the penny. At military facilities overseas in locations such as Germany and Italy, all cash transactions are rounded up if they end in 3, 4, 8, or 9 cents and are rounded down if they end in 1, 2, 6, or 7 cents. These facilities include U.S. banks, post exchanges, restaurants such as Burger King and Taco Bell, gas stations, and all other businesses that operate on DOD bases overseas. The leadership of the Army and Air Force Exchange Service (AAFES), one of the largest organizations that operate on military bases overseas, feels confident that the rounding system neither helps nor hinders both the store and its

consumers. AAFES analysts believe the rounding system equates to a wash for both parties.⁴³

The justification for the removal of pennies from DOD's overseas locations was that the cost of transporting them outweighed any benefit to the facilities or the consumers. Although some for-profit organizations such as fast food restaurants operate on military bases, many organizations, such as the exchange services, operate on a basis where any money saved is returned to the service member through the not-for-profit organization Morale, Welfare, and Recreation (MWR). MWR in turn takes these "profits" generated from the exchange services and gives them back to the service members in the form of base functions, parties, gym equipment, sports equipment, and other types of benefits for the service member. Because the costs of transporting the pennies was estimated to result in higher prices at the post exchanges to recover the costs, the DOD decided to eliminate them altogether at its overseas locations. This will prevent any additional costs to incur for MWR and will in turn benefit the service member.

Most service members who are stationed overseas for the first time are surprised to find that the businesses on base do not conduct transactions using pennies. While there are some concerns expressed here and there, it appears that for the most part service members, DOD civilian employees, and U.S. contractors do not have an issue with the rounding system. If any of these groups did have an issue with this, it would have been raised by now. This could be partly due to the fact that many may feel that the penny has outlived its usefulness. While this system has been in place for over twenty years affecting Americans who are stationed abroad, a larger question is whether or not

⁴³ Emilitary.com, "Pennies, POGs—dollars, cents of setting up shop in war zone", 6 June 2005, (<http://www.emilitary.org/article.php?aid=3077>) Accessed 12 September 2006.

this "rounding system" could be implemented with the same degree of acceptance stateside.

b. Cardboard Coins

The Department of Defense does not transport coins to its overseas facilities located in areas that have been defined as a combat zone or hostile area. Instead, organizations such as fast food establishments and post exchanges use what are referred to as "pogs." These poggs are essentially coins made out of cardboard that take the place of actual U.S. coins. Pogs are designed to replace the five, ten, and twenty-five cent denominations. They are transferable and usable on military facilities worldwide. The reason for using poggs instead of actual coins is two-fold. First, the cost to transport actual coins to these sometimes remote locations can be high. Second, the amount of weight actual coins would take up on cargo planes is better used hauling mission-essential gear and equipment. As such, the DOD has used these poggs in places such as Kuwait and Iraq. They have actually become a collector's item because their style is constantly changed on one of the sides.⁴⁴

The DOD does not print poggs in the one-cent denomination. As is the case in Europe and the Pacific, conducting cash transactions using the penny is simply not cost effective. Post exchanges and other businesses that operate on the base round cash transactions either up or down, depending on the final number. In war zones, businesses do the same with the poggs.⁴⁵

⁴⁴ AAFES-POGS.

⁴⁵ Emilitary.com, "Pennies, POGs—dollars, cents of setting up shop in war zone", 6 June 2005, (<http://www.emilitary.org/article.php?aid=3077>) Accessed 12 September 2006.

3. Department of Defense Model Applied to U.S. Economy/Free-market Approach

The Department of Defense unilaterally made the decision more than twenty years ago, without any input from lawmakers, to implement the rounding system as an answer to dealing with pennies at its overseas bases. In addition to using the rounding system, the DOD has been utilizing "pogs" for the last five years. This approach has been widely used without much upset from service members or anyone else affected by these decisions as evidenced by the lack of uprising against this approach. If American citizens have accepted both the rounding system approach and the use of pogs at military facilities overseas, then it could be a fair and reasonable assumption that this acceptance could transfer over into American society stateside. In this section, an analysis is done on the choice made by the Department of Defense to implement the rounding system and whether or not this "choice" could be made by the American public without much disagreement or disruption of the economy. By accepting the practice of rounding, the American public, consisting of both consumers and businesses, would decide how to deal with the penny issue. Like the DOD, the market would make this choice without any interference from the government.

As presented earlier, there are many pros and cons related to the rounding system. Some believe the penny is a nuisance and not worth its value, while others believe that a rounding system would benefit businesses and hurt consumers. One way of measuring whether or not this approach could be used in the U. S. is to analyze similar approaches undertaken by other democracies. One such democracy is Australia. In the early 1990s, Australia eliminated the one- and two-cent coins from circulation. As a result, all cash transactions were rounded either up or down, depending on the denomination of the final number.

All other bills, checks, and electronic transactions ended in the "cent" denomination.

To ensure that there was not any "profiteering" occurring because of the elimination of the penny, the Australian government kept a close watch on business transactions that were conducted. According to Michael Skully, a Professor of Banking at the Monash University in Melbourne, the elimination of the one- and two-cent coins did not "disproportionately hurt the poor," as some fear it would do if the rounding system were implemented in the U.S. In fact, according to Mr. Skully's observations, there was not any great debates or "riots in the street" occurring after this took effect.⁴⁶ While this is an example of the Australian government forcing its policy on its people rather than allowing the market to take care of itself, it reinforces the notion that the U.S. could implement a similar rounding system if it were to eliminate the penny from circulation.

With the switch to a European currency, or the Euro, in January 2002, most countries that participate in this new form of currency have a one- and two-cent coin. However, recently several countries have decided against producing these coins due to their lack of value. Finland stopped producing these coins and required rounding. As a result of these two measures, consumers and businesses there stopped using them in circulation. As in Australia, this was a decision made by the government of Finland and accepted by the people. Consequently, businesses round up or down to the nearest five cent denomination. However, because these coins are still in circulation from other European countries, they remain a valid source of currency if used in Finland. In the Netherlands, the country's retailers pressured the government to eliminate the usage of these coins because their expense was outweighing their value. In 2004, the Netherlands conducted an experiment to see what

⁴⁶ Zappone, 2 June 2006.

kind of financial impact the elimination of the cent coin and the subsequent rounding of transactions would have on the economy. Some 500 retailers in the small town of Whooten, Netherlands, did not accept or pay out any 1 or 2-cent coins for a six week period and instead rounded all transactions to the nearest 5-cent denomination.⁴⁷ After what the government considered a successful trial resulting in little to no impact on both businesses and consumers, the Netherlands have authorized retailers and businesses to round transactions to the nearest five cents. However, since the Euro is still a valid form of currency in other European countries, the Euro cent remains a valid form of payment in the Netherlands, as well.⁴⁸

With other democratic nations and the Department of Defense eliminating the lowest denomination coin and implementing the rounding system, there should be sufficient data available for the U.S. government to decide whether or not it should do the same. As a first step in considering the adoption of rounding, the government would have to take into consideration the arguments for and against the elimination of the penny that were presented in the previous chapter. There are several ways the government could proceed to eliminate the penny. First, Congress could pass the legislation proposed by Representative Kolbe. Passing the "COIN" bill would enable the Department of Treasury to halt further production of pennies. Additionally, the U.S. government could establish a plan to recall pennies from circulation. Second, the government could run an experiment similar to the one used by the Netherlands to assess responses to this approach and to monitor whether or not any

⁴⁷ Expatica.com.
http://www.expatica.com/actual/article.asp?channel_id=1&story_id=6933
Accessed 29 October 2006.

⁴⁸ Wikipedia.org. (http://en.wikipedia.org/wiki/Euro_coin) Accessed 9 September 2006.

profiteering from businesses occurs. This experiment could be conducted on a local or national level, and could involve certain types of businesses or a pool of businesses representative of all. The outcome of this of experiment would help the government determine whether or not it should consider implementing this approach by passing legislation. Third, the government could instruct organizations such as the Government Accounting Office (GAO) to conduct studies and run polls assessing the level of support rounding might receive from businesses and consumers. At this point, lawmakers could then decide whether or not they should vote on the legislation.

In addition to the rounding system approach, the DOD's policy of using cardboard coins in place of actual pennies could be explored in the U.S. economy stateside. One avenue the U.S. could take when dealing with the penny issue is to allow a type of "free-market" decision, where the government would stop producing pennies and the market would have to figure out how to handle the situation. First, the government would make the decision to not produce any new pennies to bring in into circulation. The government would not, however, remove any of the existing pennies from circulation; rather, new coins would simply not be made. This action would eliminate the government's role of subsidizing the production of pennies. Second, the market, consisting of businesses and consumers, would then have to decide how to handle this situation. Businesses could either decide to round all cash transactions for consumers or they could give the consumer the choice to round instead of using their pennies. By doing this, the decision is taken out of the hands of the government and placed in the hands of the people. If the majority of American consumers decide they would rather have their cash transactions rounded, then over the long-term, the penny may become obsolete as its use dwindles. And last, the government could introduce cardboard coins to take the place of pennies

for those consumers who decide not to round. Or, in the free-market approach, businesses or consumers could decide to use cardboard coins not produced by the government that represent the one-cent coin. Similar to the approach used by the Department of Defense, this method would be beneficial in several ways. First, it would save the government from losing money from producing pennies that cost more than they are worth. Second, it would allow the market to decide whether or not the penny was useful or obsolete, without the government forcing the decision upon it. And last, it would emphasize to consumers and businesses that while the cent denomination is still in effect for electronic funds transfers, bills, checks, and all electronic payments, the physical penny is no longer required. Consumers who decide to continue to conduct cash transactions using pennies would be able to do so in a way that is most cost efficient to the government and ultimately to the taxpayer.

Policymakers on both sides of the penny debate could be appeased by implementing the procedures described above. For starters, those who consider the penny to be a nuisance could make the decision to round every cash transaction. Those who want to keep the penny around could use these cardboard coins or older pennies that are in circulation in place of any new pennies. Both parties, as taxpayers, would be better off if their government did not have to subsidize the production of pennies. In essence, the economy as a whole could find itself in a better financial situation. And this could occur without the government "meddling" or "forcing" anything upon the market or its citizens.

4. Elimination of Physical Pennies; Continued Use of Cents

In every situation discussed in this paper, the continued use of cents in the economy has not been debated. Eliminating the need for the penny is one thing, but

completely eliminating the cent is quite another. In each scenario, the cent denomination would continue to be used in all electronic funds transfers, bills generated, checks paid or received, and all other electronic payments, such as payments made with a credit card. In every case where democracies eliminated their lowest denomination coin from circulation, including New Zealand, Australia, and Finland, each country kept its cent denomination. As such, the U.S. could do the same.

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IV. CONCLUSION

Throughout this paper, the role of the penny in the U.S. economy has been analyzed and discussed. There are many different approaches the government could take to deal with the "penny" issue, and several of these have been argued. This paper explored the many different positions that people and organizations take when it comes to the choice to eliminate the need for the penny in an economy. As the saying goes, "Where you stand on this issue depends on where you sit." For some ordinary consumers, the penny is simply a nuisance coin while for others it is a monetary denomination that no longer holds any value. For certain organizations like the Americans for Common Cents, the decision about whether or not the government should continue with the penny's usefulness is tradition-based. For others, the motivation is economic, because they are partially sponsored by the zinc community. While many of the arguments of the "traditional" side sound convincing, e.g., that the rounding approach would hurt the poor, none are conclusive. The only way all sides have an opportunity to look at hard data is if the government sponsors a non-political, economic study to examine the impact the elimination of the need for the penny would actually have on the economy. Until then, all arguments can be debated.

This author's recommended approach is the same one proposed by Representative Kolbe, and is currently being examined in Congress. His approach calls for a halt in production of pennies and a government requirement that consumers round up or down to the nearest nickel in all cash transactions. This would entail the market implementing the rounding approach to deal with all cash transactions ending in a cent denomination. In addition, the economy would continue to use the cent denomination in all non-cash transactions. While the rounding approach would be forced

upon the market instead of allowing the market freedom of choice, it would ensure, for the most part, that consumers are getting fair and equal treatment from businesses when conducting cash transactions. Representative Kolbe's approach would call for a halt in the government's production of pennies, as well, which is important now more than ever since the cost outweighs its worth for the first time in U.S. history. His approach would not completely eliminate the penny from the economy; it would simply keep only the ones currently in circulation. In a sense, this allows the market to decide about the usefulness of the penny by examining whether or not consumers and businesses require additional pennies to operate or will eventually allow them to fade away. This approach has been tried and tested in other democracies and has proved to be a success. By requiring rounding, the government then reduces the need for consumers to carry pennies. While this could happen anyway in a free market where rounding was not required, requiring rounding assures that the penny will virtually disappear from circulation.

There are many different approaches to this issue the government could take. But the words of one American iconic figure, Andy Rooney, describe how many people feel about the penny:

Like just about everyone else, I save my change. At night, I empty my pockets and then I hang my pants by closing the dresser drawer on the cuffs. In the morning, I take a few quarters, but I dump the rest of the change in coffee cans. I just came from the bank, and I feel great. These cans are all empty now.

There is nothing more annoying than going to the checkout counter in a store and getting four pennies change from a dollar for something that costs 96 cents.

The U.S. Mint ought to stop making pennies. Last

year, they made almost 7 billion of them. For what? You can't buy anything with a penny, and they're a pain in the pocket.

This week, I took cans filled with change to the Commerce Bank in New York. Commerce was the only bank I found that has a machine that converts change into real money free.

Some companies charge almost nine cents for every dollar of change you convert to paper. Seems like a rip-off.

The change-counting machine was cuter than necessary: "You win. Press button to make your selection."

It did the job in a hurry, though. And it took me about 10 minutes to feed in the seven cans of change.

There were a few glitches: one metal washer in a batch. When I finished, the machine spit back a handful of coins, too. It turns out it doesn't like French francs, English pence or Euros.

The machine then gives you a receipt. I had six silver dollars, just one 50-cent piece, 171 quarters, 1,745 dimes, 1,010 nickels, and 3,594 pennies. It came to \$310.19.

I took that receipt to the cashier and she gave me the cash with four pennies change. Anyway, it was the best money I've made all year -- and no deductions. Now, if the Mint would just stop making those useless damn pennies. I'd only need about two of these cans for change.⁴⁹

With the increase in the cost of the production of pennies and the continual rise in prices in the American economy, the debate over its usefulness will probably heat up until the government takes a stand and does something about this problem. Until that time, the penny will continue to fill containers at convenience store counters.

⁴⁹ Andy Rooney, "Making Your Change Count," 12 June 2005, cbsnews.com.

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