For release on delivery
10:00 a.m. E.D.T.
July 13, 1995

Testimony of

Edward W. Kelley, Jr.

Member
Board of Governors of the Federal Reserve System

before the

Committee on Banking, Housing, and Urban Affairs

United States Senate

July 13, 1995

The Board of Governors is pleased to have the opportunity to present its views on S. 874 , which would provide for substituting a one-dollar coin for the one-dollar banknote now in circulation, and on several benefits and costs of making such a replacement.

In summary, a dollar coin would produce a substantial budgetary gain for the Federal government, provided that the one-dollar note is withdrawn from circulation. The Board staff estimates that the gain would be about $2.28 billion, in nominal terms, during the first five years after introduction of the new coin and would average about $456 million per year, in real discounted present value terms, over the assumed 30-year life of the dollar coin. The Board believes, however, that the convenience and needs of the American public, as well as cost savings, should weigh heavily in this decision. Experience in Canada and other countries where similar changes have been made in recent years suggests that the public will, over time, find a dollar coin more convenient than the dollar note. Finally, we would note that the significance of the U.S. dollar goes beyond the purchasing power it represents or the utility it provides; for Americans, the dollar is a symbol of economic and political stability and a source of national pride; consequently, any change should be made only for the most compelling reasons. If, after taking account of all these considerations, the Congress is inclined toward replacing the

dollar note, it should enact legislation with a reasonably delayed effective date so that all those affected can plan adequately for the transition.

The impact on the Federal budget of issuing coins and currency notes is not widely understood by the public, so it may be useful to devote a part of this statement to reviewing those fundamentals. Although the accounting processes and budget presentations are quite different for notes and coins, **in substance**:

- Both issuing coins and issuing currency notes lower the government's effective cost of borrowing from the public, by approximately the value of the coin or currency notes in circulation times the interest rate that the government pays on its debt.
- There is an offsetting cost to the government associated with servicing the outstanding circulating coins or notes, which involves replacing "unfit" coins and notes as they wear out and operating the Federal Reserve currency and coin processing facilities that provide the public with good-quality, genuine coins and notes.

Let us start with the following assumptions in order to illustrate the budget and accounting processes: (a) the Treasury's borrowing rate is 5.5 percent; (b) there will be 7 billion $1 notes already in circulation at the time of the changeover; (c) $1 notes have a useful life of 1.5 years and cost 3.8 cents each to produce; (d) $1 coins would have a useful life of 30 years and cost 8 cents each to

produce; and (e) $1 notes and $1 coins would cost 75 cents and 30 cents per thousand pieces, respectively, to be processed at Federal Reserve Banks.

In the issuance of currency notes, the reduction in **net** governmental borrowing from the public occurs **indirectly**. The Federal government's **total** borrowing and **total** interest outlays are not affected, but the Federal Reserve System holds a portfolio of government securities equal to the value of Federal Reserve notes outstanding and, at the margin, the Federal Reserve returns to the Treasury its full earnings on those securities. These earnings are, from the Treasury's viewpoint, a return of its own interest outlays.[1]

- In our simplified model, the $7 billion of outstanding $1 notes provides a **gross** benefit to the Treasury of $385 million per year.[2]
- The cost of servicing the $1 note issue is the cost of replacing each note every 1.5 years, or $177 million per year,[3] and of processing it 1.3 times per year at Reserve Banks, or $7 million per year.[4]

Thus the **net** benefit to the Treasury associated with 7 billion of outstanding $1 notes is $201 million per year.[5]

---

[1] The Federal government budget accounts treat Federal Reserve earnings paid to the Treasury as a miscellaneous receipt.

[2] $7 billion x 5.5%.

[3] 7 billion notes ÷ 1.5 x $.038.

[4] 7 billion notes x 1.3 x $.00075 ($.75 per 1,000 pieces).

[5] $385 million - $177 million - $7 million.

In the issuance of coins, the reduction in net governmental borrowing from the public occurs **directly**. When the Treasury deposits newly minted coins at Federal Reserve Banks, it receives credit to its checking account, and thus the government is able to make budgeted expenditures without additional borrowing, in the amount of the face value of the newly deposited coins less their production cost (which amount we call "seigniorage").[6]

- Seven billion new $1 coins would reduce the Federal government's total borrowing by $6.44 billion[7] and total interest outlays by $354 million per year,[8] a **gross** benefit not much different from the **gross** benefit from 7 billion notes.
- But the cost of replacing each coin every 30 years would be only $19 million per year[9] and of processing dollar coins at Reserve Banks 0.2 times only $1 million per year.[10]

---

[6] The budgetary accounting process for coin production sometimes gives rise to the belief that the booking of seigniorage per se reduces the Treasury's borrowing requirement. This is not so. It is being able to spend the newly minted coins that reduces the Treasury's need to borrow. Such spending seldom occurs directly, of course; the Treasury ordinarily deposits newly minted coins at Federal Reserve Banks for credit to its checking account. Reserve Banks accept only as many new coins as they expect to need in order to meet the requirements of depository financial institutions in their districts.

[7] $7 billion face value - $560 million production cost.

[8] $6.44 billion x 5.5%.

[9] 7 billion coins ÷ 30 x $.08.

[10] 7 billion coins x 0.2 x $.00030. Note that $1 notes are typically deposited at Federal Reserve Banks an average of 1.3 times per year. We expect that $1 coins would be deposited only 0.2 times.

Thus the **net** benefit to the Treasury associated with 7 billion of outstanding $1 coins would be $334 million per year,[11] considerably higher than that for an equal number of currency notes.

At this point in the analysis, replacing $1 notes with $1 coins would have a favorable impact on the governmental budget of $133 million per year.[12] However, such a replacement would have a further, and even more significant, benefit. Based on the experience of numerous countries that have made a comparable substitution, as reported by the GAO, the government can expect to issue at least twice as many $1 coins as it would have issued $1 notes.[13] (This may result partly from the habit of many people to save their pocket change at the end of the day, partly from the stock of uncollected coins in a larger number of vending machines, and partly from a tendency for banking and retail establishments to hold larger quantities of coins than of notes because of higher transportation costs.) In our simplified model, doubling the number of $1 coins in circulation would add another $334 million per year to the Treasury's benefit, for a total benefit of $467 million. These effects are summarized in the following table.

---

[11] $354 million - $20 million.

[12] $334 million - $201 million.

[13] In six countries that replaced a note valued at about one dollar with a coin, the General Accounting Office found coin-for-note replacement rates ranging from 1.6-to-1 to 4-to-1. General Accounting Office, NATIONAL COINAGE PROPOSALS, Limited Public Demand for New Dollar Coin or Elimination of Pennies, May 1990, page 39.

	$1 note	$1 coin	Difference
Reduction in net governmental borrowing from the public	$7.00 billion	$6.44 billion	
Reduction in net governmental interest outlays, annually	$385 million	$354 million	$ 31 million (in favor of note)
Cost of maintaining the outstanding issue, annually	$184 million	$ 20 million	$164 million (in favor of coin)
Net benefit based on 7 billion notes vs. 7 billion coins, annually	$201 million	$334 million	$133 million (in favor of coin)
Additional benefit from two-fold replacement rate, annually		$334 million	$334 million (in favor of coin)
Total benefit based on 7 billion notes vs. 14 billion coins, annually	$201 million	$668 million	$467 million (in favor of coin)

Table 1
A Simplified Outline of the Impact on the Federal Government Budget
Of Substituting $1 Coins for $1 Notes

The simplified model, of course, does not fully reflect the real world. There are factors that would both increase and decrease the $467 million annual benefit shown above. In particular, growth in the volume of $1 currency pieces outstanding--historically, over 4 percent per year--would, over time, considerably increase the benefit of substituting coins for notes. On the other hand, some increase in the use of $2 notes by the public seems very likely if the $1 note were no longer issued, and any such increase would reduce the budgetary gain. In addition, the production cost for higher denomination notes would rise because

fixed costs at the Bureau of Engraving and Printing would be spread over a smaller production volume. (One dollar notes account for nearly 50 percent of the total annual currency note production.)

Taking account of these additional factors, the Board's staff estimates that, in the first five years of the implementation, the Federal government budget position would be improved by a total of $2.28 billion (in **nominal** terms). The average yearly gain in **real present-value** terms, over the assumed thirty-year life of a $1 coin is estimated to be $456 million.[14]

There are other factors that could substantially add to the gains of such a substitution but that are inestimable and so are not included in our calculations. For example, there is likely to be a very considerable numismatic, or sentimental, collecting of $1 notes as a result of an announcement that they soon would no longer be issued (although $1 notes would continue to be legal tender).

These gains would be unlikely to be achieved, however, if the dollar note were not withdrawn from circulation. First of all, many people, at least initially, would continue to prefer the note if given a choice. That being true, the

---

[14] The 30-year estimate uses an inflation rate of zero, a Treasury borrowing rate of 3 percent, and a rate for discounting future values to the present of 3 percent. The advantage of expressing the longer-run financial impacts in real present-value terms is that it adjusts for inflation and the time value of the magnitudes involved.

private sector (notably banking and retail establishments), not knowing how extensively the public would use the dollar coin, would be reluctant to make the infrastructure outlays necessary for the coin to succeed (training employees on new cash-register-drawer procedures, ordering of dollar coin inventories, new arrangements with financial institutions, and the like). Likewise, the public would refrain from using the new coin if the retail sector were not prepared.[15] In the meantime, the public sector (particularly the Bureau of Engraving and Printing, the Bureau of the Mint, and the Federal Reserve System; perhaps also the Postal Service and mass transit systems), not knowing what the respective demands would be for dollar notes and coins, and wanting to be able to meet any likely demand, would inevitably overinvest in production and processing capacity.

As important as the budgetary gains would be, the Board believes that the convenience and needs of the public also should weigh heavily in this decision. In this regard, opinion surveys indicate that the American public generally is satisfied with the present currency system and may not initially welcome replacing the one-dollar note. There is evidence in the experience of other countries including Canada, however, that over time a dollar coin would come to be

---

[15] See The Susan B. Anthony Dollar and the Theory of Coin/Note Substitutions, by John P. Caskey and Simon St. Laurent, *Journal of Money, Credit, and Banking*, Vol. 26, No. 3 (August 1994, Part I), for an excellent treatment of "network externalities" in currency systems.

recognized as more convenient, cleaner, and more efficient than the one-dollar note.

If designed properly, a dollar coin may well be able to evoke confidence in the currency system and be a source of national pride to the same extent that the dollar note does now. Market testing, such as with focus groups, can help to achieve this result.

If this Committee decides to move forward with dollar coin legislation, you should be aware that S. 874 would not, in our view, provide enough preparation time for those most involved--the Nation's banking and retail establishments, the Treasury Bureaus of the Mint and of Engraving and Printing, and the Federal Reserve Banks. We have two concerns.

First, any legislation should, in our view, give the Mint adequate time in which to be certain that the coin design will meet the needs of users well into the next century. This has both physical and aesthetic design implications and presumably would require considerable market testing. Closely related is the need for adequate time in which to produce a large stock of new dollar coins once the design is approved. In our view, any legislation should give the Treasury Department a good deal of freedom to set the Mint's production schedule so as to optimize costs and resource usage at the Mint, the Bureau of Engraving and

Printing, where the impact on banknote production will be substantial, at the Federal Reserve Banks, which will need to adjust considerably their capacity for processing notes and coins as well as draw down their inventories of $1 notes, and at commercial banks and retail establishments. Eighteen months, as S. 874 provides, would not be enough time for this planning and production. The Board believes that any legislation should provide at least thirty-six months.

Our second concern is with the requirement in S. 874 that the Federal Reserve discontinue ordering and paying out $1 Federal Reserve notes immediately upon introduction of the $1 coin. The length of time in which the Federal Reserve must pay out both coins and notes would be a function not only of the Mint's production capacity but also of variables, such as the substitution rate of $1 coins for $1 notes and the public's demand for $2 notes, that could not be predicted accurately in advance. The Board believes that any legislation should give the Federal Reserve freedom to adjust the timetable for discontinuing the issuance of $1 notes within a period of two years following introduction of the new $1 coin.

Moreover, beginning in 1996, the Treasury and Federal Reserve will begin a multi-year introduction of new designs for Federal Reserve notes that will be completed (with the introduction of a newly designed $5 note) in about 1999. It would be preferable that these important changes not occur contemporaneously with the introduction of a dollar coin.

A reasonable approach may be for the Congress to explore thoroughly the implications--for the Federal budget, for the convenience and needs of the public, and for the public's feelings toward the currency--of replacing the $1 note with a coin. If the Congress judges that the balance of considerations weighs in favor of replacing the note, it should adopt legislation as promptly as possible that would establish dates in the future for introducing the new $1 coin, say in about three years, and for no longer issuing $1 notes, say within two years after that. In that way, both the public and private sectors would have a sound basis for beginning immediately to plan for the change.