

# Case Study



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## Better long-term value

Converting a low-value banknote to a coin offers efficiency improvements in your denominational structure, coupled with the benefits of a more durable product.

Details at a glance	
Client	Issuing authority
Project type	Banknote-to-coin conversion
Denomination	Higher denomination
Product specification	Mono-ply plated bimetallic coin with overt and covert security features

Low-value circulating banknotes are handled frequently during everyday transactions and, consequently, become damaged very quickly. In many cases, notes can have an average lifespan of just six months. Replacing soiled and torn banknotes is a costly process which is labour-intensive for staff, generates no returns, and includes having to securely destroy the unfit banknotes.

Taking all these factors into account, issuing authorities may make the decision to replace their low-value banknotes with a high-value coin, improving the efficiency of their overall denominational structure.

**“The move to convert the R10 banknote into a coin will take some getting used to at first, but, with time, this will allow this heavily used denomination to become more robust and more cost-effective.”**

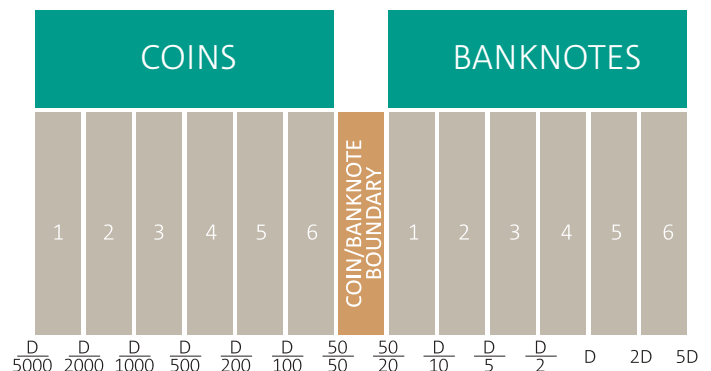
Caroline Abel, Governor of the Central Bank of Seychelles on the occasion of the launch of the new currency family, December 2016

### Why would issuing authorities decide to convert a low-value banknote to a coin?

As well as learning from issuing authorities that have already converted a low-value banknote to a high-value coin, there are some useful tools to help you make an informed decision about what’s best for you.

#### The D-Metric Model

The D-Metric model applies a simple set of rules to determine where the coin/banknote boundary should fall. Developed in 1981 by L. C. Payne and H. M. Morgan, it is based on the empirical relationship between the average day’s net pay (D) and a currency’s denominational structure. Since it was developed, a number of countries have used it to adjust the denominational structure of their currency. It was found that the most efficient set-up of a denominational structure would have approximately six or seven coins and the same number of banknotes. The transition point between coins and banknotes is between  $D/50$  and  $D/20$ .



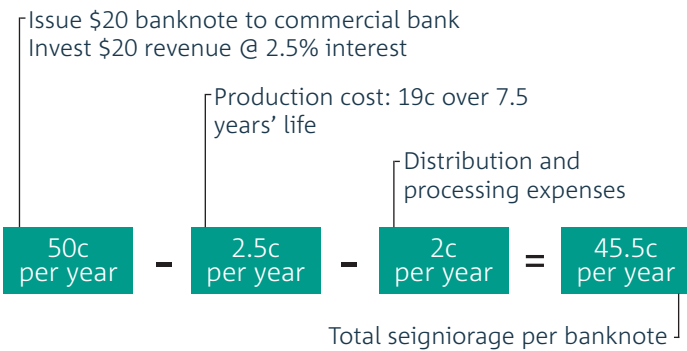
D = average day’s pay  
For example, if the average day’s pay is 50 (as shown above) then the coin/banknote boundary should fall between 1 ( $50/50$ ) and 2.5 ( $50/20$ ).

# Case Study – Banknote-to-coin conversion

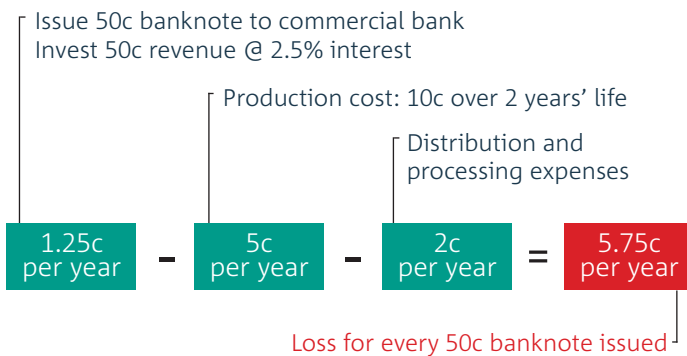
## True Seigniorage

Seigniorage is the revenue earned from the issue of money – the difference between the face value of the coin or banknote and the cost to produce and issue it. Historically, this revenue accrued to the ‘seigneur’ or ruler.

The Bank of Canada provides a live example of this on their website, [www.bankofcanada.ca](http://www.bankofcanada.ca). How they calculate seigniorage for their \$20 banknote is shown below:



What seigniorage would accrue for a 50c banknote?



As coins are rarely deposited back to a central bank, the seigniorage generated is almost always retained. We call this True Seigniorage.



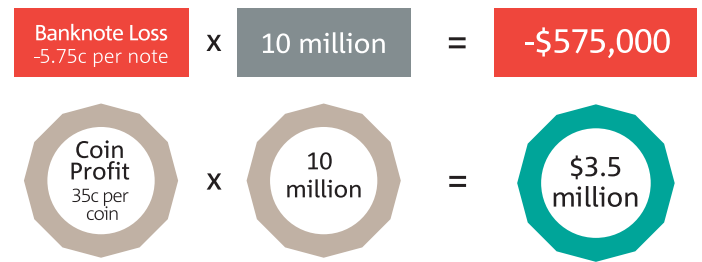
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Taking the calculations for a 50c banknote and a 50c coin, these can be compared per 10 million units:



It is clear from the two examples that a lifetime loss is incurred in the issuing of the banknote while True Seigniorage is made on each coin.

## Key benefits of replacing a low-value banknote with a high-value coin:

- A coin lifespan of more than 25 years avoids the constant re-issue of banknotes
- Offers reduced administrative costs to the bank
- Simplifies processing across the cash cycle
- Generates True Seigniorage by issuing a coin
- Most coins can be recycled at ‘end of life’

## Removing low-value banknotes also:

- Prevents storage issues and vaults over-flowing
- Reduces currency processing and maintenance costs
- Increases public confidence in circulating currency
- Reduces over-resourcing
- Reduces disposal and logistics issues

## To help you identify whether or not to convert from a banknote to a coin you should ask:

- How much do low-value banknotes actually cost you?
- Where does the D-Metric indicate that your lowest value banknote should be?
- Do you measure True Seigniorage?

These tools show that conversion from a banknote to a coin can offer reduced lifetime costs, coupled with a more durable product. In turn, this leads to a more efficient denominational structure.

