



Malaysia issues RM5 polymer banknote

On 26 October 2004, Bank Negara Malaysia (BNM) introduced RM5 polymer banknotes, the first circulating polymer banknote to be issued in Malaysia.

The RM5 polymer banknotes are similar to the existing RM5 paper banknotes in design, colour and size. Some of the existing security features in the RM5 paper banknotes have been retained, but a few significant changes were made to incorporate security features that are unique to polymer banknotes.

The new security features incorporated in RM5 polymer banknotes are:

- A clear window with the shadow image of the Prime Minister's Office at Putrajaya and an embossed printing of the numeral "5", both of which are visible from either side of the note.
- Bank Negara Malaysia's logo the Kijang, printed in white and visible on either side of the note. On the back of the banknote, it will appear as a non-transparent window, with the Kijang Logo seen clearly.

The security features in the existing RM5 paper banknotes retained in the new RM5 polymer banknotes are:

- See through feature is a stylised hibiscus which is perfectly registered on the front and back of the banknotes and visible when held up to the light.
- Intaglio printing of a multi layered special ink on the portrait of the first Seri Paduka Baginda Yang DiPertuan Agong.

- Micro lettering of "RM5" which can be viewed under magnifying glass.

BNM adopted durable polymer banknote technology to ensure a high quality standard of banknotes while in circulation. Assistant Governor of Malaysia, Dato' Mohamad Daud Dol Moin, in his speech at the launch of RM5, commented that the notes "should have a significantly extended lifetime as the RM5 polymer banknotes do not absorb dirt or liquids, stay clean and are hygienic to handle. The over-coating varnish should also add to cleanliness, protect the printing, reduce ink rub-off or ink wear, and ink dust, under a normal condition of usage and handling."

Enhanced machine processability of RM5 polymer banknotes will add to significant productivity and efficiency gains as high

quality notes facilitate manual and machine-assisted notes processing.

With the introduction of the RM5 polymer banknote, BNM will discontinue the issuance of RM5 paper banknotes, however paper RM5 will continue to be legal tender until the paper banknotes are fully withdrawn over time.

Malaysia joins the growing list of 23 countries around the world that have adopted the polymer banknote technology.



Maimon Mohd Top, Senior Manager (Bank Negara Malaysia) at the RM5 banknote launch



Malaysia's RM5 Polymer Banknote

Polymer banknotes in New Zealand

It is now five years since the first polymer notes were introduced into circulation in New Zealand in May 1999 with all denominations converted to polymer by March 2000.

Brian Lang, Head of Currency at the Reserve Bank of New Zealand, has recently completed the "Five Year Report" for polymer notes in New Zealand and IPCA spoke to him about the New Zealand experience.

What were the key drivers for the decision to adopt the polymer note technology?

In 1996/97 we had a significant increase in good quality paper counterfeits. Our concern was that the key public security features for paper notes at that time required the notes

to be held up to the light for verification (watermark and thread) and this is an uncommon practice in New Zealand.

The window area in a polymer note enables easier verification.

We also had continual public concern being expressed with the quality of our paper \$5 and \$10 notes with soiling and limpness affecting these denominations quite badly. The public sees the cleanliness of the notes as the key benefit of polymer. Lower cost of issue is an indirect benefit that helps justify the conversion but is not of particular relevance to the public.



Brian Lang (Currency Manager, Reserve Bank of New Zealand, 2004)

What are the key benefits of the polymer notes for the community?

The key benefit of polymer notes to the community in New Zealand is the ability of the notes to retain their structure and remain relatively clean. People see this as THE major benefit of polymer. There has also been a very significant drop in the number of counterfeits to the extent that very few are detected at the Central Bank (0.27 counterfeits per million notes in circulation in 2003/04).

What have been the other benefits of the polymer notes in New Zealand?

The key focus is to provide currency to the public as efficiently and effectively as possible.

From a cost/benefit point of view we have seen significant savings in the provision of banknotes and currency operations.

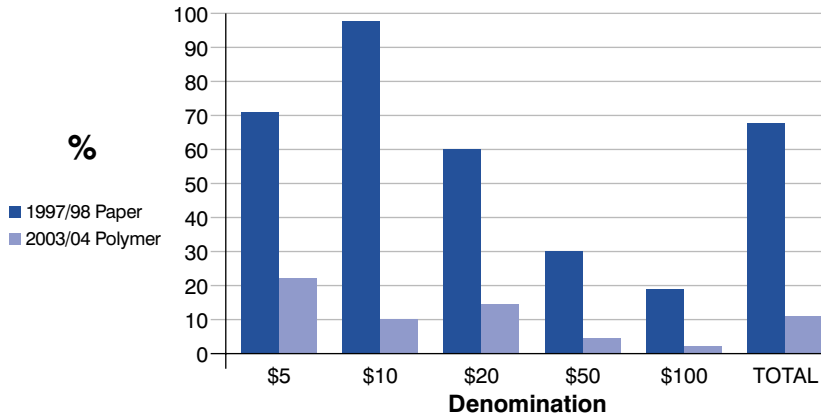
Note issue costs have been reduced by 54% in the past four years, saving NZ\$7.7 million.

We believe that we have now offset all our conversion costs and will have ongoing savings for the foreseeable future.

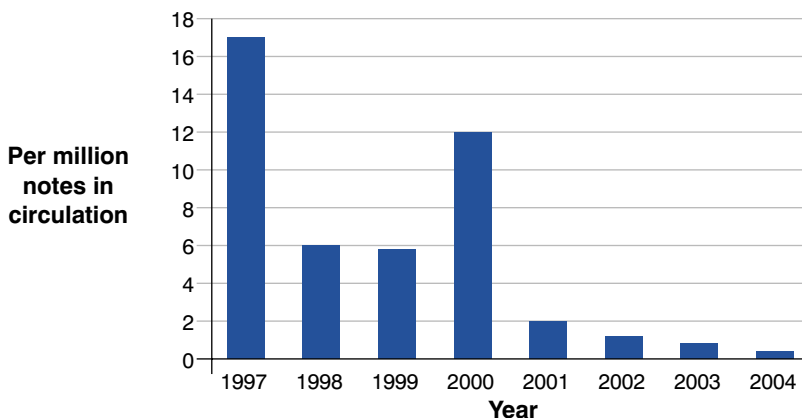
The polymer notes are maintaining a high level of quality and durability in circulation with average unfit note rates of 14% in 2003/04 compared with 63% for paper notes in 1997/98.

We have been able to considerably downsize Central Bank cash operations in New Zealand and I believe that the success

Notes destroyed as a percentage of notes in circulation



Counterfeits



The counterfeits detected in 2000 and 2001 were all paper notes (mainly \$10 and \$50 notes which were the last denominations to be converted to polymer). To date we have detected no counterfeits reproduced on polymer; all have been produced on paper. In the year ending 30 June 2004 we machine processed 66 million notes and detected just 28 counterfeits.

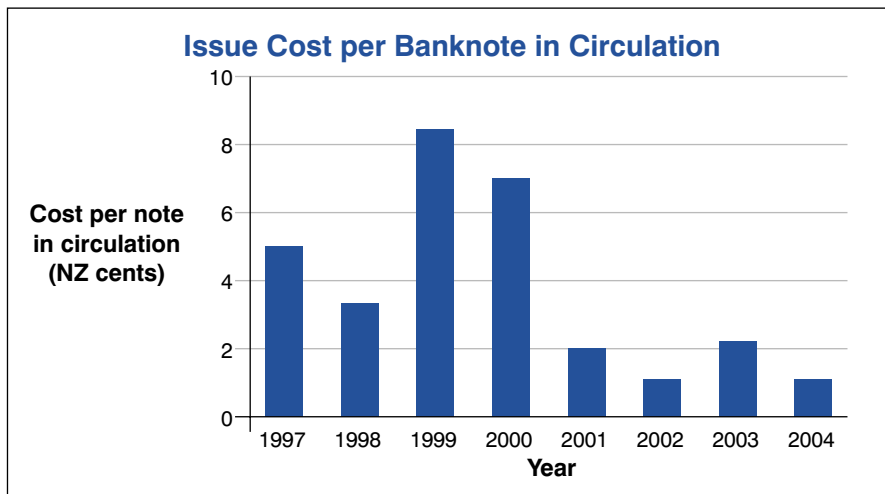
land “The Five Year Report”

and speed with which this was achieved in 2000/01 was directly attributable to the polymer conversion. This was partly due to the fact that we had a complete “refresh” of notes in circulation, but the ongoing ability of polymer notes to retain their structure, significantly reduces the need for the Central Bank to continually machine process to maintain quality.

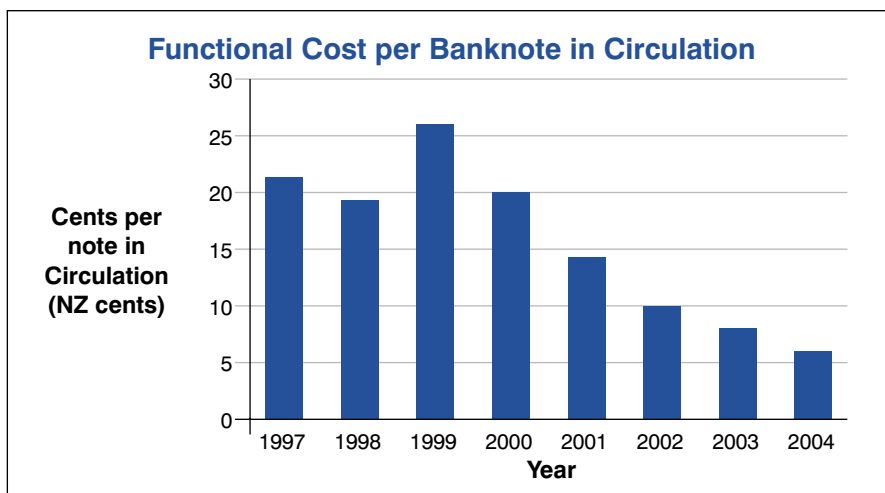
The very low counterfeit rate of polymer notes has also reduced our need to monitor rigorously for validity. We have reduced annual cash operation costs by 55% between 1997/98 and 2003/04.

In view of your experience, what would be your recommendation to other Central Banks considering the polymer note technology?

In my view the key benefits of the polymer notes for the public (cleanliness, structure, more effective security features) are readily transferable to other countries even though the cost of issue results may differ. Having experience issuing both paper and polymer notes, it is now more important than ever for issuers to properly assess these very significant benefits of polymer notes.



For the years ending 30 June 1997 and 1998 only paper notes were issued. In 1999 and 2000 all paper notes were withdrawn and replaced with polymer. In 2001 to 2004 only polymer notes were issued.



The above graph illustrates the very significant reduction in total operating expenses, including note issue, since 2001 after the Bank introduced polymer banknotes, closed its branches and scaled down its note processing role. The higher cost in 1999 was attributable to the complete conversion of paper banknotes to polymer and Y2K contingencies.

Romania announces Polymer Redenomination

The National Bank of Romania (NBR) has announced that as of 1 July 2005, Romania's currency will be subject to a redenomination.



From that date Romania's currency (leu) will be dropping 4 zeroes.

The reason for the redenomination is to signify the end of a long period post 1989

typified by relatively high inflation, to price stability. The big advantage for the public will be the simplification in handling and calculating monetary amounts. Double pricing of goods will start from 1 March, enabling the public to become familiar prior to the official introduction.

Romania started issuing Guardian® polymer banknotes in 1999 and has since replaced all its circulating banknotes with polymer. Currently 5 denominations are in circulation.

Guardian® has again been chosen for the new banknote series, confirming the excellent experience of NBR with polymer, and their commitment to its continuing future benefits. The Bank states on its website the advantages of polymer as “improved security, increased resistance in circulation, better processing in all types of equipment, cleanliness (fewer bacteria) and recyclability”. Further details on the new banknotes will be made public in the next months.

Polymer.

Your questions answered

Q. What is the difference between intaglio plate making for paper banknotes and intaglio plate making for polymer banknotes?

A. The actual intaglio plate making process for polymer banknotes can be identical to that used for paper notes. For example hand engraving or photopolymer origination methods work just as well for both substrates. Hence a security print works can maintain their existing plate making processes and equipment when they move to polymer. The critical difference when making intaglio plates for printing on polymer is at the design stage and in the geometry of engraving.

To reduce the possibility of splurging, certain line shapes should be avoided, for example "V" shaped or arrow shaped features in the wiping direction should not be used.

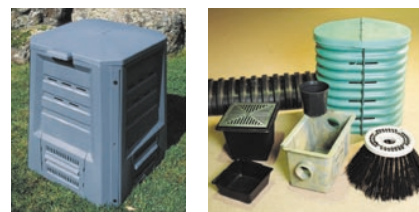
Because polymer substrate has a higher compressive and tensile strength than paper, it requires more pressure in the intaglio nip to deform and make contact with the ink in the engraving. Therefore we recommend reducing the depth of wide lines slightly.

Q. When polymer notes reach the end of their circulating life, how are they destroyed and disposed of?

A. Polymer notes are deemed to be unfit due to:

- Mechanical wear and tears (including sticky tape), holes, both physical holes through the entire note and removal of the coatings on both sides of the note and heat damage where the note has become deformed or is partly destroyed due to excessive heat.
- Ink wear where the abrasion of the note has rendered the note's printed indicia different to the mint quality note.

These notes are either outsourced manually by cash handlers such as bank tellers or cash transport company employees, or by detectors through mechanical note processing. The outsourced unfit notes are then granulated into small pieces. These are taken by recyclers who feed them into extruders which produce pellets. The pellets can then be used in any polypropylene extruder to create a range of useful products such as garden equipment and other durable products.



Polymer notes can be recycled into a range of products including compost bins, wheelbarrows, and a range of other useful products

International events

Conference	Location	Date	Website
2005			
5th Security Printing & Alternative Solutions in Central/Eastern Europe & Russia/CIS 2005	Moscow, Russia	January 26-27	www.security-printing.com
Banknote 2005	Washington DC, USA	February 20-23	www.banknote2005.com
Asian Banker Summit 2005	Singapore	March 15-17	www.theasianbanker.com
2nd Pan-European High Security Printing Conference	Kiev, Ukraine	April 20-21	www.cross-conferences.com
2005 Annual Meeting of the World Bank Group & International Monetary Fund	Washington DC, USA	September 26-27	www.imf.org
Currency Conference	Montréal Québec, Canada	October 2-5	www.currencyconference.com



For more industry news, polymer facts and currency hot topics, look out for the next issue of IPCA Bulletin.

Enquiries www.ipca.au.com

Back issues of IPCA Bulletin can be found on the IPCA website: www.ipca.au.com

© Copyright 2005 International Polymer Currency Association. No part of this bulletin may be reproduced without prior consent from IPCA.