

Feasibility of Implementing a Price Rounding Scheme For Cash Transactions in the Philippines



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Introduction

Price rounding refers to the policy and/or practice of rounding off the amount due for payment, as opposed to charging the exact amount to the last centavo. The actual cash payment would be rounded up or down to the nearest multiple of the designated coin currency unit under the policy. Across countries, price rounding is implemented in various ways, i.e., mutual consent of consumers and retailers, or through a binding legislative act.

While normally applied to cash payment transactions, price rounding may be applied to non-cash payments as well.¹ Price rounding is applied on the total amount of transactions, and not on prices of individual items. Moreover, government fees or taxes are included in the computation of the total amount due before it is rounded up or down.

This paper aims to determine the feasibility of implementing price rounding in the Philippines. The benefits that may be derived from, and possible constraints inherent to, the implementation of price rounding in the country will be explored. A host of related literature will be surveyed to review how price rounding is applied in other countries.

Price Rounding and Low-Denomination Coins

The practice of price rounding often leads to changes in the coin structure of a country, particularly in the composition of low-denomination coins. This could have several repercussions. Central banks typically incur losses from issuing low-denomination coins, given that the costs of producing these coins exceed their respective face values. In other words, price rounding reduces negative seigniorage commonly carried by low-denomination coins.² The implementation of price rounding necessarily includes the designation of a coin denomination that will serve as basis for rounding up or down the total amount due in a particular transaction. This will result in reduced demand for, if not complete elimination of, coins with lower denominations than the one that has been designated as basis for price rounding.

It is worth noting that low-denomination coins have a low recirculation rate once issued by central banks. Mints produce vastly more coins than are circulated and the loss rate³ is much higher for coins of smaller value. Mints produce vastly more coins than are circulated and the loss rate is much higher for coins of smaller value. This is the reason why central banks that try to service faithfully the demand for low-denomination coins would have to issue a larger volume of coins.^{4 5 6} The high loss rate is a manifestation that low-denomination coins, particularly the 10-, 5-, and 1-Sentimo coins, are perceived to have insignificant or no value. Thus, these coins are often neglected and not recirculated in the market but kept inside drawers, piggy banks, jars, or even outrightly discarded.

- 1 Malaysia is one of the few countries that practice rounding rules for both cash and non-cash over-the-counter payments. Non-cash payments include cheques, credit cards, debit cards, and charge cards (Frequently Asked Questions on Rounding Mechanism, Bank Negara Malaysia, http://www.bnm.gov.my/index.php?ch=en_misc&pg=en_archive&ac=507, retrieved on 10 June 2018). For purposes of this study, an "over-the-counter payment" is understood to mean as an arm's length transaction between a business entity and a consumer, who are both physically present at the point of sale and issues and receives, respectively, a receipt or bill as proof of the transaction.
- 2 Seigniorage refers to the difference between the face value of the coin and the unit cost of producing and issuing the same. *Positive seigniorage* means that the unit cost of the coin is less than its face value, thus generating income for the central bank. *Negative seigniorage*, on the other hand, refers to a situation where the cost of producing and issuing a coin is more expensive than its face value. In the case of the Philippines, negative seigniorage is typically incurred in the production of 1-Piso, 25-, 10-, 5-, and 1-Sentimo coins (although the 10-sentimo coin is no longer included in the denominational structure of the New Generation Currency Coin Series).
- 3 Loss rate is defined as 1.00 minus the *circulation rate* which, in turn, is defined as the number of coins returned (or deposited) to the central bank divided by the number of fit and new coins put into circulation. (See G. G. Wood, 2010).
- 4 As of 31 December 2017, low-denomination coins in the Philippines (25-, 10-, 5-, and 1-Sentimo coins) accounted for 8.8 percent and 55.9 percent of the total coins in circulation in value and volume terms, respectively (Bangko Sentral ng Pilipinas, 2017).
- 5 As of April 2018, 1- and 2-cent euro coins constituted 3.1 percent and 48.1 percent of the total coins in circulation in value and volume terms, respectively. (Data on banknotes and coins in circulation, European Central Bank, 2018).
- 6 1- and 2-Hungarian forint coins accounted for over 70 percent of annual coin production for the period 2003-2007. Magyar Nemzeti Bank (2009).

Handling costs are also incurred by retailers and financial institutions for the transportation, shipping, distribution, and processing of low-denomination coins which, if aggregated, could be substantial. According to a study (Leszko, 2009),⁷ these costs could amount to 0.5 - 0.6 percent of a country's gross domestic product (GDP). Payments and settlements are also slowed down by low-denomination coins. For example, in Canada, a cash transaction involving pennies would, on average, take two seconds longer than one that does not.⁸

Price Rounding and Inflation

One of the primary fears surrounding the implementation of price rounding is that it may lead to higher inflation as retailers might adjust their prices upwards. However, Leszko (2009) cites a study conducted by the Magyar Nemzeti Bank (MNB) of Hungary indicating that so long as rounding is applied to the total transaction and not to individual items, each digit between zero and nine would have an equal probability of becoming the last digit when more items are purchased simultaneously.⁹

In a 2013 study commissioned by the Bundesbank, the worst-case scenario where every transaction was rounded up to the nearest five cents led to a price increase of 0.1 percent.¹⁰ In Hungary, where price rounding has been implemented, the consumer price index data revealed that the measure did not have an inflationary effect.¹¹ In the case of one particular item, a minimal price increase of 0.1 percent was observed during the period of the study,¹² which was similar to the results obtained by the Bundesbank study. Meester (2016) noted the study conducted by Chande and Fisher, which concluded that when price rounding is applied to the total amount due inclusive of taxes, "sales tax and number of items purchased help to make the final digit random,"¹³ implying the neutrality of price rounding to either rounding up or rounding down.

Country Practices

A number of countries have already implemented price rounding, which is summarized in Annex 1. In the euro-area, Belgium, Finland, the Netherlands, and Ireland have adopted some form of price rounding in preparation for the withdrawal of 1- and 2-eurocent coins from circulation in their respective territories. These countries would seem to have less flexibility in implementing a price rounding rule as the power to institute binding policies on the euro is lodged within the jurisdiction of the European Monetary Union.¹⁴ Thus, while the said countries have implemented price rounding, the 1- and 2-eurocent coins remain legal tender in these territories.¹⁵

7 "Rounding is not to be feared," Erika Leszko (MNB Bulletin, 2009), 14.

8 Ibid., 20.

9 Ibid., 16.

10 "Current and projected development of coin circulation in Germany," (Deutsche Bundesbank Monthly Report, January 2013), 41.

11 "Rounding is not to be feared," Erika Leszko (MNB Bulletin, 2009), 16.

12 "The MNB examined developments in the prices of two items which typically have low unit prices and are generally purchased alone, not in combination with other articles. In the case of espresso coffee, a minimal price increase of 0.1 percent ensued... In the case of newspapers, the seasonally adjusted one-month price change did not diverge significantly from the price changes observed previously." Ibid.

13 Meester, Steven, The Economic Implications of Price Rounding, <http://business.uni.edu/web/pages/departments/PDFs/meester.pdf>

14 Pursuant to Recital 7 of Regulation (EU) No 651/2012 of the European Parliament and of the Council of 4 July 2012 on the issuance of euro coins, the European Commission is mandated to conduct an impact assessment of the continued issuance of 1- and 2-cent coins through a cost-benefit analysis that takes into account the real production costs of these coins.

15 Recital 3 of Regulation (EU) No 651/2012: In accordance with Council Regulation (EC) No 974/98 of 3 May 1998 on the introduction of the euro, coins denominated in euro and cent and complying with the denominations and technical specifications laid down by the Council have the status of legal tender in all Member States whose currency is the euro.

Sweden discontinued the production of the ore in 2010, which made the krona the smallest denomination. Sweden has the longest experience in withdrawing from circulation smaller coin denominations.¹⁶ The country thus served as a model for other European Union (EU) members that wanted to adopt similar policies in their own countries. The two-way rounding¹⁷ norm for most countries that implement price rounding has been referred to as “Swedish rounding.”¹⁸ In Sweden, price rounding for establishments accepting cash payments is mandated by law; however, an exception has been provided for its application in cases where parties to the transaction expressly agree otherwise.¹⁹

Other Scandinavian countries such as Norway and Denmark have also adopted price rounding which resulted in withdrawals of low-denomination coins from circulation.²⁰ In Norway, the 50-ore coin ceased to be legal tender on 1 May 2012, after which ore amounts not evenly divisible by 100 were rounded off to the nearest krone amount.²¹ In the case of Denmark, cash payments were subjected to rounding rules starting on 1 October 2008 as a consequence of the withdrawal of the 25-ore coin from circulation. Since then, cash transactions were rounded off to the nearest amount divisible by 50 ores.²²

Hungary is another EU country that has a long experience in price rounding. Hungary withdrew 1- and 2-forint coins from circulation on 1 March 2008, which resulted in the promulgation of Act III of 2008 on the rounding of cash payments to the nearest value of 5-forint (Leszko, 2009). In the Czech Republic, the 10- and 20-heller²³ coins were scrapped on 31 October 2003, while the issuance of 50-heller coin was discontinued on 31 August 2008. This resulted in the amendment of the Consumer Protection Act, which mandated the rounding of cash payments to the nearest valid denomination of the legal tender in circulation (i.e., 1-koruna).²⁴

New Zealand is one of the first non-EU countries that adopted price rounding. On 31 March 1989, the issuance of 1- and 2-cent coins ceased and both were demonetized on 30 April 1990, prompting the implementation of a two-way price rounding scheme based on the Swedish model.²⁵ Price rounding in New Zealand was put forward as a recommendation—not by the central bank—but by the New Zealand Retailers Association.

The Reserve Bank of New Zealand withdrew the 5-cent coin in 2006 as it was perceived to be worthless, so much so that these coins were mostly lost, kept in jars, or thrown away.²⁶

In Australia, the issuance by the Prices Surveillance Authority (now Australian Competition and Consumer Commission) of guidelines prescribing the rounding principles for cash transactions led to the withdrawal of 1- and 2-cent coins.²⁷

16 In 1972, Sweden withdrew from circulation its 1- and 2-ore coins and applied rounding to the nearest five or zero until 1985, when the 5- and 25-ore coins were eliminated. Eventually, Sweden withdrew the 10-ore coin (in 1992) and ceased production of the 50-ore coin in 2009, which was withdrawn on 30 September 2010. Along with the withdrawal of the 50-ore coin was the introduction of price rounding to the nearest krona, which became the smallest coin denomination in Sweden. (Leszko, 2009)

17 For purposes of this study, “two-way rounding” or “two-way price rounding” shall be understood to mean as a price rounding policy that allows for either rounding up or rounding down.

18 The term “Swedish rounding” became widely known in 1990 at the time when New Zealand scrapped the 1- and 2-cent coins and implemented a rounding to the nearest sum ending in 5 and 0.

19 For rounding with respect to the krona, see the Sveriges Riksbank Act 1029 (1970). An amendment in 2008 covers the current rounding scheme. 50-ore coin to be abolished in 2010. Sveriges Riksbank (<http://www.riksbank.se/en/Press-and-published/Notices/2009/50-ore-coin-to-be-abolished-in-2010/>)

20 Norway ceased production of the 1- and 2-ore coins in 1972; 5- and 25-ore coins in 1982; and 10-ore coin in 1992. Denmark withdrew 1- and 2-ore coins in 1973; 5- and 10-ore coins in 1989; and the 25-ore coin on 2008. (Leszko, 2009)

21 <https://norges-bank.no/en/Published/Circulars/2011/Regulation-relating-to-withdrawal-of-50-ore-coins-as-legal-tender> (Retrieved on 27 June 2018).

22 New rounding rules, Danmarks Nationalbank (https://web.archive.org/web/20100424091353/http://www.nationalbanken.dk:80/DNUK/NotesAndCoins.nsf/side/New_rounding_rules!OpenDocument, retrieved on 27 June 2018).

23 1 koruna = 100 hellers

24 Termination of validity of 50-heller coins, Czech National Bank, (https://www.cnb.cz/en/banknotes_coins/coins/termination_of_validity/ukoncen_50_hal.html, retrieved on 27 June 2018).

25 History of New Zealand Coinage, Reserve Bank of New Zealand (<http://www.rbnz.govt.nz/notes-and-coins/coins/history-of-new-zealand-coinage>, retrieved on 01 June 2018).

26 Notes and coins FAQs, Reserve Bank of New Zealand (<https://web.archive.org/web/20111006085119/http://www.newcoins.govt.nz/1570749.html>, retrieved on 01 June 2018).

27 Rounding and EFTPOS transactions, Australian Competition and Consumer Commission (<https://www.accc.gov.au/media-release/rounding-and-eftpos-transactions>, retrieved on 01 June 2018).

Canada, South Africa, Singapore, Malaysia, Israel, and the Eastern Caribbean Currency Union²⁸ have all moved to retire low-denomination coins. Each time they discontinue the issuance of coins, there is an accompanying set of price rounding rules that aim to mitigate possible confusion in payment due to the non-availability of low-denomination coins.

Canada ceased producing and distributing 1- and 2-cent coins in 2013 as part of broader efforts of its government to balance the budget.^{29 30} Thus, the price rounding guidelines in connection with the withdrawal of these coins are voluntary and recommended through Canada's Economic Action Plan of 2012.³¹ In both Canada and the United States (US), there has been a debate surrounding the withdrawal of low-denomination coins. Skepticism in the US is fuelled by the symbolic and sentimental value of the penny, concerns about cost on consumers and the strong lobbying from the zinc mining industry or other business interests, such as makers of coin blanks.^{32 33 34}

In Malaysia, the smallest denomination became the 5-sen coin pursuant to the price rounding guidelines. However, Bank Negara Malaysia (BNM) continues to supply 1-sen coins based on market demand. Nonetheless, BNM expects the demand for 1-sen coins to decline along with the implementation of the Rounding Mechanism,³⁵ which took effect on 1 April 2008. Singapore stopped issuing 1-cent coins on 2 April 2002,³⁶ and counts rounding policy as a business decision, i.e., a prerogative of business establishments.³⁷ South Africa ceased production of 1- and 2-cent coins on 31 March 2002³⁸ and the 5-cent coin on 1 April 2012.³⁹ Although the 5-cent coin remains legal tender, cash transactions are, in practice, rounded off to the nearest 10 cents. As it stands, price rounding in South Africa is voluntary.

Israel withdrew the 1-agora coin in April 1991 and simultaneously introduced rounding to 5 agorot in cash transactions.⁴⁰ In January 2008, the 5 agorot coin was removed from circulation and price rounding is now performed to the nearest 10 agorot.⁴¹ A rounding rule is prescribed by law in Israel which comes into effect in accordance with the demonetization schedule of a particular denomination.⁴²

One of the critical issues related to the cessation of production of low-denomination coins is the status of the low-denomination coins as legal tender—the policy for which varies across countries. In the euro-area countries that have ceased producing low-denomination coins, the jurisdiction on any decision regarding the status of legal tender coins rests on the

28 The Eastern Caribbean Currency Union is composed of Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, St. Lucia and St. Vincent and Grenadines. The member countries use a common currency, the East Caribbean dollar which is pegged at EC\$2.7 to US\$1.

29 "Phasing out the penny" (<http://www.cra-arc.gc.ca/gncy/lmntnppny/menu-eng.html>, retrieved on 01 June 2018).

30 Phasing out the Penny: What it means for Canadian consumers and businesses. Royal Canadian Mint. (<http://www.mint.ca/store/mint/about-the-mint/phasing-out-the-penny-6900002>, retrieved on 01 June 2018).

31 The rounding rules are recommended in connection with their effort to eliminate pennies from Canada's coinage system. It is part of the government's effort at rebalancing their budget and reducing deficits. (Responsible Management to Return to Balanced Budgets, Economic Action Plan 2012 p. 217)

32 "American society is very conservative, particularly with its symbols (for example, the U.S. did not adopt the metric system and has not replaced the dollar bill with a dollar coin)." "Should we stop using the penny?" JP Aubry, F Dupuis, and G Germain. (Desjardin Economic Studies, 2007), 9.

33 "Don't mess with the penny lobby," Dan Mitchell (Fortune website, April 11, 2012) (<http://fortune.com/2012/04/11/dont-mess-with-the-penny-lobby/>)

34 "It's not big zinc behind the campaign to keep the penny," Tim Worstall, (Forbes Economic and Finance Website, January 3, 2015) (<http://www.forbes.com/sites/timworstall/2015/01/03/its-not-big-zinc-behind-the-campaign-to-keep-the-penny/#242c62833071>)

35 Introduction of a Rounding Mechanism for Over-the-Counter Payments, Bank Negara Malaysia (http://www.bnm.gov.my/index.php?ch=en_press&pg=en_press&ac=663&lang=en, retrieved on 02 June 2018)

36 "Media Release by the Board of Commissioners of Currency, Singapore: No More 1-cent Coins from BCCS" (<http://www.mas.gov.sg/news-and-publications/media-releases/2002/no-more-1-cent-coins-from-bccs-27-feb-2002.aspx>, retrieved on 28 June 2018).

37 "... whether a bill should be rounded up or rounded down to the nearest 5 cents is a business decision" Section 7.3 Inland Revenue Authority of Singapore (IRAS) Guidelines for Retailers 2nd Ed. (11 March 2015)

38 Issuance by South African Reserve Bank: Cessation of Minting of 1-cent and 2-cent Coins (28 March 2002)

39 Five cent coin discontinued (<https://www.moneyweb.co.za/archive/five-cent-coin-discontinued/>)

40 1 Israeli shekel = 100 Israeli agorot

41 "Rounding is not to be feared," Erika Leszko (MNB Bulletin, 2009), 17.

42 Section 32. Bank of Israel Law 5714-1954

European Central Bank (ECB).^{43 44} Four euro-area countries, namely, Ireland, Belgium, the Netherlands, and Finland have implemented a form of price rounding in their respective territories. However, questions on the overlapping jurisdiction of the respective national banks with the ECB have created a major legal hurdle for any attempt to demonetize the coins in their respective territories.⁴⁵ These countries have resorted to maintaining these coins as redeemable legal tender indefinitely.⁴⁶

In non-EU countries in the euro area, such as Sweden, Hungary and the Czech Republic, their respective central banks have the authority to rescind the legal tender status of their currencies. They have, in fact, moved to demonetize low-denomination coins that they stopped producing.

In countries outside Europe, different policy approaches have been implemented. In Australia, 1- and 2-cent coins remain legal tender to this day, while neighboring New Zealand has demonetized all low-denomination coins that it stopped producing. Canada and South Africa took the lead of Australia in keeping the status of discontinued coins as legal tender indefinitely. Singapore has decried any attempt to legislate demonetization of 1-cent coins as unnecessary. Malaysia, despite issuing guidelines on rounding to the nearest 5-sen, has committed to produce a nominal supply of the 1-sen coin based on market demand. Israel has moved to demonetize currencies that it ceased producing.

The Philippine Coin Structure

Under the BSP coin series, the BSP issued seven coin denominations with the 10-Piso coin having the highest value and the 1-Sentimo coin the lowest value. The BSP Coin Series was issued in 1995,⁴⁷ carrying the old logo of the BSP which took over from then Central Bank of the Philippines.

Denominational Structure of the BSP Coin Series ⁴⁸

Denomination	Material	Color	Shape/Edge
10-Piso	Ring: Cupro-Nickel Core: Nickel Brass	Ring: White Core: Yellow	Round/Interrupted Serration
5-Piso	Nickel Brass	Pale Yellow	Round/Plain (design bordered by 12-scallop)
1-Piso	Nickel-Plated Steel	Grayish White	Round/Reeded
25-Sentimo	Brass-Plated Steel	Yellow	Round/Plain
10-Sentimo	Copper-Plated Steel	Copper Red	Round/Reeded
5-Sentimo	Copper-Plated Steel	Copper Red	Round/Plain (with 4mm central hole)
1-Sentimo	Copper-Plated Steel	Copper Red	Round/Plain

Source: BSP

Section 57 of Republic Act No. 7653, otherwise known as “The New Central Bank Act,” states that the BSP, as the sole issuer of Philippine currency, may call in for replacement

43 “In Member States where rounding regimes to the nearest five cents have already been adopted, 1 and 2 euro cents coins remain legal tender and should continue to be accepted in payments...” Item 10, Legal tender of the euro: Q&A on the new Commission recommendation Brussels, 22 March 2010 (http://europa.eu/rapid/press-release_MEMO-10-92_en.htm?locale=en)

44 “Euro banknotes are expressions of the same and single currency, and subject to a single legal regime.” In spite of the existing legal framework, according to the majority of the Group members, there is currently some legal uncertainty at the euro area level with regards to a common interpretation and definition of legal tender and the consequences flowing therefrom: according to the same majority, the EU has the exclusive competence to regulate this matter but has not yet done so.” Report of the Euro Legal Tender Expert Group (ELTEG) on the definition, scope and effects of legal tender of euro banknotes and coins (Brussels, 2009), 2.

45 Act on the Rounding of Euro-Denominated Payments (890/2000) (Finland 1 January 2002.)

46 “It should however be considered that for those members which have adopted rounding rules, these rules should not contravene certain principles, namely, that the issuing of small coins should not be discontinued in these countries as they are still legal tender and that small coins must be accepted to pay for a transaction despite the existence of rounding rules.” Report of the Euro Legal Tender Expert Group (ELTEG) on the definition, scope and effects of legal tender of euro banknotes and coins (Brussels, 2009)

47 Except for the two-toned 10-Piso coin, which was issued on 10 July 2001 in commemoration of the BSP’s 8th anniversary. This was an additional denomination to the coins in circulation at the time, and a replacement for the 10-piso New Design Series banknote.

48 <http://www.bsp.gov.ph/downloads/Publications/FAQs/banknotes.pdf> (retrieved on 7 November 2017).

coins which are more than 10 years old. Given that the BSP Coin Series has been in circulation for at least 20 years, the BSP introduced a new series of coins called the New Generation Currency (NGC) Coin Series,⁴⁹ which phased out the 10-Sentimo coin denomination. The design features of the NGC Coin Series enhanced the aesthetics and security of the coins. The NGC coins likewise feature the new BSP logo with a perfect round shape featuring three stars and a stylized Philippine eagle, which was introduced by the BSP in 2010. Should price rounding be implemented, the coin structure of the country could be simplified as other lower denomination coins may be further phased out.

Denominational Structure of the NGC Coin Series⁵⁰

Denomination	Material	Coin Edge Profile	Diameter
10-Piso	Nickel-Plated Steel	Milled with Edge Lettering	27.0 mm
5-Piso	Nickel-Plated Steel	Plain	25.0 mm
1-Piso	Nickel-Plated Steel	With Intermittent Reeds	23.0 mm
25-Sentimo	Nickel-Plated Steel	Plain	20.0 mm
5-Sentimo	Nickel-Plated Steel	With Reeds	16.0 mm
1-Sentimo	Nickel-Plated Steel	Plain	15.0 mm

Source: BSP

Deveza, Cubinar and de Leon (2016) in a paper entitled, “Do Filipinos Still Use Low-Denomination Coins?” found that a majority of respondents were in favor of dropping all the low-denomination coins except for the 25-Sentimo.⁵¹ The study utilized the results of a survey to determine the preference of households and corporates for low-denomination coins (i.e., 25-Sentimo coins and below). Household and corporate respondents still use 25-Sentimo for payment and most respondents were not in favor of withdrawing the coin from circulation. On the other hand, a majority of households no longer use the lower-denomination coins (i.e., 10-, 5-, and 1-Sentimo) and are in favor of withdrawing them from circulation. Therefore, the 25-Sentimo coin appears to be the most appropriate designated coin currency unit under the price rounding policy. The authors further recommend that two-way rounding be applied so as to keep the average prices and costs of goods unchanged.

Using the 25-Sentimo as the base currency from which price rounding will be anchored, this scheme may be implemented, as follows:

Truncated Sentimo component	Rounding Direction	Rounded Sentimo component
0.00-0.12	↓	0.00
0.13-0.24	↑	0.25
0.26-0.37	↓	0.25
0.38-0.49	↑	0.50
0.51-0.62	↓	0.50
0.63-0.74	↑	0.75
0.76-0.87	↓	0.75
0.88-0.99	↑	1.00

For example, if a cash transaction is valued at PhP13.64, the truncated sentimo component is PhP0.64 which falls within the range PhP0.63-PhP0.75. Following the

⁴⁹ In March 2018, the BSP started the release of the full set of the NGC Coin Series into circulation.

⁵⁰ <http://www.bsp.gov.ph/downloads/Publications/FAQs/NGCCoins.pdf> (Last accessed: 02 May 2018)

⁵¹ T. Deveza, G. Cubinar and M. F. de Leon, Do Filipinos Still Use Low-Denomination Coins? An Experiment on Data Fusion, Manila, 2016.

rounding scheme, the rounded centavo component is PhP0.75 and the value of the cash transaction would thus be rounded up to PhP13.75.

On the other hand, if a cash transaction is valued at PhP8.54, the truncated sentimo component is PhP0.54, which falls within the range of PhP0.50-PhP0.62. The rounded sentimo component is PhP0.50 and the value of the cash transaction would be rounded down to PhP8.50.

Price Rounding and the No Shortchanging Act

The “No Shortchanging Act,” which lapsed into law on 21 July 2016, provides: “It shall be unlawful for any business establishment to shortchange a consumer, even if such change is only of a small amount. Nothing in this Act shall be construed as a restriction for business establishments to give an amount greater than the sufficient change.” At first glance, price rounding may be seen as a contravention of the No Shortchanging Act given that consumers may receive loose change that is less than what is due to them in cases where the total amount due is rounded up. However, implementing price rounding is not necessarily inconsistent with the new law. In a regulatory regime where the two policies are in effect, retailers are expected to adopt simplified price structures that would facilitate business transactions while observing the rights of consumers. In fact, there are anecdotal pieces of evidence showing that price rounding is already being practiced voluntarily in the Philippines. For instance, prior to the implementation of Republic Act No. 10963, or the Tax Reform for Acceleration and Inclusion (TRAIN) law, some sari-sari stores retailed Marlboro cigarettes at PhP4.00 per stick or PhP10.00 for three sticks. In addition, in instances when the supply of lower-denomination coins is limited, mall establishments would give 25-Sentimo coins to each of their cashiers for their day-to-day operations to provide loose change for transactions that are rounded down to the nearest 25-Sentimo, pursuant to the No Shortchanging Act.

Conclusions and Recommendations

Price rounding has been adopted by several countries because of its perceived benefits, including the simplification of the coin structure that reduces negative seigniorage for central banks. Furthermore, its adoption reduces handling costs for retailers and consumers by eliminating the use of low-denomination coins. Price rounding is neutral when applied to the aggregate amount of cash transactions, inclusive of taxes, as several studies found that the total amount for transactions appeared to be random, i.e., retailers cannot arbitrage price rounding to their advantage. Likewise, price rounding has no significant effect on inflation. As regards the base coin denomination for price rounding, Deveza, Cubinar and de Leon (2016) found that most respondents in the Philippines were in favor of dropping low-denomination coins except for the 25-Sentimo. Thus, the 25-Sentimo coin may be used as the base currency for rounding off prices. Moreover, there is anecdotal evidence showing that price rounding is being implemented voluntarily with the mutual consent of consumers and retailers.

Foregoing considered, the Philippines may consider implementing price rounding. While price rounding may be practiced voluntarily, a legislative act is deemed necessary to ensure its smooth implementation. Legislation would ensure its complementarity with the No Shortchanging Act, fostering consumer protection and facilitating easier enforcement. Likewise, the BSP, in collaboration with relevant government entities, may conduct public information campaigns prior to its legislation to ensure that the public is well-informed of the mechanics of price rounding.

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