

The technology-neutral approach and electronic money regulation in the EU: identifying the promises and challenges for future regulation in South Africa

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Abstract

The rapid development of technology through the introduction of computer networks in the 1960s has brought with it numerous benefits for business communities. These benefits range from the speed and cost-effectiveness of online communication, to the speed of transacting and effecting payments using electronic devices. While this technological development has given rise to beneficial penetration of electronic payment systems into the world of commerce, these benefits are not shared by the regulating communities. Technological developments raise various regulatory questions for law-makers. One such question is whether or not it is possible to regulate these fast-developing systems. The same question is also raised in relation to the regulation of electronic payment systems, including electronic money. In acknowledging the challenges of regulating the technological development of electronic money devices, the European Union has adopted a technology-neutral approach to overcome the challenges of strict regulation of this evolving technology, while attempting to provide them with the much needed legal status and certainty. In South Africa, there are on-going discussions as to whether or not (and how) to regulate electronic money devices. A cautious position has been adopted in order to avoid hindering these rapidly developing innovations through a restrictive regulatory framework. This paper highlights some promises and challenges by drawing

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on some lessons from a similar approach adopted by the European Union in its Second Electronic Money Institution Directives. The paper suggests some middle ground that may be applied to overcome the challenges posed by the adoption of a technology-neutral approach. The aim of the paper is to establish a clear path for the regulation of electronic money institutions in South Africa, by evaluating the effectiveness of a technology-neutral approach, as adopted by the EU.

INTRODUCTION

The question as to whether or not technological developments fit well into existing laws has received considerable attention with the development of electronic payment systems. The same applies to how different technological concepts are defined and classified, hence creating definitional uncertainties. A technology-neutral approach has been adopted extensively as a regulatory approach for addressing these challenges. This paper discusses some of the benefits and challenges of adopting this approach in the regulation of electronic money products ('e-money' for short), as adopted by the European Union (EU) in the Second Electronic Money Directives (EMID2). The EU is a model of a regulatory regime which has adopted an in-advance approach towards regulating e-money, while many continental, regional, and national jurisdictions are still cautious about interfering with the speed of innovations by introducing strict laws. The EU model can therefore be used for developing other continental and national regulatory models for e-money payment systems. This paper uses a PayPal payment system to highlight the promises and challenges of adopting a technology-neutral approach. PayPal is selected simply because of its widespread market power and the regulatory challenges it poses in many European and non-European jurisdictions. The aim of this paper is to identify the various promises and challenges of adopting a technology-neutral approach in the regulation of e-money products and the supervision of institutions that deliver these products, as illustrated by the EU's regulatory regime. While it does not attempt to discuss all the benefits and challenges of adopting this approach, the promises and challenges discussed in this paper are used to suggest how the challenges associated with this approach can be overcome in South Africa.

A CONCEPTUAL OVERVIEW OF ELECTRONIC MONEY

'E-money' does not have a universally accepted definition. It is loosely defined as referring to a variety of retail payment mechanisms which are

operated through electronic devices.¹ The electronic value is acquired using conventional money and is loaded onto an electronic device. As correctly observed, ‘a precise definition is difficult to provide’.² Different financial institutions provide different definitions and categories of e-money. The difficulty also lies in whether or not the definition refers to a particular technology or is inclusive of various technologies in general. The Bank of International Settlement (BIS)³ defines e-money as

stored value or prepaid products in which a record of the funds or value available to the consumer is stored on a device in the consumer's possession. This definition includes both prepaid cards (sometimes called electronic purses) and prepaid software products that use computer networks such as the internet (sometimes called digital cash). These products differ from so-called access products that allow consumers to use electronic means of communication to access otherwise conventional payment services.

In addition to highlighting the importance of identifying what constitutes ‘e-money’, this definition also serves an ancillary (albeit important) role by describing what e-money is not. Reference to a ‘stored or prepaid product’ indicates that post-paid products, such as credit cards, are not covered in the definition of e-money.⁴ The definition also excludes ‘so-called access products’. This helps to determine what should be covered or excluded by a regulatory framework for electronic money products.

DIFFERENT CATEGORIES OF ELECTRONIC PAYMENT SYSTEMS

In the literature, electronic payment systems are classified (among other classifications) as either access products (or account-based products), or stored-value products (or token-based products).⁵ However, this is not a

¹ Bob ‘Commission consults on revision of the European electronic money regime’ (2005) 13 *Journal of Financial Regulation and Compliance* 348.

² Bank for International Settlements: Group of Ten ‘Electronic money: consumer protection, law enforcement, supervisory and cross border issues’ (September 1997) available at: <http://www.bis.as.org/publ/gten01.pdf> (last accessed 18 January 2013).

³ Bank for International Settlements ‘Security of electronic money’ (August 1996) available at: <http://www.bis.org/publ/cpss18.htm> (last accessed 03 April 2013) (emphasis added).

⁴ *Ibid.*

⁵ Geva ‘Legal aspects relating to payment by e-money: review of retail payment system fundamentals’ (2001) 5 *Yearbook of International Financial & Economic Law* 256; See also Camp *et al* ‘Token and notational money in electronic commerce’. *Proceedings of the First Usenix Association Workshop of Electronic Commerce: New York, United*

strict classification. Account-based products refer to payment systems in terms of which money is represented by numbers in a conventional bank account, and these numbers are transferred between parties in an electronic form via a computer network.⁶ Examples in this category are credit or debit cards, automated teller machines (ATM), as well as electronic funds transfer (EFT) facilities. These devices essentially facilitate easy access to money in a bank account. Token-based products, on the other hand, allow participants to exchange electronic tokens during the transaction without relying on a bank account.⁷ The system used to effect payment carries the electronic value itself in the form of a digital coin or token.⁸ The equivalent value of conventional money is converted into electronic tokens and transferred into a digital account before it can be spent.⁹ A reference to ‘a record of the funds or value available to the consumer [that] is stored on a device in the consumer's possession’ in the BIS definition of e-money above implicitly limits e-money to token-based products.

Different definitions also emphasise two categories of token-based e-money products. E-money products are classified as hardware-based stored-value cards, and software-based electronic cash. The hardware-based e-money refers to a small plastic card with a microchip embedded in the back of the card that loads prepaid monetary value.¹⁰ Examples are VisaCash, Proton, and Mondex.¹¹ Software-based e-money simply refers to electronic devices on which the monetary value is stored on a computer server accessed via the

States of America, (11-12 July 1995) available at: <http://www.usenix.org/publications/library/proceedings/ec95/> (last accessed 10 April 2013).

⁶ Abrazhevich *Electronic payment systems: a user-centered perspective and interaction design* (PhD thesis Eindhoven University of Technology, 2004) 24 available at: <http://alexandria.tue.nl/pdf> (last accessed 10 March 2013). Examples in this category are access products such as credit and debit card-based systems, electronic cheque payments, as well as Electronic Funds Transfers (EFTs) and EFT Point of Sales.

⁷ *Ibid.*

⁸ *Id* at 27.

⁹ Brands ‘Electronic cash’ in Atallah (ed) *Handbook on algorithms and theory of computation* (1998) 50.

¹⁰ Svigas *Smart card: the ultimate personal computer* (1985) 17; See also Cohen ‘Electronic money: new day or false dawn?’ (2001) 8 *Review of International Political Economy* 199.

¹¹ The European Central Bank identified thirty three kinds of hardware and software-based electronic money in circulation worldwide. European Central Bank ‘E-payments without frontiers’ *The issue paper for the ECB E-payments Conference*, Frankfurt, Germany (10 November 2004), available at: <http://www.ecb.europa.eu/pub/pdf/other/epaymentsconference> (last accessed 04 March 2013).

internet.¹² The value resides in an electronic account (called a cyberwallet) on a computer drive.¹³ Like a smart card, information is stored on this account in the form of digital coins (or tokens), which represent its monetary value.¹⁴ Examples of popular software-based e-money include CyberCash, NetCheque, First Virtual, and DigiCash (eCash).¹⁵ However, the categorisation of the PayPal payment system remains a challenge.

PAYPAL PAYMENT SYSTEM AND ITS LEGAL STATUS

PayPal is a global e-commerce business that allows payments and money transfers to be made via the internet. PayPal is well known for offering a secure means of sending and receiving payments via e-mail to its customers. Registered PayPal users are able to send payment instructions to anybody with an email address and a PayPal account, by indicating the amount to be sent in an online form.¹⁶ PayPal payments are made with money in a credit card, bank account, or PayPal account.¹⁷ To use PayPal, a customer opens a PayPal account by providing his or her credit card or bank account information.¹⁸ Once the account has been created, the customer can send money to any person by providing an e-mail address and transferring money in an online form to this account. The recipient of the e-mail must open another PayPal account to receive the money from the sender's bank account or credit card.¹⁹ The money will eventually be deposited into a new PayPal account.²⁰ Despite some allegations that PayPal insists on keeping customers' money in its account, it is PayPal's practice to provide customers with a choice on how or what to do with their money.²¹ The customer can

¹² Claxton 'Progress, privacy, and pre-emption: a study of the regulatory history of stored-value cards in the United States and the European Union' (2011) 28 *Arizona Journal of International & Comparative Law* 525.

¹³ O' Mahogany *et al Electronic Payment Systems* (1997) 146.

¹⁴ Schutzer 'Foundations for electronic commerce' in Cronin (ed) *Banking and finance on the internet* (1998) 159.

¹⁵ European Central Bank n 11 above.

¹⁶ Sapsford 'PayPal sees torrid growth with money sending service' *The Wall Street Journal* (16 February 2000) available at: <http://rogr.me/cs183/thoughtsonpaypal.pdf> (last accessed 16 May 2013).

¹⁷ Heffernan *Modern banking* (2005) 88.

¹⁸ Gonzalez 'PayPal: the legal status of C2C payment systems' (2004) 20 *Computer Law and Security Report* 396.

¹⁹ Kohlbach 'Making sense of electronic money' (2004) 1 *Journal of Information Law and Technology* 4.

²⁰ Sapsford n 16 above.

²¹ PayPal Warnings 'PayPal implemented 90 day reserve for no reason' (1 May 2013) available at: <http://www.paypalwarning.com /paypal-implemented-90-day-reserve-reason/> (last accessed 15 May 2013).

either choose to keep the money in a PayPal account for further use, or to have the amount credited to his or her bank account or credit card.²² It is this choice that makes the determination of the legal status of PayPal difficult in many jurisdictions. A brief analysis of the concept of deposit-taking and the necessary comparison between how payment is effected and the value is stored, may be helpful to clear the regulatory challenges with regard to the status of PayPal.

It is traditionally accepted that the main characteristic of a bank includes the acceptance of deposit.²³ The function of taking deposits is used in many jurisdictions to single out banks from other financial institutions for purposes of supervision and regulation.²⁴ The continued characteristics of bank as deposit-taking institutions has, however, been questioned in view of rapid technological developments in the sphere of banking.²⁵ There are conflicting views on whether payment using e-money, and PayPal in particular, constitutes a deposit or deposit-taking for purposes of a particular supervisory and regulatory framework.

According to Geva,²⁶ the description of 'bank deposit' connotes money placed in the custody of the bank to do with it as it pleases. This description, he argues, fits electronic money loaded on stored-value products the same way as monetary value deposited in a bank account.²⁷ He concludes that as e-money constitutes money, it ought to be regarded as a deposit in the account held with the issuer.²⁸ The following commentators agree that e-money may constitute a deposit depending on agreement between the issuer

²² Gonzalez n 18 above.

²³ *Union Dominion Trust v Kirkwood* [1966] 2 QB 431 (CA) 443E-F. The court in this decision held the main functions of bank as the acceptance of money from their clients and placing them to their credit, among others.

²⁴ Heffernan *Modern Banking* (2005) 1.

²⁵ Schulze 'Smart card and e-money: new developments brings new problems' (2004) 16 *SA Merc LJ* 712.

²⁶ Geva n 5 above at 261.

²⁷ *Ibid.*

²⁸ *Ibid.* See also Piffaretti 'A theoretical approach to electronic money' (1998) available at: <http://www.unifr.ch/macroeco/wp.pdf> (last accessed 16 November 2012). This author argues in relation to stored-value cards that funds are not stored onto the card but on a suspense account by the issuer and these funds are lent to the bank. The author's view on the basis of this argument is that the money that the issuer receives constitutes a bank deposit.

and the customer. Van Jaarsveld²⁹ bases her position on the definition of e-money as ‘a surrogate for coins and bank notes’. She agrees that not all stored-value products constitute a deposit. The author further acknowledges that payment made to the issuer of the stored-value products may amount to a traditional deposit where the scheme is arranged to fall within the definition of e-money.³⁰ This will depend on the relevant legislation and the agreement between the issuer of the card and the cardholder.³¹ This position is also held by Loubser and Swart.³² Their argument is generally that e-money does not constitute legal tender in the absence of statutory recognition of electronic money in South Africa.³³ They also qualify their view depending on a particular agreement between the service provider and its customers. They conclude that, e-money products such as Mondex, may qualify as e-money since customers are required to repay the amount involved should the customer wish to withdraw the amount from the Mondex system.³⁴

With specific reference to PayPal, Perlman³⁵ provides a detailed analysis of the difference between ‘deposit’ and ‘payment’. He opines that a ‘deposit’ is only one component of the bank-customer relationship.³⁶ The other component is the requirement to honour all valid payment instructions.³⁷ With regard to a deposit, the author proposes a ‘rethinking’ of the concept of ‘deposit’ on the basis that ‘taking funds and lending are not necessarily indications of deposit-taking’.³⁸ This position is further supported by the introduction of mobile financial services with their focus on taking user funds for payment and not always for deposit purposes.³⁹ Of note to

²⁹ Van Jaarsveld *Aspect of money laundering in South African law* (unpublished LLD thesis University of South Africa, 2011) 59. On the definition of e-money adopted by the author from the EU see n 134 below.

³⁰ *Ibid.*

³¹ *Ibid.* The author concludes that e-money is usually not a legal tender because it is not a universally accepted medium of exchange. See Loubser & Swart ‘Electronic money in South African law’ (1999) 10 *Stellenbosch LR* 359.

³² *Ibid.*

³³ *Ibid.*

³⁴ *Ibid.*

³⁵ Perlman *Legal and regulatory aspects of mobile financial services* (LLD thesis: University of South Africa, 2012).

³⁶ *Id* at 133.

³⁷ *Ibid.* The author’s view, however, is that deposit and payment are not the same and their distinction require a proper definitions to determine their legal boundaries.

³⁸ *Id* at 190. See also Bollen ‘What is deposit (and why does it matter)?’ (2006) 13 *Murdoch University Electronic Journal of Law* 202.

³⁹ *Id* at 193.

Perlman's position is his point that the 'time' (that the value is stored in the virtual account) may be critical to whether funds provided to an entity amount to a deposit or not.⁴⁰

Perlman characterises PayPal as an internet-based payment service provider with a central float that holds the value in its system, as compared to mobile phones that use airtime money.⁴¹ Although the author does not specifically state that the legal status of PayPal constitutes a deposit, he generally concludes that if the value transferred by the mobile financial service provider is held by the mobile network operator, the purse that hold such value would be considered as a 'deposit'.⁴² This, however, will depend on the time the value sits in the mobile network operator's account, which may impact on whether it can be characterised as either a deposit or merely a payment. Questions which need to be asked are whether a technology-neutral approach is sufficient to address this conundrum, and whether or not the store of value in a PayPal account constitutes a deposit.

Other commentators do not agree that the use of e-money constitutes a 'deposit'. Akindemowo⁴³ is one of the commentators who is against characterising e-money as deposit. Akindemowo's observation is that rather than depositing the money with an issuer, a cardholder in fact pays money for the purchase of a service.⁴⁴ Her observation is important for the distinction between a deposit and a pre-payment. She argues that in many cases there is no pre-existing depository relationship between a cardholder and an issuer of electronic money.⁴⁵ A cardholder pays funds in exchange for an issuer's service. This, in her view, constitutes a pre-payment and not a deposit. Since services are to be provided in the future, there is neither a loan of funds, nor any obligation to repay these funds to a cardholder.⁴⁶ According to Schulze,⁴⁷ with reference to acceptance of a deposit in terms of the Banks Act,⁴⁸ when the client buys an electronic purse or is issued with digital cash,

⁴⁰ *Id* at 191.

⁴¹ *Id* at 171 and 245. The author, however, acknowledges PayPal as a 'hybrid model' comprising of internet-based payment and mobile phone-based payment.

⁴² *Id* at 447.

⁴³ Akindemowo 'Contract, deposit or e-value? reconsidering stored value products for a modernized payments framework' (2009) 7 *DePaul Business & Commercial LJ* 291.

⁴⁴ *Ibid.*

⁴⁵ Akindemowo n 43 above at 292.

⁴⁶ *Ibid.*

⁴⁷ Schulze n 25 above at 715.

⁴⁸ Act 94 of 1990.

there is no deposit of money that will be repaid to the client as required by the definition of a deposit. According to him, buying digital cash is similar to buying a pre-paid telephone card from the supermarket or travellers' cheques from the travel agent, neither of which is not registered as a bank.⁴⁹

Alongside the different arguments of these commentators, PayPal's regulatory status differs under different jurisdictions in and outside of Europe. The status seems to depend on its categorisation as an entity that falls under one of the three-track regulatory regimes in Europe.⁵⁰ In certain European countries, for example, PayPal is regulated under the supervisory structure of banks in Luxembourg,⁵¹ whereas it is registered as an e-money institution in the United Kingdom.⁵² On the other hand, it is regulated as a money remitter in terms of the federal law of the United States of America (the US).⁵³ This difference in the regulatory status has prompted PayPal to adopt different positions in its policies. Depending on the regulatory requirements in a particular jurisdiction, it regards itself as a bank, payment service provider, or e-money issuer.⁵⁴ While many existing electronic payment systems do not pose challenges in terms of being classified as access or token-based products, it is not clear how a PayPal payment system should be classified. First, it remains doubtful whether or not PayPal should be regulated as a deposit-taking institution under the banking regulatory framework. The classification of PayPal under each category is important in

⁴⁹ Schulze n 25 above at 715.

⁵⁰ See the discussion of the EU's legal framework below.

⁵¹ Anon 'PayPal obtains bank charter for European Union' *Payment News* (15 May 2007) available at: http://www.paymentsnews.com/2007/05/paypal_obtains_.html (last accessed 16 May 2013). For the Australian position see Australian Prudential Regulatory Authority *Authority to Carry banking Business: Banking Act 1959* (2006) available at: <http://www.apra.gov.au/adi/Documents/cfdocs/PayPal-auth-and-conditions-2006.pdf> (last accessed 16 May 2013).

⁵² Deeks 'PayPal: Who regulates it? Who can you complain to?' *Mukamedia* (24 November 2008) available at: <http://www.mukaumedia.co.uk/paypal-who-regulates/> (last accessed 16 May 2013).

⁵³ Mann 'Regulating internet payment intermediaries' (2004) *Proceedings of the 5th international conference on electronic commerce* Pittsburgh, United States of America, 382. Money remitters in the EU are regulated under the PSD.

⁵⁴ PayPal *User Agreement for PayPal Services* (March 2013) available at: <https://www.paypal.com/au/webapps/mpp/Ua/useragreement-full> (last accessed 29 May 2013) Cf PayPal *User agreement for PayPal service* (Feb 2013) available at: https://cms.paypal.com/al/cgi-bin/marketingweb?cmd=render-content&content_ID=ua/UserAgreement_full&locale.x=en_US (last accessed 29 May 2013) & PayPal *PayPal user agreement* (May 2013) available at: https://cms.paypal.com/cms_content/US/en_US/files/ua/ua.pdf (last accessed 29 May 2013).

determining the relevant institutional regulatory regime for purposes of licensing. Such classification is also relevant to determining under which of the EU's three-track regulatory regimes a particular electronic payment system is regulated, namely a bank, a payment system, or an e-money product. The question is whether or not the definition and classification of e-money under the EU regulatory framework is sufficient to classify PayPal as an e-money issuer. This question is relevant in determining the effectiveness of a technology-neutral approach in the EU in addressing the regulatory status of electronic payment systems such as PayPal.

TECHNOLOGY-NEUTRAL APPROACH

A technology-neutral approach (or technology-neutrality) simply means that when regulating technological activities, rules should not assume a particular technology and should also not hinder the use or development of similar technologies in the future.⁵⁵ The main purpose of this approach is to reduce the risk that the current regulating rules may become outdated by technological development, and therefore lose their meaning and authority.⁵⁶ It also espouses legal rules that do not discriminate against a particular technology.⁵⁷ In essence, it advocates the drafting of rules that are framed in terms of their functions or values, and not based on a particular technology.⁵⁸ The law is prohibited from being more specific in describing the technology contemplated by the regulation. The rules are supposed to be wide-ranging and inclusive of all possible technological devices contemplated by the regulatory framework. Ironically, this means that the 'law must encompass anything under the sun made by man'.⁵⁹

The approach was introduced to regulate services in the e-commerce industry by focusing on the services provided by the technology, rather than the technological means used to deliver these services.⁶⁰ It also adopts the principle of creating general categories of services which are described in

⁵⁵ Clinton & Gore 'A framework for global electronic commerce' (July 1997) available at: <http://www.technology.gov/digeconomy/framework.htm> (last accessed 29 May 2013).

⁵⁶ Reed *Making laws for cyberspace* (2012) 190-191.

⁵⁷ Ali 'Technological neutrality' (2009) 14 *Lex Electronica* 12.

⁵⁸ Thompson 'The neutralization of harmony: the problem of technological neutrality, east and west' (2012) 18 *Boston University Journal of Science & Technology Law* 2.

⁵⁹ *Diamond v Chakrabarty*, 447 US 303, 309 (1980) 6.

⁶⁰ Lincoln 'Electronic signature laws and the need for uniformity in the global market' (2004) 8 *Journal of Small & Emerging Business Law* 84-85.

terms of their nature rather than their means of delivery.⁶¹ For this reason, its application requires the definition of a particular service to ensure that the means of delivering this service do not matter.⁶² What matters is the end to achieve this service. A regulatory regime is required to concentrate on the provision of services and be independent of the technology used to provide these services.⁶³ It should therefore be flexible enough to embrace technological changes and market developments.⁶⁴ Such flexibility is essential in order to avoid promoting the use of a specific technology or giving it a special status.

In practice, technology-neutrality means that the law regulating a technology must not name, specify, or describe a particular technology. Instead, it must simply make provisions in broader terms to encompass more than one technology. On the other hand, it must be able to cover future technologies which are yet to be developed when legislation⁶⁵ is adopted. The principal objectives of this approach are to refrain from being specific, and to accommodate future technologies within a legal framework. The approach comprises two essential principles: the *non-discrimination* principle; and the *forward-looking* principle. These principles were introduced in the first approved description of this approach by the US government under a framework termed: ‘A framework for global electronic commerce’.⁶⁶ This framework advocates technology-neutrality as one of the principles to guide the drafting of rules governing global electronic commerce. In this context, it provides that ‘rules should be technology-neutral (*ie*, the rules should neither require nor assume a particular technology) and forward looking (*ie* the rules should not hinder the use or development of technologies in the future)’.⁶⁷

⁶¹ *Ibid.*

⁶² Lidgerwood ‘Reactive, not proactive: recent trends in Australian broadcasting regulations’ (2002) 21 *Agenda* 21.

⁶³ Hanrahan ‘Abstraction of services and network technologies to support robust telecommunication legislation and regulation’, *Paper presented at the South African Telecommunication Networks and Application Conference (SATNAC) Proceedings Johannesburg, South Africa (September 2002)* available at: <http://satnac.org.za/proceedings/2002/plenary/hanrahan1.pdf> (last accessed 21 May 2013).

⁶⁴ Bezzina & Terrab ‘Impacts of new technologies on regulatory regime: introductory comments’ (2005) *The Economic Journal on Telecom, IT & Media: Special Edition* 30.

⁶⁵ Birnhack ‘Reverse engineering informational privacy law’ (2012) 15 *Yale Journal of Law & Technology* 36-37.

⁶⁶ Clinton & Gore n 55 above.

⁶⁷ *Ibid.*

The preamble to the United Nations Convention on the Use of Electronic Communications in International Contracts, states the purpose of this approach as ‘to provide for the coverage of all factual situations where information is generated, stored or transmitted in the form of electronic communications, *irrespective of the technology or the medium used* [own emphasis]’.⁶⁸

A technology-neutral approach has also been adopted to encompass either or both of its main principles in the EU. The approach was introduced for the first time in 1998 to regulate the impact of audio-visuals on the protection of minors and human dignity.⁶⁹ This paved the way for its adoption in other sectors of technological developments, such as e-signature, data protection, and e-money regulation.⁷⁰ In the area of e-money, the approach was introduced ‘to provide a regulatory framework that assists electronic money in delivering its full potential benefits and that avoids hampering technological innovation in particular’.⁷¹ This purpose, as discussed below, remains the essential guide for the regulation of e-money in the EU.

⁶⁸ United Nations *United Nations Convention on the Use of Electronic Communications in International Contracts* (2007) available at: http://www.uncitral.org/pdf/english/texts/electcom/06-57452_Ebook.pdf (last accessed 29 May 2013) (emphasis added).

⁶⁹ Commission of the European Communities ‘Opinion of the economic and social committee on the proposal for a council recommendation concerning the protection of minors and human dignity in audiovisual and information services’ (1998) *Official Journal of the Europe Union* 25 available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:1998:133:0052:0057:EN:PDF> (last accessed 05 May 2013). Paragraph. 3.2.5 provides that ‘Regulation should be ‘technology-neutral’: as few as possible new regulations, policies and procedure should be specific to the new services’.

⁷⁰ Commission of the European Communities *Proposal for a European Parliament and Council Directive on a common framework for electronic signature* (May 1998) available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:1998:0297:FIN:EN:PDF> (last accessed 29 May 2013); See also European Commission *Proposal for a regulation of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data (general data protection regulation)* (January 2012) available at: http://ec.europa.eu/justice/data-protection/document/review2012/com_2012_11_en.pdf (last accessed 29 May 2013) & Commission of The European Communities *Proposal for a European Parliament and Council directive on the taking up, the pursuit and the prudential supervision of the business of electronic money institutions* (September 1998) available at: <http://aei.pitt.edu/10704/1/10704.pdf> (last accessed 29 May 2013).

⁷¹ Commission of the European Communities n 69 above.

REGULATION OF ELECTRONIC MONEY IN THE EU

Payment systems under the EU are regulated in terms of a three-track regulatory regime between traditional ‘credit institutions’ (ie banks), ‘payments institutions’, and ‘electronic money institutions’.⁷² The relevant instruments of this regime are the Banking Directive⁷³ (which regulates the deposit-taking function of credit institutions), Payment Systems Directive (PSD) (which regulates payment systems such as credit cards, automated teller machines (ATMs)); electronic funds transfers (EFT), money remittance services provided by a non-bank institution known as a ‘payment institution’,⁷⁴ and the EMID2⁷⁵ (which regulates the issuing of e-money by ‘electronic money institutions’). The choice of a particular regulatory regime depends on whether or not a particular payment system is defined and classified in accordance with the definition of ‘deposit-taking’, ‘payment service’, or ‘e-money’. Each track of the regime has different licensing and prudential requirements of varying degrees that must be satisfied before a service provider can legitimately be authorised to provide a particular payment system. This begins with the high initial capital amount that the service provider must hold before it can be authorised in respect of banks; and moves to a lesser one in the case of payment systems under the PSD, with e-money institutions falling in the middle under the EMID2. Notably, ‘payment systems’, as defined in the PSD, are akin to the classification of access-based products, whereas ‘electronic money’ in terms of the EMID2 is classified as a token-based product. As the PayPal case illustrates, the classification of a payment service as falling under the PSD or the EMID is not a simple one. The adoption of a technology-neutral approach in both these instruments also has the effect of blurring such a distinction.

⁷² Pichler ‘The European Electronic Money Institution Directives and the US Uniform Money Services Act: similarities and differences’ *ePSO Newsletter* (12 November 2001) 53 available at: <http://epso.jrc.es/newsletter/vol07/2.html> (last accessed 20 March 2013).

⁷³ European Parliament and the Council ‘Directive 2000/46/EC on the taking up, pursuit and prudential supervision of the business of electronic money institutions’ (2000) 27 *Journal of European Union* 275/39. The directive does not refer to banks, but the essential function of the service providers contemplated is that of banks.

⁷⁴ European Commission ‘Directive 2007/64/EC of the European Parliament and of the Council on payment services in the internal market amending Directives 97/7/ EC, 2005/60/EC and 2006/48/EC and repealing Directive 97/5/EC’ (2007) 12 *Official Journal of the European Communities* 319/1.

⁷⁵ European Parliament and the Council ‘Directive 2009/110/EC on the taking up, pursuit and prudential supervision of the business of electronic money institutions’ (2009) 10 *Journal of European Union* 267/7.

In the EU, e-money products are regulated under the EMID2. The first EMID⁷⁶ (EMID1) was promulgated in 2000, but was revamped in 2009 (as EMID2) owing to its failure to achieve its main objective of harmonising the legal framework in the European Community. EMID2 endeavoured to address the shortfalls encountered in the interpretation of EMID1 and to take into account new regulatory developments (brought by the PSD) and new innovations in the market.⁷⁷ The main objective of regulating e-money in the EU was to achieve the essential harmonisation of prudential supervision in the European Community through a comprehensive legal framework.⁷⁸ The provision of such a framework was intended to assist e-money to deliver its full potential benefits.⁷⁹ From its preamble, it is indicative that EMID1 was developed mainly to circumvent the strict licensing and prudential requirements applicable to deposit-taking functions of credit institutions under the Banking Directive. EMID1 was explicitly intended to introduce a ‘separate prudential supervisory regime for electronic money institution’ which is less cumbersome than the same regime applicable to credit institutions.⁸⁰

To achieve these objectives, EMID1 adopted a technology-neutral approach. The scope of this approach in EMID1 was limited to the forward-looking leg of the general approach. EMID1 referred to a technology-neutral legal framework ‘that avoids hampering technological innovation’.⁸¹ However, a new focus is evident in EMID2, which applies ‘a technically-neutral definition of electronic money which should cover all situations where the payment service provider issues pre-paid stored value’.⁸² While EMID1 included only the forward-looking leg of this approach, EMID2 excluded this leg and incorporated the non-discrimination principle in the new framework. It is also implicit in both directives that the approach is adopted

⁷⁶ European Parliament and the Council ‘Directive 2000/46/EC on the taking up, pursuit of and prudential supervision of the business of electronic money institutions’, *Official Journal of European Communities* 275/39.

⁷⁷ Commission of the European Communities. *Proposal for a directive of the European Parliament and of the Council on the taking up, pursuit and prudential supervision of the business of electronic money institutions, amending Directives 2005/60/EC and 2006/48/EC and repealing Directive 2000/46/EC* (2009) Recital 6. Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0627:FIN:EN> (last accessed 06 May 2013).

⁷⁸ European Parliament and the Council n 73 above recital 4 of the preamble.

⁷⁹ *Id* at recital 4 of the preamble.

⁸⁰ *Id* at recital 7 read with recital 13 of the preamble.

⁸¹ *Id* at recital 5.

⁸² *Id* at recital 7.

in the definition of e-money. It has been correctly noted that ‘the neutrality as between different technologies depends very much on the definition of the technology to be regulated’.⁸³ To highlight the promises and challenges posed by this approach in the regulation of electronic money under the EU, EMID2, in article 2(2), defines e-money as ‘electronic money means *electronically*, including magnetically, *stored monetary value* as represented by a claim on the issuer which is issued on receipt of funds for purposes of making payment transaction...which is accepted by a natural or legal person other than the electronic money issuer (emphasis added)’.

The main difference between this definition and the one in EMID1 is the reference to the word ‘mechanically’ in EMID2.⁸⁴ The definition has attempted to address some of the above classifications of payment systems. For instance, the words ‘issued on receipt of fund’ exclude post-paid instruments. Similarly, reference to ‘accepted by...person other than the electronic money issuer’ excludes e-money payment systems which are acceptable only between the payer and the issuer.⁸⁵ The only technological element of this definition that is relevant to this discussion is the requirement for ‘electronically...stored monetary value’. However, it is not clear from the definition as to what is meant by the word ‘electronically’. The word ‘electronic’ can generally encompass any service which uses computer technology. It has been broadly defined as including that any device ‘relating to technology having electrical, digital, magnetic, wireless, optical, electromagnetic, or similar capabilities’.⁸⁶ Although the definition is comprehensive in terms of adopting a technology-neutral approach, it still leaves one question regarding the meaning of ‘electronically stored monetary value’, taking into account various electronic devices that are available. The EU has attempted, through this requirement, to ensure a clear definition of e-money in order to make it technology-neutral.⁸⁷ The approach has also been incorporated into several national frameworks.⁸⁸

⁸³ Reed ‘Taking sides on technology neutrality’ (2007) 4 *Script-ed* 272.

⁸⁴ The reason for the reference to ‘mechanically’ is not clear from both the proposals to the Directives and the EMID2, and has not been made public.

⁸⁵ Kohlbach n 19 above.

⁸⁶ Clinton & Gore n 55 above.

⁸⁷ European Parliament and the Council n 73 above recital 4 of the preamble.

⁸⁸ See Bank of Namibia *Determination on issuing of electronic money* Government Gazette No: 4909 28 March 2012.

REGULATION OF ELECTRONIC MONEY IN SOUTH AFRICA

There is currently no specific legislation regulating the issuing of electronic money in South Africa. However, the following legal framework for banks and financial service institutions has some relevance for the regulation of e-money. This framework comprises the South African Reserve Bank Act,⁸⁹ the National Payment System Act,⁹⁰ the Banks Act,⁹¹ the Exchange Control Regulations (if cross-border), and the Financial Intelligence Act.⁹² Other legislation that is applicable to the regulation of e-money is the Electronic Communications and Transactions Act (ECTA).⁹³ ECTA incorporates some form of technology-specificity for the purpose of consumer protection. In terms of section 43(5), suppliers of goods or services are required to utilise a payment system that is sufficiently secure. The supplier's decision as to whether or not a payment system is secure is based on the acceptable technological standards of a particular payment system.⁹⁴ Arguably, deciding on whether or not a particular technology is sufficiently secure depends on the type of technology being used. The specific technological device and its security features will have to be determined in advance. In order to guarantee compliance with the security standards of a particular payment system, ECTA may need to provide for specific technologies that are contemplated by these provisions – something that is not provided for by a technology-neutral regulation.

The Reserve Bank Act is important because of its provision for the Reserve Bank's power to establish, operate, oversee, and regulate payment, clearing, and settlement systems; and to implement rules relating to these functions in South Africa.⁹⁵ The Bank (through its National Payment Systems Department) also has the function of overseeing (ie the management of payment risks to ensure safety and efficiency) payment systems in South Africa, as contemplated by the National Payment Systems Act.⁹⁶ This entails overseeing the entire process, including, among others, the operation, instruments used and institutions that operate the payment, clearing, and

⁸⁹ 90 of 1989.

⁹⁰ 78 of 1998.

⁹¹ 94 of 1990.

⁹² 38 of 2001.

⁹³ 25 of 2002.

⁹⁴ See s 43(5).

⁹⁵ See s 10(1)(c).

⁹⁶ See s 2.

settlement systems.⁹⁷ Section 7 of this Act regulates the acceptance of money or payment systems. The section prohibits such activities by any person as a regular feature of such person's business, unless he or she is a member of the payment systems management body. The section is, however, limited to the acceptance of money or payment instructions where payment is made on behalf of one person to another person to whom 'the payment is due'. The payment systems contemplated by this section are those which contain an obligation that must be settled, such as rates, taxes, or electricity, with a municipality.⁹⁸ The requirement that the payment must be due, depending on the definition, creates some uncertainty regarding whether or not e-money falls under the Act.⁹⁹ Another existing uncertainty relates to the application of the Banks Act. The Act affords a supervisory role to the Registrar of Banks (a department of the Reserve Bank) to supervise the banking industry. Whether or not an institution is a bank for the purpose of the Act depends on the definition of 'the business of a bank', which entails the acceptance of a deposit.¹⁰⁰ The term 'deposit' generally connotes one person paying an amount of money to another. This payment is subject to an important condition, namely that there exists an agreement that an equal amount or part of that amount will be repaid, either conditionally or unconditionally.¹⁰¹ In essence, the person who has deposited the money must be able to receive the money or any part thereof on demand. For instance, he or she must be able to withdraw it at an ATM or in the form of a cheque as and when it is needed.

It is currently uncertain as to whether or not e-money will be captured within the regulatory frameworks in terms of the Banks Act and/or the NPS. It becomes clear from the various definitions of e-money discussed above (and below) that there is no indication that the person who accepts an

⁹⁷ See South African Reserve Bank *National payment systems framework and strategy 2015* (2011) available at: [http://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem\(NPS\)/Documents/Overview/Vision2015.pdf](http://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem(NPS)/Documents/Overview/Vision2015.pdf) (last accessed 09 September 2013).

⁹⁸ Lawack-Davids 'The legal framework of mobile banking and mobile payments in South Africa' (2012) 7 *Journal of International Law and Technology* 323. See also Lawack-Davids 'The legal and regulatory framework of mobile payments in South Africa: a trade-off?' (2012) 24 *SA Merc LJ* 77.

⁹⁹ See Lawack-Davids 'The legal and regulatory framework of the national payment system (NPS) – peeling the layers of the onion' (2008) 29 *Obiter* 453 for a detailed discussion of section 7.

¹⁰⁰ See s 1(1).

¹⁰¹ *Ibid.*

electronically stored monetary value is entitled to the payment in terms of a contract. In other words, these definitions are silent on whether or not the payment or acceptance of such payment is 'due' to the recipient as a binding obligation on the part of the payer. It may therefore be argued that e-money acceptance and the operation of e-money as a payment system may fall outside the NPS if such payment is not 'due' in terms of a binding contract. In a similar vein, the definitions are not clear as to whether or not there is an obligation to repay the monetary value stored electronically. Although they all impose a requirement for such value to be redeemable for physical cash or a deposit into a bank account, such requirement for redeeming the value is 'on demand'. A holder of e-money may choose not to redeem the value for cash, and therefore the requirement that there must be an agreement to repay an equal amount of money deposited will not be satisfied.

Until 2006, South Africa adopted a wait-and-see approach to the regulation of e-money. The Reserve Bank's position before then was being reluctant 'to impose regulation that could hamper the introduction of innovation and promising technologies'.¹⁰² In 2006, the Reserve Bank issued its first position paper on electronic money, in order to clarify its regulatory stance.¹⁰³ In terms of this paper, only banks were permitted to issue electronic money. The paper defines e-money as 'monetary value represented by a claim on the issuer which is stored on electronic device and which is widely accepted as a means of payment by person other than the issuer'.¹⁰⁴ The paper also imposes an obligation on the issuer to redeem electronic monetary value at par value with central bank money 'upon request'.¹⁰⁵ The Reserve Bank's position was improved with a more detailed Position Paper in 2009.¹⁰⁶ The 2009 paper provides a detailed legal framework for the regulation of e-money in South Africa. It also entrenches banks' position as the sole issuer of e-money. However, the paper further

¹⁰² See the Address by Mboweni, Governor of the South African Reserve Bank at the Sun Microsystems Conference 1999, held in Vodaworld, Midrand (11 October 1999) available at: <http://www.bis.org/publ/cpss38.pdf> (last accessed 09 August 2013).

¹⁰³ South African Reserve Bank *Position Paper on Electronic Money* (2006) available at: <http://www.bu.edu/bucflp/files/2012/01/South-African-Reserve-Bank-Position-Paper-on-Electronic-Money.pdf> (last accessed 13 September 2013).

¹⁰⁴ *Ibid.*

¹⁰⁵ *Ibid.*

¹⁰⁶ South African Reserve Bank *Position paper on electronic money* (2009) available at: [http://www.resbank.co.za/Regulation_And_Supervision/NationalPaymentSystem\(NPS\)/Legal/Documents/Position_%20Paper/PP2009_01.pdf](http://www.resbank.co.za/Regulation_And_Supervision/NationalPaymentSystem(NPS)/Legal/Documents/Position_%20Paper/PP2009_01.pdf) (last accessed 12 September 2013).

highlights the possibility of a joint venture between banks and non-banks in terms of which a non-bank may be allowed to offer payment-related services in terms of the Banks Act.¹⁰⁷ The Reserve Bank seems to lean towards the possibility of allowing non-banks to issue e-money in future. Notwithstanding, the paper does not clarify the regulatory distinction between a payment system and deposit-taking for the purpose of the NPS and the Banks Act. The definition in the 2009 Position Paper is slightly different from that of the 2006 paper, in that the former definition is technology-neutral, only referring to e-money as money ‘stored electronically’.¹⁰⁸ While the requirement that electronic monetary value must be redeemable at par value in the 2006 paper was not part of the definition, the 2009 paper incorporated this requirement as part of the definition – this is an indication that redeemability is an integral part of the issuing of e-money.¹⁰⁹ The latter definition shares many similarities with that provided in the EU’s EMID2. As a result, the challenges and benefits of a technology-neutral approach in developing these definitions may also be similar.

CHALLENGES AND PROMISES

It is undeniable that a technology-neutral approach is considered to be a fairly good regulatory approach for technological developments. For this reason, its advantages are numerous and it is impractical to explore both the advantages and disadvantages of this approach, especially considering the limited (or non-existence of) alternative approaches to achieve the same objective. The discussion below on the promises and challenges of adopting this approach is simply a synopsis of those favourable and non-favourable aspects which, by highlighting them, may become helpful for regulators in South Africa and other jurisdictions. This will enable them to draw some lessons from the EU in order to establish new regulatory frameworks that are viable for e-money to achieve its potential goals.

Promises

Essential tool for harmonisation

A technology-neutral approach is largely used in international and continental legal frameworks which may have national impacts on the

¹⁰⁷ *Ibid.* Section 52 of the Banks Act provided for a bank to invest in a joint venture with non-bank institutions for investment purposes. The section does not, however, specify a joint venture for payment-related purposes.

¹⁰⁸ South African Reserve Bank n 97 above.

¹⁰⁹ *Ibid.*

interpretation of different technologies. The approach therefore serves the much-needed objective of harmonising legal frameworks in different jurisdictions. This consideration applies when the definition of a technology or its use is not limited to a particular locality or jurisdiction, or where various jurisdictions address or interpret the same technology differently.¹¹⁰ For instance, the reference to ‘electronically’ in EMID2 is broad and neutral to include all types of devices which are considered to be ‘electronic’. Whether the device is electrical, digital, magnetic, wireless, optical, or electromagnetic is irrelevant for the application of a particular framework. Notwithstanding different interpretations of particular e-money products, a harmonised legal framework can generally be achieved with a neutrally adopted definition of electronic devices. If this approach is correctly adopted, e-money products such as PayPal should be regulated under a single track of the EU regime, which is meant to harmonise legal frameworks in different European jurisdictions.

Consistency and sustainability

The most often cited argument in favour of a technology-neutral approach is the necessity for a legal framework regulating technology to be consistent in relation to different technologies which are the subject of a particular legal framework. The essence of ensuring this consistency is to avoid arbitrary distinctions between technologies that should be treated alike.¹¹¹ The effect of this consistency is that as technology-neutrality focuses on the functionality of technology in general, rather than the features of a specific technology, it makes little sense to treat similar technologies differently.¹¹² In keeping with consistency, the law must also be sustainable in order to cope with technological developments over an extended period of time.¹¹³ The continuity element of this approach anticipates rapid changes in technology, which may often be faster than the regulating rules. It tries to avoid the law becoming obsolete as a result of rapid changes in technology. The drafters must therefore avoid referring only to known technologies which might become dysfunctional. The requirement for consistency supports the forward-looking prong of a technology-neutral approach. The

¹¹⁰ Reed n 56 above at 284.

¹¹¹ Ohm ‘The argument against technology-neutral surveillance laws’ (2009) 88 *Texas Law Review* 1691.

¹¹² *Ibid.*

¹¹³ Koops ‘Should ict regulation be technology-neutral?’ in Koops *et al* (eds) *Starting points for ict regulation: deconstructing prevalent policy one-liners* (2006) 88.

law is required to be structured in such a way that it is capable of regulating new technologies which will inevitably emerge in the future.¹¹⁴ It must be able to ensure that it is able to accommodate future developments and does not quickly become outdated.¹¹⁵

Non-discriminatory

Technology-neutrality is also favoured because of its function of preventing one technology being given a higher legal status than other technologies.¹¹⁶ According to a policy of non-discrimination, different technologies are treated equally, provided that there are no relevant differences between them.¹¹⁷ The emphasis here is on the law, in order to avoid discrimination between technologies which do not have significant differences.¹¹⁸ In the area of e-money regulation, the law must not, for instance, distinguish one electronic payment system from another if such systems can generally be characterised as token-based products. Patently, if a device cannot be clearly categorised as either token or account-based, such discrimination might not be evident.

Challenges

Vagueness

Technology-neutrality law is required to refer to the technology under its purview in broad terms. As Ali¹¹⁹ correctly asserted, ‘an unsuccessful attempt to achieve technology-neutrality has resulted in regulation whose meaning is so vague that its application to the technology is often a matter of guesswork’. The law is thus directed to higher degrees of abstraction with regard to the technological objects involved.¹²⁰ The effect of this abstraction is that the objects targeted are defined broadly to be inclusive of all technologies which are contemplated by the legal framework. For instance, the definition of ‘e-money’ in the EU’s EMID2 as value ‘stored on an electronic device’ raises the question as to whether it includes or excludes

¹¹⁴ Reed ‘The law of unintended consequences – embedded business models in it regulation’ (2007) 2 *Journal of Information Law and Technology* 2.

¹¹⁵ Moses ‘Recurring dilemmas: the law’s race to keep up with technological change’ (2007) 2 *Journal of Law, Technology & Policy* 274.

¹¹⁶ Laborde *Electronic signatures in international contracts* (2010) 53.

¹¹⁷ Whitley ‘On technology neutral policies for e-identity: a critical reflection based on UK identity policy’ (2013) 8 *Journal of International Commercial Law and Technology* 138.

¹¹⁸ Koops n 113 above at 86.

¹¹⁹ Ali n 57 above at 9.

¹²⁰ Thompson n 58 above at 55.

payment systems such as PayPal, which transfer money via e-mail. ‘E-money’ is defined in a neutral language which does not provide enough details to distinguish between e-money and non-e-money payment services. It raises the question as to what the elastic term ‘electronic’ actually includes as e-money. The definition is therefore vague. It is not specific about the types or categories of technologies that are regulated under the legal framework.

Treating differences alike

The principle of being non-discriminatory, which is the essence of the neutrality approach, has the side effect of treating different technologies alike. For instance, neutrality emphasises the ignorance of technological features in favour of a focus on the effects of such technology. The law is required only to refer to the effects, functions, or general characteristics of technology, but not to a particular type or class of technology.¹²¹ For instance, EMID2’s reference to ‘electronic device’ may be defined to include both token-based and access payment systems as electronic devices. If the features of a particular technology are ignored, all payment systems that use a smart card, microchip, mobile phone devices, or e-mails may fall under EMID2, for the simple reason that they share the same functionality, namely to effect payments electronically. Despite their technological differences, they may all be treated as e-money, notwithstanding the fact that EMID2 did not contemplate being inclusive of all of them.

Uncertainty in the scope of the law

By emphasising the definition of technology in broader terms, technology-neutrality also creates uncertainty with regard to the scope of a legal framework. In order to be more neutral, the law creates substantial uncertainty as to the scope of the regulation and what needs to be done to comply with it.¹²² This uncertainty can arise in the following ways: it may not be clear whether a new entity, activity, or relationship falls within an existing category; a new entity, activity or relationship may fall into more than one category, giving rise to inconsistent rules; and an existing category may become ambiguous in light of new possibilities.¹²³ This applies to PayPal. Currently, it is not clear whether or not PayPal is an e-money under

¹²¹ Ohm n 111 above at 1695.

¹²² Reed n 56 above at 283.

¹²³ Moses n 115 above at 271.

EMID2, due to the broader definition of ‘electronic device’. Likewise, it is not clear whether PayPal should be regulated as an e-money institution, credit institution, or payment institution in the EU. Furthermore, one cannot say with precision whether e-money is an account-based payment system falling outside the scope of EMID2, or a token-based product falling within this directive. Technology-neutrality therefore puts regulators in a compliance limbo, as they are unable to determine which regulatory frameworks are applicable to e-money products.

ANALYSIS

The discussion in this paper highlights the importance of a technology-neutral approach as a tool to regulate technological developments. It also highlights the main tenet of this approach, namely the requirement of a legal framework not to be specific with regard to various technologies which are the subjects of the regulation. While this approach is often viewed as the entrenched principles, a synoptical discussion of the challenges posed by the technology-neutral approach and the regulatory challenges that are associated with this approach in relation to e-money has placed its regulatory position in the spotlight. Firstly, it is quite evident that complete neutrality cannot be supported. As Collins and Murrone correctly argue, ‘if technology neutral regulation is required, a clear statement of regulatory goals, or criteria, is necessary’.¹²⁴ Whether or not a technology-neutral approach is best suited to the regulation of e-money depends largely on the legislative goal of the legal framework in question. The goal of the EU legal framework for e-money can be summarised as follows: avoiding hindering future technological development; harmonising the legal framework for e-money; assisting e-money to deliver its full potential benefits. While these goals serve legitimate purposes for the legal status of existing and new payment systems, it is how they are achieved that matters. This calls for a choice between technology-specificity and technology-neutrality. The EU has chosen a technology-neutral approach. The question here is how the law can be both non-discriminatory and forward-looking in order to achieve its objectives. The EU has sought to achieve this through the definition of e-money as ‘electronically...stored monetary value’, which is certainly adequate to achieve the objectives of the EU’s EMID2. It encourages a

¹²⁴ Collins & Murrone ‘Future directions in telecom regulation: the case of the United Kingdom’ in Melody (ed) *Telecom reform: principles, policies & regulatory practices* (2001) 469.

possible harmonisation of different legal frameworks under the EU by not being specific to a particular technology which may be in operation within one or more jurisdictions. It allows national regulators to construct their own definitions and to provide for different categories of e-money. This harmonisation is crucial for the technological innovation of e-money products. This also guarantees both consumers and businesses of their legal positions for using e-money products in cross-border transactions. The broader definition of e-money by EMID2 is also essential for ensuring the certainty and sustainability of the regulatory framework. It facilitates the inclusion of various electronic payment systems under its purview. This will ensure that the legal instrument regulating e-money does not need constant amendment as technical conditions change and new innovations are introduced. Its provisions can therefore be tested for feasibility against known and foreseeable technologies. Since no specific technology is referred to, the law is consistent, as it can be applied to various technologies that can reasonably be defined as e-money. Non-reference to a specific technology also avoids discrimination against other technologies and the provision of a higher legal status to a preferred technology. On this score, the definition is able to achieve the neutrality contemplated by EMID2.

Despite the achievement of technology-neutrality, one should note that technology-neutrality is not a goal in itself. It only serves to achieve a particular purpose. In the case of e-money regulation, the overriding goal is to give e-money a legal status and to help it deliver its full potential benefits. As the discussion of the challenges above indicates, the law must not be vague and must also not compel regulators to second-guess the subject being regulated. Its scope must be determined, in order to avoid treating all technologies that provide payment systems as e-money. Therefore, different technologies must be treated differently. Using the categories of token-based and access payment systems, the law that regulates token-based payment systems as e-money must also not treat access payment systems as e-money. This may be the case even if it means not treating the dominant payment systems, such as PayPal, as e-money. A possible new framework, such as the PSD, may be reserved for access payment systems such as PayPal, in order to avoid an overlap in regulatory structures.¹²⁵ The discussion above clearly

¹²⁵ European Commission *Communication from the commission to the council and the European Parliament concerning a new legal framework for payments in the internal market (Consultative Document)* (2003) available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52003DC0718:EN:HTML> (last accessed 3 June

indicates that both technology-neutrality and technology-specificity have substantial drawbacks in the regulation of e-money and the achievement of the main objectives of the relevant legal framework. It is recommended that a certain level of equilibrium is achieved. Such equilibrium must encourage some level of neutrality and specificity in relation to the payment functions being regulated. Technology-specificity is suggested here not as a principle in itself, but only to serve as a compromise in order to achieve the main objective of the legal framework. As Birnhack correctly stated, '[a] technology-specific legislation is almost by definition more accurate and specially tailored to the problem that the legislation aims to solve'.¹²⁶ A complete technology-neutral law often becomes unclear as to whether or not specific technologies fall within its scope.¹²⁷

It is arguable that the law-maker introducing a legal framework to regulate technology must be 'technology-knowledgeable'.¹²⁸ They need to understand how different technologies work, in order to choose between technology-neutrality and technology-specificity.¹²⁹ The function of a specific technology can be used as a starting point to legislate over similar technological devices, without being specific about the features of such devices. A legal framework must refer to such specific function in its preamble, but not in its definition or substantial provisions. The preamble will serve as a guide for the scope of the legislation by referring to the main function contemplated therein. This will introduce a low level of technology-specificity while encouraging 'implementation-neutrality'.¹³⁰ EMID2, however, is meant to be technology-neutral, and is a good example of such neutrality. One should note that when the legal framework for e-money was proposed in the EU,¹³¹ the proposed implementations of e-money envisaged that the holder of this value would store it either on a smart card or in a software wallet on the holder's own computer. The EU was guided by new smart card and e-cash stored-value devices in introducing the e-money legal

2013).

¹²⁶ Birnhack n 65 above at 46.

¹²⁷ Koops n 113 above at 90.

¹²⁸ *Ibid.*

¹²⁹ Ohm n 111 above at 1698.

¹³⁰ Reed n 56 above at 271. Implementation- neutrality, according to Reed, is when the regulation by definition is specific to a particular technology, but suggests that it is often possible to frame such regulation in such a way that it does not favour one or more implementations of that technology over others.

¹³¹ Commission of the European Communities n 69 above.

framework. As previously indicated,¹³² recital 7 requires a legal framework ‘which should cover all situations where the payment service provider issues pre-paid stored value’. EMID2 thus attempts to strike a balance between technology-neutrality and specificity. While its definition refers to ‘electronically...stored monetary value’, the recital covers ‘all situations’. This is arguably sufficiently technology-neutral. However, it may also be vague, as it covers all entities that provide payment services. If no specification is provided, access-based products regulated under the PSD may also be covered. This will have the effect of treating different products alike. EMID2, however, has attempted to be specific about the function of electronic devices contemplated therein. Its reference to ‘pre-paid *stored value*’¹³³ is specific enough in relation to the function envisaged by the legal framework, namely to regulate only the token-based products on which monetary value is stored on the device itself. A less specific function in the preamble and a technology-neutral approach in the definition, despite not being interpreted as such in practice, are helpful in achieving the main goal of EMID2. By focusing on the function of storing value, EMID2 is in effect implementation-neutral, but somehow specific in relation to the targeted function of electronic payment systems.

Another way in which to strike a necessary balance between technology-specificity and neutrality in relation to e-money is by tracing e-money’s background in comparison with conventional money as payment systems, and to determine how a particular electronic payment system is dependent on or independent from conventional money in terms of its function. The deciding question is whether a particular electronic payment system can or cannot circulate without traditional money. A payment that merely transfers money from one bank account to another cannot, arguably, circulate without traditional money in the bank account. However, payment systems that require conventional money to first be reproduced or converted into an electronic version are, arguably, no longer dependant on conventional money to be used as a payment method. EMID2 contemplated regulating e-money ‘in view of its specific character as an electronic surrogate for coins and bank notes’.¹³⁴ The EU was thus intended to ‘become a credible alternative to cash’.¹³⁵ To become an alternative, payment using e-money must work

¹³² European Commission n 74 above recital 7.

¹³³ My emphasis.

¹³⁴ Recital 3 of EMID1 and Recital 13 of EMID2.

¹³⁵ The European Parliament and the Council n 73 above.

independently from conventional cash. It must be converted into an electronic token on which the value is stored. Once such conversion is completed, the availability of cash in a bank account becomes irrelevant. Such payment becomes independent of any payment using conventional money. This argument supports the possible inclusion of a technology-neutral classification of electronic payment systems similar to that mentioned in the above definition of electronic money by the BIS.¹³⁶ Although the definition does not speak about token-based products, which are only discussed within academic circles, it excludes ‘so-called access products’.¹³⁷ This arguably calls for the inclusion of a neutral classification of payment systems as access-based or token-based, the latter referring to e-money that should be regulated under a legal framework such as EMID2.¹³⁸ It is therefore recommended that the definition of e-money should include this classification, which will create certainty and be technology-neutral at the same time. Alternatively, having declared e-money to be a surrogate for electronic coins and notes, it must include, either in the preamble or the definition, the fact that the scope of the legal framework will be determined by the level of dependency of a particular electronic payment system on conventional money when payment is effected. Classifications such as hardware or software e-money, which are more technology-specific, will therefore, be avoided in favour of the level of dependency of a particular electronic payment system on conventional money.

If the above recommendations for striking a balance between technology-neutrality and technology-specificity are anything to go by, the quest for the proper legal status of PayPal as either e-money or not e-money should be settled. As indicated, PayPal facilitates the transfer of money to or from a bank account, or from a credit card to another account. Although PayPal can store value in a virtual account, this is not an essential requirement for using PayPal, and it is not the main function of PayPal to store value electronically. Its main function is for parties to access and transfer a conventional monetary value in a virtual manner via e-mail. Furthermore the requirements for the storage of value in a PayPal account may also be relevant to determine whether PayPal constitutes a ‘deposit’ and therefore subject to supervisory framework applicable to banks. A determination, as

¹³⁶ Bank for International Settlements n 3 above.

¹³⁷ *Ibid.*

¹³⁸ Recital 18 of the EMID2 supports this classification, as it requires e-money to be redeemable as cash.

opined by Perlman, with reference to the average time the value is stored in the custody of the PayPal account may be sufficient, and arguably technologically-neutral, to determine whether transfer of funds into such account constitutes a deposit. A particular framework would need to provide what constitute a sufficient time that the value must be in the custody of the PayPal account to constitute a deposit. A particular payment system will arguably not constitute a deposit if not storage of funds in the account for a sufficient time is established.

Another angle to determine whether PayPal is payment systems, e-money or deposit, is to look at its level of dependency on conventional money. Again, without the essential requirement for the value to be stored in an electronic account, PayPal is dependent on the availability of conventional money in a bank account or on a credit card throughout its payment process. PayPal therefore may not function as a means for the electronic storage of value, but may rather be an electronic access facilitator of conventional money and is dependent on the availability of conventional money, without such money being converted electronically, which can be converted back into conventional money at a later stage.

CONCLUSION

The above discussion of some of the promises and challenges of adopting a technology-neutral approach is useful in highlighting the specific objectives of e-money regulation in the EU. It is intended to illustrate some anomalies of this approach, and to examine whether or not the approach is able to achieve the legislative goal of the EU legal framework for e-money products. It cannot be suggested that technology-neutrality is not useful as a means by which to regulate these innovations. However, a complete technology-neutral approach cannot be sustained. Some balance must be struck if the necessary goals of according e-money some legal recognition and achieving legal certainty, are to be achieved. Some form of technology-specificity must be welcomed as a starting point, and the specific function of an intended electronic device must be determined. Alternatively, and more relevant to e-money, such a balance can be achieved by focusing on the level of dependency of a particular payment system on conventional money or by classifying e-money as either access-based or token-based. In both cases, technology-neutrality is left intact, although it is somehow compromised with less specificity. When these payment systems are effectively regulated

in South Africa, it can be expected that continuing debates about the legal status of payment systems such as PayPal will be laid to rest, with the conclusion that PayPal is or is not classified as e-money, depending on the level of dependency to traditional bank accounts and the relevant time the value is stored in its account. These determinations do not affect the technological neutrality of a particular regulatory framework for e-money products. The choice, however, between technology-neutrality and technology-specificity is not meant to be a binary dichotomy, but rather a continuum that should, in the area of e-money regulation, be sustained through research which aims at achieving the legislative goal referred to above. For the future regulation of e-money in South Africa, such research should be more imminent than ever before. A legislative effort is also needed to strike a balance between technology-neutrality and technology-specificity. This balance should take into account a neutral definition of e-money and classification of different types of electronic payment, as in the BIS definition, which will determine the scope of the e-money regulating instrument. The decision as to whether or not payments such as PayPal are proper e-money products can be made by determining the dependency level of a particular electronic payment on conventional money in a bank account, a test which accommodates some level of specificity, leaving technology neutrality still intact, albeit not a rule in itself.