

# UIC John Marshall Journal of Information Technology & Privacy Law

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Volume 17  
Issue 4 *Journal of Computer & Information Law*  
- Summer 1999

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Article 5

Summer 1999

## Digital Value Units, Electronic Commerce and International Trade: An Obituary for State Sovereignty Over National Markets, 17 J. Marshall J. Computer & Info. L. 1197 (1999)

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### Recommended Citation

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# DIGITAL VALUE UNITS, ELECTRONIC COMMERCE AND INTERNATIONAL TRADE: AN OBITUARY FOR STATE SOVEREIGNTY OVER NATIONAL MARKETS

## I. INTRODUCTION

Imagine yourself in the year 2010. You are at an important party, dressed in your best clothes, behaving in your best manner, feeling good, and at the center of attention when the host's child asks you where does money comes from? If your response is "the bank," then be prepared to join the social outcasts of the 21st century. Societies are in the midst of the Information Revolution,<sup>1</sup> where one can find love on a computer screen by sifting through digital photographs provided by a matchmaking company,<sup>2</sup> arrange for a trip online,<sup>3</sup> and pay all transactions with electronic money.<sup>4</sup>

The Internet<sup>5</sup> profoundly affects the diverse societies around the world.<sup>6</sup> With the Internet's virtual worlds, cultural diversities around

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1. See Walter B. Wriston, *Bits, Bytes, and Diplomacy*, FOREIGN AFF., Sept./Oct. 1997, at 172. Mr. Wriston contends that the marriage between telecommunications and computers has demolished time and distance. *Id.* at 175.

2. See *Online Matchmaking Service* (visited Mar. 27, 1999) <<https://www.Ids.-matchmaker.com/links>>.

3. See *Online Travel Agent* (visited Mar. 4, 1999) <<https://expedia.msn.com>>.

4. *Id.* In fact, there has been a recent explosion in commerce over the Internet. See William E. Kennard, *Preface to the CommLaw Conspectus*, 7 COMM. LAW CONSPECTUS 1 (1999). In fact, on-line retail sales in the 1998 holiday season were estimated to reach \$2.3 billion, an increase of 109 percent from 1997. *Id.* Besides shopping, Americans are able to bank and act as their own stock brokers. *Id.* "This revolution means more than convenience." *Id.* "The Internet has made businesses more efficient and productive, spurred the growth of whole new industry, and become an integral part of our current prosperity." *Id.*

5. See *Reno v. ACLU*, 929 F. Supp. 824 (E.D. Pa. 1996) (illustrating that the District Court made 410 findings describing the character and dimensions of the Internet). The Internet is an international network of interconnected computers that allows millions of people to communicate with one another and to access vast amounts of information around the world. *Id.* at 830.

6. Bill Maurer, Symposium, *The Internet and the Sovereign State: The Role and Impact of Cyberspace on the National and Global Governance – Cyberspatial Sovereignities: Offshore Finance, Digital Cash, and the Limits of Liberalism*, 5 IND. J. GLOBAL LEGAL STUD.

the world are not diminished.<sup>7</sup> Certainly, the Internet's popularity creates new issues that are necessary to address, such as export control of encryption technology,<sup>8</sup> first amendment rights,<sup>9</sup> protection of privacy<sup>10</sup> and anonymity,<sup>11</sup> health and morale of the children,<sup>12</sup> and fraud and money laundering control.<sup>13</sup> Most importantly, the advent of the Internet<sup>14</sup> has allowed digital commerce to flourish.<sup>15</sup> Many commentators believe that in the years to come, international Internet commerce will explode at an exponential rate.<sup>16</sup>

Commerce over the Internet utilizes electronic value in the form of

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493, 499 (1998). The Internet, consisting of virtual worlds, has the capabilities of forming, molding, and shaping people's minds from all cultures around the world. *Id.* at 499. Since people come from diverse cultures, these virtual worlds affect one's notions of mind, self, body, and machine. *Id.* at 500. However, each culture will develop its own understanding of such virtual worlds based on its own notion of mind, self, body, and machine. *Id.* Therefore, one cannot contend that the Internet – with its virtual worlds – will diminish the cultural diversity around the world. *Id.*

7. *Id.*

8. Sarah N. Welling & Andy G. Rickman, *Cyberlaundering: The Risks, The Responses*, 50 FLA. L. REV. 295, 321 (1998) (discussing encryption as a highly sophisticated technological device used to prevent others from understanding what is being communicated between two entities or people). Encryption technology, as the Internet itself, has its basis in military technology and can be classified as a dual-use technology: technology that has applications in both military and non-military uses. *Id.* at 323.

9. See generally *Reno v. ACLU*, 521 U.S. 844 (1997) (discussing two statutory provisions enacted to protect minors from "indecent" and "patently offensive" communications on the Internet that were challenged as unconstitutional). See Steven R. Salbu, *Who should Govern the Internet?: Monitoring and Supporting A New Frontier*, 11 HARV. J.L. & TECH. 429, 436 (1998). "Cyberliberty" is termed as a benefit of the Internet, by embodying ideals through the Internet's facilitation of openness and speech as values embraced in the First Amendment. *Id.* The author contends that the Internet enhances democracy by enabling "cheap speech," liberating the "marketplace of ideas" from the institutional dominance of publishers, distributors, broadcast media, and other traditional gatekeepers of speech. *Id.* at 436-37.

10. See Catherine M. Downey, *The High Price of a Cashless Society: Exchanging Privacy Rights for Digital Cash?*, 14 J. MARSHALL J. COMPUTER & INFO. L. 303 (1996).

11. See A. Michael Froomkin, *Flood Control on the Information Ocean: Living With Anonymity, Digital Cash, and Distributed Databases*, 15 J.L. & COM. 395 (1996).

12. See *Reno*, 521 U.S. at 844.

13. See Christopher Hoffman, *Encrypted Digital Cash Transfers: Why Traditional Money Laundering Controls May Fail Without Uniform Cryptography Regulations*, 21 FORDHAM INT'L L.J. 799, 805 (1998).

14. *Id.* "200 million people will use the Internet regularly by the year 2000 and . . . electronic commerce will amount to more than three trillion U.S. dollars by the year 2005." *Id.*

15. But see Salbu, *supra* note 9, at 437-38 (discussing that the Internet also has a downside despite its benefits). An ungoverned Internet could become a "lawless wild frontier." *Id.* at 437. A few examples of the capacity for disorder in an ungoverned Internet frontier include cyberstalking, cyberthreats, and cyberterrorism. *Id.* at 438.

16. Joshua B. Konvisser, *Coins, Notes, and Bits: The Case for Legal Tender on the Internet*, 10 HARV. J.L. & TECH. 321, 322 (1997). The explosive growth rate cannot realisti-

electronic money ("e-money").<sup>17</sup> E-money has many benefits that essentially create expansion of its use: "lower costs, reductions in check and credit card fraud, reduced risk of theft and vandalism in retail outlets, and increased convenience for consumers."<sup>18</sup> Of course, this change will affect the global economy.<sup>19</sup> As electronic trade advances and the use of e-money is more widespread, important questions arise with regard to various obstacles involving the jurisdiction and the regulation of the on-line electronic trade.<sup>20</sup>

Imagine an American consumer who withdraws electronic value<sup>21</sup> issued by a non-bank institution<sup>22</sup> in Japan, and then purchases information from a website in Liechtenstein that is controlled by a company in Iran.<sup>23</sup> Which country's laws apply if a dispute arises?<sup>24</sup> Beyond the

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cally be defined by numbers since dollar volume will increase exponentially as the Internet itself will expand and grow in different industries and different parts of the world. *Id.*

17. Stephen J. Kobrin, *Electronic Cash and the End of National Markets*, FOREIGN POL'Y, Summer 1997, at 67. E-money is "units or tokens of monetary value that take digital form and are transmitted over electronic networks." *Id.* at 70.

18. *An Introduction of Electronic Issues: Toward Electronic Money and Banking: The Role of The Government* (prepared for the United States Department Of Treasury Conference), Sept. 19-20, 1996, at vi [hereinafter *E-money & Gov't*].

19. See Kerry L. Macintosh, *How to Encourage Global Electronic Commerce: The Case for Private Currencies on the Internet*, 11 HARV. J.L. & TECH. 733, 734-35 (1998). In a policy statement, "A Framework for Global Electronic Commerce," made on July 1, 1997, President Clinton noted that electronic payment systems are a key component to a vigorous electronic marketplace with systems rapidly changing, making it difficult to develop an appropriate policy of regulation. *Id.*

20. *Id.* at 738. The "Internet is a New World," one that goes beyond borders both nationally and geographically. *Id.*

21. Kobrin, *supra* note 17, at 67. Electronic value is described as "[e]lectronic cash [that] can take true digital form, existing as units of value in the form of bytes stored in the memory of personal computers that may or may not be backed up by reserve accounts of real money." *Id.* at 70. However, critics point to obstacles that should be overcome before "electronic value" will be accepted on a large scale. These obstacles include consumer confidence in the issuing entity, authentication of digital money, and fraud prevention. *Id.* at 72-75.; see also *E-money & Gov't*, *supra* note 18, at 42. If e-money systems are to work, potential participants must achieve a threshold of confidence in the system. *Id.* Such confidence may be increased by the "availability of basic information pertaining to the nature of the electronic instrument they are purchasing, the soundness of the issuer and the redeemer of that instrument, and the rights and obligations regarding it." *Id.*

22. See Gary W. Lorenz, *Electronic Stored Value Payment Systems, Market Position, and Regulatory Issues*, 46 AM. U. L. REV. 1177, 1178 (1997). For over a decade, non-bank institutions are establishments that have used the electronic value system in many applications but do not represent themselves as banks nor as engaging in banking activities. *Id.*

23. *E-money & Gov't*, *supra* note 18.

24. See Henry H. Perritt Jr., *The Internet as a Threat to Sovereignty? Thoughts on Internet's Role in Strengthening National and Global Governance*, 5 IND. J. GLOBAL LEGAL STUD. 423 (1998). "The global conversation puts pressure on sovereign governments that over time will influence political processes all over the world." *Id.*; Wriston, *supra* note 1, at 175. Some believe that the Internet's effect will not weaken but instead will strengthen

initial jurisdiction question, what if the money that was exchanged was not supported or backed up by a particular currency?<sup>25</sup>

Presently, the Electronic Fund Transfer Act ("EFTA"),<sup>26</sup> Regulation E,<sup>27</sup> the Truth in Lending Act,<sup>28</sup> and the Uniform Commercial Code Article IV<sup>29</sup> regulate different forms of electronic money. Such domestic regulations are inadequate in a global marketplace coinciding with the Internet's use of e-money and fail to address jurisdiction and currency exchange issues.<sup>30</sup> This inadequacy is the result of rapidly changing technology as well as the fact that e-money takes the form of bits on a hard drive and is difficult to define or substantiate.<sup>31</sup>

This comment concentrates on the economic and commercial effects of e-money,<sup>32</sup> primarily in the form of digital value units ("DVUs").<sup>33</sup> E-money, especially in the form of DVUs, will greatly affect the sovereignty of nations: the use of e-money will diminish a country's control of its own

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the National and Global Governance, resulting in enhanced sovereignty. See Perritt, *supra*, at 424. This school of thought which challenges the conventional wisdom or the "realist theory" of international relations, that sovereignty diminishes as a result of the Internet's popularity, has its basis not on legal theories but uses the "liberal theory" of international relations to prove its point. *Id.* However, neither theory is able to resolve the question of which country's laws will apply in a hypothetical case. *Id.* Proponents of the "liberal theory" believe that the Internet can contribute to international cooperation by strengthening international law and strengthening economic interdependence to empower non-governmental organizations while supporting international security mechanisms. *Id.*

25. See Kobrin, *supra* note 17, at 70. Electronic cash, issued by a number of non-banks, may or may not be backed by hard currency and hold value separate from the currency issued by central banks. *Id.* at 68.

26. 15 U.S.C. § 1693 (1994); see *Spain v. Union Trust*, 674 F. Supp. 1496, 1500 (D. Conn. 1987). EFTA's primary purpose was for "individual consumer rights" and to "help bring certainty to an era of banking which was fast becoming faceless, an era wherein banking could be conducted almost exclusively through machines." *Id.* (explaining legislative purpose of 15 U.S.C. § 1693 (b) (1994)).

27. 12 C.F.R. § 205 (1996) (intending to carry out the purposes of EFTA in protecting individual consumers engaged in electronic transfers).

28. 15 U.S.C. § 1644 (1994) (protecting the consumer engaged in credit card transactions).

29. U.C.C. § 4(a) (1994) (regulating commercial wire transfers).

30. See *infra* notes 204-16, 221-46 and accompanying text.

31. *Electronic Banking: Treasury Report Explores Approach to the Regulating Electronic Money*, 16 BANKING POL'Y REP., 1997, at 4-5.

32. Kobrin, *supra* note 17, at 70; see Ky Henderson, *Casting the Net: Electronic Cash Just Waiting to be Caught*, BUS. L. TODAY, April/May 1998, at 8. According to Washington lawyer John Douglas, a former legal counsel for the Federal Deposit Insurance Corp., e-money "really is nothing; [i]t's electronic glass beads, and has no value in and of itself." *Id.* "It's simply a medium that people will accept instead of money with the expectation that at some point they can turn it in and get money for it - electronic currency instead of dollar bills." *Id.*

33. Kobrin, *supra* note 17, at 70. DVUs are "the basic units of denomination of electronic money . . . [that] may or may not correspond to units of national currency." *Id.*

money supply and result in less control over national markets for currency.<sup>34</sup> Part II(A) addresses the history of money, before and after the Internet's creation. Part II(B) discusses the economics of e-money and the interactivity between governments, national markets, and commerce. Part II(C) addresses the role of governments before and after the Internet's creation. This section defines the traditional notions of sovereignty. Sovereignty is also discussed in connection to the regulation of financial markets. Part II(D) sets forth the current policies and regulations which attempt to govern e-money transactions. Part III analyzes the particular effects of e-money's use by various jurisdictions in a global marketplace. E-money's affect on sovereignty is also discussed. Because current policies and regulations are inadequate and unresponsive to the global market's need, in light of the Internet and e-money,<sup>35</sup> Part III(C) suggests a proposal for how governments should address the implications of e-money in this ever-changing Information Revolution. This comment concludes in Part IV that transgovernmentalism<sup>36</sup> is the appropriate form of judicial foreign policy<sup>37</sup> which empowers countries to deal with e-money. A system of transgovernmentalism will allow countries to preserve their sovereignty through cooperation among different branches of other governments with regulatory power in the hands of citizens and non-governmental organizations ("NGOs").<sup>38</sup>

## II. BACKGROUND

Technology is rapidly changing in this century and significant advances continue to emerge.<sup>39</sup> Money is evolving from the tangible and

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34. See Perritt, *supra* note 24, at 424.

35. See *infra* notes 221-46 and accompanying text.

36. See Anne Marie Slaughter, *The Real New World Order*, FOREIGN AFF., Sept./Oct. 1997, at 183 (defining transgovernmentalism).

37. See Jack I. Garvey, *Judicial Foreign Policy-Making in International Civil Litigation: Ending the Charade of Separation of Powers*, 24 LAW & POL'Y INT'L BUS. 461, 462 (1993). Judicial foreign policy is the evaluation of foreign policy considerations by the courts. *Id.* The author notes that such evaluation has dramatically increased in recent times. *Id.* This dramatic increase can be described as "a by-product of an historic watershed—now popularly called the globalization of economy and communications." *Id.* Thus, the courts within the United States have espoused legal doctrines that are interpreted to allow for foreign policy evaluation and implementation on a grand scale. *Id.* "Accommodation occurs through a specious acceptance of the legitimacy of legal labels." *Id.*

38. See Jessica T. Mathews, *Power Shift*, FOREIGN AFF., Jan./Feb. 1997, at 52-53. Non-state actors consist of a "a swiftly growing universe". *Id.* at 53. NGO's include neighborhood, professional, service, and advocacy groups, both secular and church based. *Id.* These groups promote "every conceivable cause" and are funded by donations, fees, foundations, governments, international organizations. *Id.*

39. See Jeffrey E. Faucette, *The Freedom of Speech at Risk in Cyberspace: Obscenity Doctrine and a Frightened University's Censorship on Sex on the Internet*, 44 DUKE L.J.

physical to an ethereal representation of value in the digitized form.<sup>40</sup> This evolution of money to e-money demonstrates how the creation of the Internet is causing various governments to re-evaluate their financial regulations with regard to electronic commerce.<sup>41</sup> The government's role is changing from that of a regulator in the private sector to a public observer of the financial markets.<sup>42</sup>

## A. THE HISTORY OF MONEY

### 1. *Before the Creation of the Internet*

Money has an interesting history.<sup>43</sup> By definition, money is "a medium of exchange authorized or adopted by a domestic or foreign government."<sup>44</sup> Before the United States Civil War, all money issued in America was backed by gold reserves<sup>45</sup> and issued by private banks.<sup>46</sup>

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1155, 1161-62 (1995) (discussing the present state of interactive computer technology). Computer users are able to communicate globally. *Id.*

40. Walter A Effross, *Putting the Cards Before the Purse?: Distinctions, Differences and Dilemmas in the Regulation of Stored Value Card Systems*, 65 UMKC L. REV. 319 n.1 (1997) (citing JOEL KURTZMAN, *THE DEATH OF MONEY* 11 (1995)). Money has changed from being a tangible object to a network that is made of hundreds and thousands of computers wired together. *Id.*

41. Robert Pitofsky, Address at a Conference Sponsored by the United States Dept. of Treasury, *Toward Electronic Money & Banking: The Role of Government* (Sept. 19-20, 1996) entitled *Competition and Consumer Protection in the Brave New World of Electronic Money* (displaying the transcript on the World Wide Web <<http://www.occ.treas.gov/emoney/pitof.htm>> (visited Feb. 1, 1999)).

42. See Macintosh, *supra* note 19, at 741. President Clinton has offered 5 principles to assist the global marketplace:

- The private sector should lead . . . .
- Governments should avoid undue restrictions on e-commerce . . . .
- Where governmental involvement is needed, its aim should be to support and enforce a predictable, minimalist, consistent and simple legal environment for commerce . . . .
- Governments should recognize the unique qualities of the Internet . . . .
- Electronic commerce over the Internet should be facilitated on a global basis.

*Id.* at 739-40.

The themes of the above principles are twofold: the private sector should be the leader of the development of the Internet and the government should provide support and the unique global feature of the Internet requires the consistent and uniform principles that will extend beyond geographical and national boundaries.

*Id.* at 740.

43. Julia A. Gladstone, *Exploring the Role of Digital Currency in the Retail Payments System*, 31 NEW ENG. L. REV. 1193, 1195 (1997).

44. U.C.C. § 1-102(24) (1994).

45. Gladstone, *supra* note 43, at 1195. Historically, the federal government played a limited role in the issuance of money, performance of which was done by the banks. *Id.* The banks issued the notes and backed them up by collateral. *Id.* The financial market valued the notes based on the creditworthiness of the issuing banks. *Id.* As a result, most notes were traded at a discount. *Id.* "This system of private money created an unstable financial environment in which banks failed and note holders consequently suffered great

During the Civil War, the federal government began to issue its own money called the "greenback," alongside privately issued currency.<sup>47</sup> From 1862 to 1932, private bank notes,<sup>48</sup> Federal Reserve Notes,<sup>49</sup> and other temporary currency issued under federal statute all circulated in the money supply as means to discharge debt created by the Civil War.<sup>50</sup> Since 1933, the Federal Reserve Note is the only form<sup>51</sup> of circulating legal tender.<sup>52</sup>

Generally, other countries have a central or government bank that controls and issues currency.<sup>53</sup> Since money is a creature of law, the nature of foreign currency must be determined in accordance with the law of the foreign country that issues such currency.<sup>54</sup> Therefore, a separate body of law necessarily governs foreign banks.<sup>55</sup> To place money in a historical context, Aristotle provided a mundane precise summary of money: "Money has been introduced by convention as a kind of substitute for a need or demand, and . . . its value is derived not from nature but from law and can be altered or abolished at will."<sup>56</sup>

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losses." *Id.*; see also Task Force on Stored-Value Cards, *A Commercial Lawyer's Take on the Electronic Purse: An Analysis of Commercial Law Issues Associated with Stored-Value Cards and Electronic Money*, 52 BUS. LAW. 653 (1997).

46. Gladstone, *supra* note 43, at 1195-96.

47. *Id.* at 1196 (discussing that the Greenback notes, issued by the federal reserve, were redeemable in gold upon demand).

48. See Heather C. Alston, *Will That Be Cash, Credit, or E-Money?*, 1 N.C. BANKING INST. 225, 228 (1997). The first United States notes were issued by national banks pursuant to the National Currency Act of 1863. *Id.*

49. *Id.* at 228 n.30. The Federal Reserve Notes were issued pursuant to the Federal Reserve Act in 1913 (Pub. L. No. 63-43, 38 Stat. 251 (1913) codified at 12 U.S.C. §§ 221-228 (1996)). *Id.*

50. Gladstone, *supra* note 43, at 1195. The temporary currency was issued under the Aldrich-Vreelan Act. *Id.*

51. Alston, *supra* note 48, at 228. Privately issued money eventually disappeared. *Id.*

52. Gladstone, *supra* note 43, at 1196. Legal tender, defined in its simplest form, is the "particular medium of exchange that the government determines shall be accepted in satisfaction of taxes." *Id.*

53. Jose O. Castaneda, *Debt for Nature Swaps: An Increasingly Attractive Solution to a Pressing Global Problem*, 2 PACE Y.B. INT'L L. 135, 146 (1990).

54. See Niall Lenihan, *Current Developments in the European Capital Markets The Impact of a Single Currency: The Legal Implications of the European Monetary Union Under U.S. and New York Law*, 1090 PLI/CORP. 175 (1998). The author contends that the Uniform Commercial Code's definition of money explicitly rejects the narrow view that money is limited to legal tender. *Id.* Thus, the definition can be interpreted to regard the euro as the sole currency issued under the laws of EU member states during the proposed transitional period after the introduction of the euro single currency but preceding the introduction of euro notes and coins. *Id.*

55. Castaneda, *supra* note 53, at 146.

56. Lenihan, *supra* note 54, at 178 (citing ARISTOTLE, NICHOMACHEAN ETHICS ch. 5 (15th ed. 1893)).



## 2. *Post-Internet: The Use of E-Money*

First, an understanding of the distinctions between e-money,<sup>57</sup> e-cash,<sup>58</sup> and DVUs<sup>59</sup> is required for this discussion. E-money is the general term for tokens of monetary value that take digital form.<sup>60</sup> E-cash, as the replacement for banknotes and coins, is e-money for small transactions.<sup>61</sup> Finally, DVUs are the basic units of denomination of e-money and e-cash.<sup>62</sup>

E-money is not considered legal tender absent an act of Congress.<sup>63</sup> Yet, the creation of the Internet established the use of e-money in electronic commerce.<sup>64</sup> Thus, computers and the Internet have become "key player[s] in commercial transactions."<sup>65</sup> There are several systems by which one can send and receive e-money over the Internet.<sup>66</sup> Commercial opportunities are causing new retail payment systems to develop.<sup>67</sup>

One such development is electronic cash ("e-cash") "a little speck of value in digital form that a computer can read . . . that represents money."<sup>68</sup> There are two basic categories of e-cash.<sup>69</sup> The first category includes notational systems that use conventional financial institutions whereby an audit trail is left and current payment infrastructure integration can occur.<sup>70</sup> The second includes tokenized systems that work outside the traditional banking infrastructure, taking full advantage of advancements in technology by providing anonymity and leaving no audit trails.<sup>71</sup> This comment concentrates on the tokenized form.

Traditional retail payment systems are very expensive and ineffi-

57. See Kobrin, *supra* note 17 and accompanying text (defining e-money).

58. See *id.* at 67 (defining e-cash).

59. See *id.* at 70 (defining DVUs).

60. *Id.*

61. Mark Bernkopf, *The Two Revolutions: Is 1996 the Year of Electronic Money?* (visited Feb. 1, 1999) <<http://adams.patriot.net/~bernkopf/e-cash.html>>.

62. Kobrin, *supra* note 17, at 70.

63. Gladstone, *supra* note 43, at 1197.

64. See Julia A. Gladstone, *Designing Legislation to Facilitate Electronic Commerce on the Internet*, 45 R.I. B.J. 13 (1997). [hereinafter Gladstone, *Designing Litigation*]

65. *Id.*

66. See Janine S. Hiller & Don Lloyd Cook, *From Clipper Ships to Clipper Chips: The Evolution of Payment Systems for Electronic Commerce*, 17 J.L. & Com. 53, 60-71 (1997).

67. See Welling & Rickman, *supra* note 8, at 297. With a connection to the Internet, people can buy and sell goods and services. *Id.* Projections for electronic commerce on the Internet in the year 2000 indicate it will be approximately \$255 billion in the United States. *Id.*

68. *Id.* at 298. Private companies issue and sell electronic cash. *Id.*

69. *Id.* at 298-99.

70. *Id.*

71. *Id.*

cient, requiring elaborate infrastructures<sup>72</sup> to support them.<sup>73</sup> On the other hand, many benefits of e-cash encourage its use such as the decrease of costs and efficient use of money by which advances in technology allow for e-money to travel on the Internet instantaneously and effectively.<sup>74</sup>

E-money is a catalyst for international change.<sup>75</sup> However, e-money's benefits are unrealizable and unattainable without overcoming certain obstacles.<sup>76</sup> Thus, advancements in technology and the popularity of the Internet induce governments to evaluate the consequences of electronic commerce.<sup>77</sup>

E-money, especially in the form of DVUs,<sup>78</sup> greatly increases access to information available over the Internet.<sup>79</sup> Unquestionably, e-money eliminates "the inherent inefficiencies of paper-based, physically-based, and geographically-based operations."<sup>80</sup> The elimination of such inefficiencies inevitably reduces transaction costs.<sup>81</sup> However, like the Internet in general, sovereign nations lack control over the dissemination of e-money.<sup>82</sup> In fact, current regulations are non-existent or inadequate.<sup>83</sup> Given the international and intangible nature of DVUs, one possible result is the diminishing control of central banks over the growth rate and size of the money supply.<sup>84</sup> Also, since e-money lowers the barriers of fund transfer across borders, another possible conse-

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72. See Russell B. Stevenson, Jr., *Internet Payment Systems and the Cybercash Approach*, 452 PLI/PAT. 123, 128 (1996).

73. Welling & Rickman, *supra* note 8, at 299-300.

74. *Id.* at 299-301. The authors contend that e-cash will "revolutionize the market and eventually make traditional cash obsolete." *Id.* at 300.

75. Wriston, *supra* note 1, at 172. "The catalyst—but not the cause—has always been technological change." *Id.*

76. Kobrin, *supra* note 17, at 761. Obstacles include the lack of existing regulatory mechanisms that address the Internet's global presence which make geographical borders between countries obsolete. *Id.*

77. Henry H. Perritt, Jr., *Cyberspace and State Sovereignty*, 3 J.L. INT'L LEGAL STUD. 155, 157 (1997). The impact of information technology on the power of the sovereign state is evident from the effect television pictures of casualties had on the course of the war in Vietnam, adding to the Vietnam War's unpopularity. *Id.* Without television broadcasts of international events (e.g. the violence in Tiananmen Square and the coup attempts in the Soviet Union), the governments in China or the Soviet Union would not have been forced to change their ways. *Id.* Rather, the broadcasts caused the world to react that in turn induced particular responses from both the Chinese and Soviet Union Governments. *Id.*

78. See Kobrin, *supra* note 17, at 70.

79. *Id.* at 68. For example, DVUs can be used to purchase information from a Web site, pay bills, and send money to someone in a different state or country. *Id.*

80. See John L. Douglas, *Technology and Banking*, 1 N.C. BANKING INST. 37 (1997).

81. See *Id.*

82. Kobrin, *supra* note 17, at 70.

83. See *infra* notes 221-46 and accompanying text.

84. Kobrin, *supra* note 17, at 71.

quence of e-money will be governments' diminished power to control foreign exchange transactions.<sup>85</sup> A third possible result of e-money's use is that local governments' jurisdiction over financial institutions may not reach all of the financial institutions or non-banks that issue e-money and DVUs.<sup>86</sup> Finally, the use of e-money will affect governments in their tax collection.<sup>87</sup> Potentially, "[i]t will be easy to transfer large sums of money across borders, and tax havens will be much easier to reach."<sup>88</sup> In addition, anonymous e-money transactions<sup>89</sup> lead to the prevention of audits.<sup>90</sup>

### 3. *The Economics of E-money*

Governments necessarily engage in commerce. With the advent of the Internet, a government's role in conducting and controlling commerce is in a period of transition.<sup>91</sup> Thus, an understanding of the interactivity and relationships between governments and commerce in the electronic age is crucial to developing policies that will facilitate electronic commerce while protecting consumers. The economics of e-money is essential to understanding the effects of DVUs.<sup>92</sup>

Traditionally, an important governmental function is to control its money supply.<sup>93</sup> The control of the money supply is called monetary pol-

85. *Id.*

86. *Id.* at 72.

87. See David Prebut, *State and Local Taxation of Electronic Commerce: The Forging of Cyberspace*, 24 RUTGERS COMPUTER & TECH. L.J. 345, 345-46 (1998).

88. Kobrin, *supra* note 17, at 72.

89. *Id.* E-money transactions will be anonymous because of the use of encryption. *Id.*

90. See Welling & Rickman, *supra* note 8, at 318.

91. See Celia R. Taylor, *A Modest Proposal: Statehood and Sovereignty in a Global Age*, 18 U. PA. J. INT'L ECON. L. 745 (1997). Some argue "that recent technological advances in areas such as communications have linked fortunes of States in ways which make or soon will make national borders insignificant." *Id.* at 746.

92. See Jeffrey L. Dunoff & Joel P. Trachtman, *Economic Analysis of International Law*, 24 YALE J. INT'L L. 1 (1999). Since economics is the study of rational choice, it plays a leading role in evaluating the "effects of rational maximizing behavior under conditions of scarcity." *Id.* at 3. Economics usually involves a cost-benefit analysis. *Id.*

93. N. GREGORY MANKIW, *MACROECONOMICS* 144 (2d. ed. 1994). The money supply is defined as the quantity of money available. *Id.* In the U.S. and many other countries, the money supply is controlled by a partially independent institution called the central bank. *Id.* In the U.S., the central bank is the Federal Reserve. *Id.*

The monetary base is a measure of the money supply that includes currency held by the nonbank public and bank reserves. *What is Money*????? (visited Feb. 1, 1998) <<http://www-missouri.edu/econ1ed/ch11/ch11.htm>> [hereinafter *Money*]. There are different types of money supply separated on the basis of liquidity: M1 is the most liquid and L is the least liquid. *Id.* M1 is a measure of the money and supply that includes currency held by nonbank public, traveler's checks, and balances in accounts at banks and other financial intermediaries against which people or firms can write checks e.g. demand accounts. *Id.* M2 is a measure of the money supply that combines M1 with balances in most savings and

icy.<sup>94</sup> A government's most important tool in directing monetary policy is its central bank.<sup>95</sup> In expanding international trade, governments must be increasingly concerned not only with their own money supply and their effects domestically,<sup>96</sup> but also with its money supply and its effects in the global market.<sup>97</sup> With the injection of e-money and DVU's into global commerce, governments are faced with new implications in

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similar accounts e.g. regular savings, certificates of deposit, money market mutual funds, and money market deposit accounts. *Id.* M3 is a measure of the money supply that combines M2 with balances in most other accounts at financial intermediaries e.g. negotiable certificates of deposits over \$100,000 and institutional funds. *Id.* Finally, L are short term securities and commercial paper. *Id.*

The Federal Reserve requires banks to hold a percentage of reserves; therefore, banks hold reserves because they must have some money on hand for customer withdrawals. *Id.* The monetary base, directly controlled by the Federal Reserve, is the total number of dollars held by the public as currency and by the banks as reserves. MANKIW, *supra* note 93, at 463. The reserve deposit ratio ("rr") is the fraction of deposits that banks hold in reserves. *Id.* This ratio is determined by the business policies of banks and the laws regulating banks. *Id.* The money supply is proportional to the monetary base. *Id.* The factor of proportionality is called the money multiplier. (increasing the money supply resulting from a 1 dollar increase in the monetary base). *Id.* at 490. The general money multiplier ("MM") rule is:  $MM = 1/rr$  (reserve deposit ratio). *Id.* at 463. For example, if the Federal Reserve increases reserves for the banking system by \$10 million, M1 could increase by \$100 million if all banks would loan the maximum possible. *Id.*

94. *Id.* at 144. Monetary policy is defined as the central bank's choice regarding the supply of money. *Id.* at 490. In fact, the U.S. Federal Reserve controls the money supply indirectly by altering either the monetary base or the reserve deposit ratio. *Id.* at 464. The U.S. Federal Reserve has three instruments of monetary policy:

open market operations—the purchases and sales of government bonds by the U.S. Federal Reserve, reserve requirements—the U.S. Federal Reserve regulations that impose on banks a minimum reserve deposit ratio, and the discount rate—the interest rate that the U.S. Federal Reserve charges when it makes loan to banks.

*Id.*

95. *Id.* and accompanying text.

96. *Id.* at 465. For example, in the U.S. the Federal Reserve cannot control the money supply perfectly. *Id.* Banks have discretion in conducting business; thus, they may choose to hold reserves in excess of the Federal Reserve's reserve requirement. *Id.* Consequently, the money supply is lowered: the higher the amount of excess reserves, the higher the reserve deposit ratio. *Id.* In addition, the Federal Reserve cannot control the amount the banks borrow. *Id.* Again the money supply can be lowered if banks borrow less because with lower bank borrowing, the monetary base is lowered as well. *Id.*

97. Mark Bernkopf, *Mark Bernkopf's Central Banking Resource Center: Electronic Cash* (visited Feb. 1, 1999) <<http://adams.patriot.net/~bernkp/e-cash.html>> (stating that part of the narrow monetary aggregates whose size central banks can easily influence into money-market funds and other interest-bearing financial innovations part of the broader monetary aggregates that central banks find more difficult to influence). Since 1970s, financial liberalization in the Western economies has caused funds to shift from demand-deposit balances. *Id.*

regard to their individual monetary policy.<sup>98</sup>

To determine the effects of DVUs on national economies, a study of national markets is considered. The most important economic variable in the study of the national markets is gross domestic product ("GDP"), which measures both a nation's output of goods and services, and its income.<sup>99</sup> National income accounts allocate GDP among four broad categories: consumption (C),<sup>100</sup> investment (I),<sup>101</sup> government purchases (G),<sup>102</sup> and net exports (NX).<sup>103</sup> The effects of GDP's four variables on national markets are discussed below.

Alan Greenspan, the Chairman of the United States Federal Reserve Board, stated that "e-money [and DVU's] could lead to greater leakage<sup>104</sup> and significantly change the velocity of money,<sup>105</sup> making the monetary policy more difficult to control."<sup>106</sup>

The advent of DVUs in cyberspace offers the possibility of privately issued electronic currencies ("e-currencies")<sup>107</sup> as well as government-issued e-currencies.<sup>108</sup> Privately-issued e-currencies are beginning to exist without the back-up of hard-currency, with value separate from currencies issued by governments' central banks.<sup>109</sup> Consequently, DVUs circulate in commerce for long periods of time without being re-

98. See Alan Greenspan, Chairman of the Federal Reserve Board (visited Feb. 1, 1999) <[http://rpcp.mit.edu/~pearah/micropaymnets/law\\_and\\_policy.html](http://rpcp.mit.edu/~pearah/micropaymnets/law_and_policy.html)> [hereinafter Greenspan].

99. MANKIW, *supra* note 93, at 43.

100. *Id.* at 25. Consumption is the goods and services bought by households e.g. nondurable goods, durable goods, and services. *Id.*

101. *Id.* Investment consists of goods bought for future use e.g. business fixed investment, residential fixed investment, and inventory investment. *Id.*

102. *Id.* Government purchases are the goods and services bought by federal, state, and local governments. *Id.*

103. *Id.* Net exports takes into account trade with other countries and is calculated by subtracting imports from exports. *Id.*

104. Greenspan, *supra* note 98. Revenues will be lost because DVUs cannot be adequately monitored. *Id.*

105. MANKIW, *supra* note 93, at 494. The velocity of money is defined as the ratio of nominal expenditure to the money supply and the rate at which money changes hands. *Id.*

106. See Greenspan, *supra* note 98.

107. See Bernkopf, *supra* note 97 (quoting Professor Friedrich von Hayek's, Essay, *The Denationalisation of Money*). "Money does not have to be created [as] legal tender by government: like law, language and morals it can emerge spontaneously." *Id.* "Such private money has often been preferred to government money, but the government has usually soon suppressed it." *Id.*

108. See Lorenz, *supra* note 22, at 1202. The production of currency involves only a nominal cost to the federal government because "its production is substantially less than its value when issued." *Id.* "Having received them in trade, no one would think of melting down Susan B. Anthony dollars in order to sell the metal, because the commodity of value of the metal is much less than the value of the coin as currency." *Id.*

109. Kobrin, *supra* note 17, at 68.

deemed or deposited,<sup>110</sup> and, therefore, are not included in the money supply of any government.<sup>111</sup> On the other hand, governments are unlikely to issue e-currencies for the reasons discussed below.

## B. THE ROLE OF GOVERNMENTS

Sovereignty<sup>112</sup> is amorphous and not monolithic.<sup>113</sup> Changing circumstances and environments compel nations around the world to address political issues in the international arena.<sup>114</sup> Traditionally, political institutions could not reach across geographical political boundaries.<sup>115</sup> The convergence of all communications partnered with the information revolution into a single digital network, as exemplified by the Internet, affects political institutions and their respective controls since the Internet's geographical reach is endless.<sup>116</sup> Therefore, e-money and DVU's affect on governmental sovereignty is better understood through a discussion of traditional notions of sovereignty.<sup>117</sup>

### 1. *The Traditional Role of Sovereignty*

The Westphalia Peace Treaties of 1648<sup>118</sup> provide a good example of the traditional notions of sovereignty.<sup>119</sup> The Westphalian system consisted of absolutes: "territorially fixed states where everything of value lies within some state's borders; a single, secular authority governing each territory and representing it outside its borders; and no authority above states."<sup>120</sup> Historically in this Westphalian system, governments played the following three important roles: "providing national security, regulating economic activities, and protecting and promoting civic and moral values."<sup>121</sup> However, circumstances and new relationships among

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110. *Id.*

111. *Id.* at 71.

112. Wriston, *supra* note 1, at 174. Sovereignty is defined as "the power of a nation to stop others from interfering in its internal affairs." *Id.*

113. See Maurer, *supra* note 6, at 495 and accompanying text.

114. See generally Perritt, *supra* note 77 (emphasizing the Internet's threatening effect on Central and Eastern Europe).

115. *Id.*

116. *Id.* at 156.

117. See RALPH H. FOLSOM ET AL., INTERNATIONAL BUSINESS TRANSACTIONS 1032-45 (3d ed. 1995). Traditional notions are widely accepted around the world. *Id.*

118. WEBSTER'S NEW WORLD DICTIONARY 1518 (3d ed. 1988). Westphalia is a region in northwest Germany, formerly a province of Prussia (1816-1945). *Id.* Its chief city was Munster. *Id.* The Peace of Westphalia treaties were signed in 1648 at Osnabruck and Munster ending the Thirty Years War. *Id.*

119. Mathews, *supra* note 38, at 50.

120. *Id.*

121. Perritt, *supra* note 24, at 474 & n.11; see also United States v. Curtiss-Wright Export Corp., 299 U.S. 304, 318 (1936) (relating to the national security function and a sovereign's power to protect itself: the sovereign has the power to exclude harmful influences,

governments affect the notions of sovereignty<sup>122</sup> since “[t]he sovereign state is an ongoing accomplishment of practice, not a once-and-for-all creation of norms that somehow exist apart from practice.”<sup>123</sup>

## 2. *Sovereignty in Light of E-Money*

In the midst of the Information Revolution, the Internet has established a new non-material source of wealth.<sup>124</sup> information.<sup>125</sup> The Internet is a sophisticated medium for the exchange of information, and thus wealth, which crosses national and cultural borders around the world.<sup>126</sup>

Nationalities and governments “blur” with the use of DVUs.<sup>127</sup> Sovereignty<sup>128</sup> is generally examined under two major schools of thought.<sup>129</sup> The first is the realist theory<sup>130</sup> that recognizes that the prosperity and

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including undesirable aliens, from the sovereign’s territory); *United States v. Oriakhi*, 57 F.3d 1290, 1296-97 (4th Cir. 1995) (relating to the sovereign’s role of regulating economic activities: the sovereign has the power to prohibit the export of its currency, national treasures, and other assets); *United States v. Montoya de Hernandez*, 473 U.S. 531, 544 (1985) (regarding the sovereign’s role in the promotion of civic and moral values: the court upheld a border search that revealed heroin in an outbound container).

122. Maurer, *supra* note 6, at 498 (citing Alexander Wendt, *Anarchy is What States Make of It: The Social Construction of Power Politics*, 46 INT’L ORG. 391, 413 (1992)).

123. *Id.*

124. *But see* Salbu, *supra* note 9, at 437. The author contends such information is material. *Id.* The Internet can serve as a “global archive,” in which “innumerable details of the day-to-day life of the global village” are recorded. *Id.*

125. Wriston, *supra* note 1, at 176. Ideas and technology are building blocks for economic leaders. *Id.* at 177. The global market places a higher value on intellectual capital instead of on material hard assets. *Id.* For example, Microsoft—with a small amount of fixed assets in relation to Ford, General Motors, and Chrysler combined (each with huge capital bases)—has a higher market value. *Id.* The strong economies of countries with virtually no physical assets (i.e. Hong Kong and Singapore) are further examples of the “growing irrelevance of territory to wealth.” *Id.*

126. *Id.* at 173. The Internet allows anyone with a computer and a modem from anywhere in the world to access the entire database of the Library of Congress, the Library of France, the British Library, and a host of uncountable databases. *Id.*

127. *Id.*

128. *See* *Gregory v. Ashcroft*, 501 U.S. 452 (1991) (comparing the doctrine of separation of powers that prevents the aggregation of power by any one branch of government, federalism and state sovereignty can also further freedom). In *Gregory*, the Supreme Court addressed the self-contained, nineteenth century conception of state sovereignty. *Id.*; *see also* Alfred C. Aman, Jr., *The Globalizing State: A Future-Oriented Perspective on the Public/Private Distinction, Federalism, and Democracy*, 31 VAND. J. TRANSNAT’L L. 769 (1998). The notion of sovereignty on which the Court’s rationale is “closely akin to a metaphor of individualism, one that sees these separate governmental entities as having a life and integrity all their own.” *Id.* at 861.

129. David G. Post, Symposium, *The Internet and the Sovereign State: The Role and Impact of Cyberspace on the National Governance – The “Unsettled Paradox”: The Internet, The State, and The Consent of the Governed*, 5 IND. J. GLOBAL LEGAL STUD. 521 (1998).

130. *See* Perritt, *supra* note 24.

popularity of cyberspace gives rise to the "[t]wilight of the state, bringing about a kind of a Wagnerian Staatenddämmerung."<sup>131</sup> The Realists believe that the Internet will have a diminishing effect on State sovereignty.<sup>132</sup> In support of their position, the Realists advance four interrelated arguments: 1) the widespread use of the Internet erodes sovereign power over economic activity;<sup>133</sup> 2) that international cooperation is undermined due in large part to "jurisdictional conundrums on the formal level" as well as substantive differences in culture, value, and legal norms of different nations;<sup>134</sup> 3) that the Internet "seriously threatens a sovereign state's ability to control political or social events occurring within its boundaries;"<sup>135</sup> and 4) questions of extraterritorial jurisdiction and effects of national legal regimes "pose insurmountable obstacles to international cooperation."<sup>136</sup>

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131. Post, *supra* note 129, at 521.

132. *Id.*

133. Keith Aoki, Symposium, *The Internet and the Sovereign State: The Role and Impact of Cyberspace on the National Governance – Considering Multiple and Overlapping Sovereignities: Liberalism, Libertarianism, National Sovereignty, Global Intellectual Property, and the Internet*, 5 IND. J. GLOBAL LEGAL STUD. 443, 446 (1998); see also Perritt, *supra* note 24, at 428. The nature of the Internet makes it difficult to apply traditional economic regulations to electronic commerce. *Id.* For example, problems of national governance are created with the use of electronic commerce: the collection of tax revenues, the protection of consumers from fraud, and the monitoring and evaluation of the amount of e-commerce. *Id.* Most importantly, "the nature of economic power is shifting from physical assets to information resources." *Id.*

134. Aoki, *supra* note 133, at 446; see also Perritt, *supra* note 24, at 429-30. "Traditional international legal rules on jurisdiction do not fit the Internet context well." *Id.* International legal rules on what jurisdiction to apply cannot resolve "potential clashes" of legal systems. *Id.* at 429-30. One example is the conflict of hate speech law between United States and Germany. *Id.* at 430. Germany's hate speech prohibition is broad; however, the United States Constitution protects such prohibited speech. *Id.* International law does not solve this conflict. *Id.* See also *Reno*, 521 U.S. at 844 (holding that the interests in encouraging freedom of expression in a democratic society outweighs any theoretical but unproven benefit of censorship). *Reno v. ACLU* is a landmark case that does not allow the regulation of adult expression on the Internet, which emphasizes the continuing struggle of Western constitutional democracies in their approach to Internet censorship and freedom of speech online. *Id.* See Kim L. Rappaport, *In the Wake of Reno v. ACLU: The Continued Struggle in Western Constitutional Democracies with Internet Censorship and Freedom of Speech Online*, 13 AM. U. INT'L L. REV. 765 (1998).

135. Aoki, *supra* note 133, at 446; see also Perritt, *supra* note 24, at 428. "The Internet challenges the traditional state role of protecting civic and moral values of society." *Id.* The Communications Decency Act is an example of government's concerns regarding the dissemination of indecent material over the Internet and the possible threats to "the moral fiber of the nation." *Id.* at 428-29.

136. Aoki, *supra* note 133, at 446; see also Perritt, *supra* note 24, at 439. The Internet and its unregulated nature is lending more power to non-governmental organizations: private citizens are gaining power by trading and investing in unregulated international markets. *Id.* The Internet facilitates such participation of non-state actors in the international market by giving them a stronger voice and communication abilities so as to create changes



However, since sovereignty cannot be concretely defined, it is also evaluated from a different viewpoint. The second major school of thought is the liberal theory.<sup>137</sup> One of the key objectives of liberalism is to create economic interdependence among States and peoples.<sup>138</sup> The Liberalists believe that the Internet will strengthen not only national, but also international governance.<sup>139</sup> In support of the Liberalists' position, there are four arguments: 1) international law is strengthened by making treaties and other documents widely available, "paving the way for virtual diplomacy;"<sup>140</sup> 2) economic interdependence is promoted and increased among nations;<sup>141</sup> 3) non-government organizations [NGOs] are empowered;<sup>142</sup> and 4) international security mechanisms are supported.<sup>143</sup>

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within the numerous states in which they are involved. *Id.* The Internet harnesses the power of like-minded people and unifies their views. *Id.*

137. Perritt, *supra* note 24, at 439. According to Perritt, the leading international legal academic on the liberal theory of international relations is Anne-Marie Slaughter of Harvard Law School. *See id.* *See also* Anne-Marie Slaughter Burley, *Law Among Liberal States: Liberal Internationalism and the Act of the State Doctrine*, 92 COLUM. L. REV. 1907 (1992).

138. Perritt, *supra* note 24, at 438. One theory supports the use of multi-lateral responses to threats of international peace and security. *Id.* at 440.

139. *See* Aoki, *supra* note 133, at 446.

140. *See id.* *See also* Perritt, *supra* note 24, at 439. The Internet Revolution broke the governments' monopoly on collecting and using large amounts of information. *Id.* Governments are thus deprived the deference they once enjoyed. *Id.*

141. Aoki, *supra* note 133, at 446; *see also* Perritt, *supra* note 24, at 439. The Liberalists believe that reducing governmental power over the economy and placing that power in the hands of private citizens is positive achievement. *Id.* The placement of this power in the hands of private citizens will allow them to trade and invest internationally, thereby creating economic interdependence providing a foundation for world peace. *Id.*; Mathews, *supra* note 38, at 50-51.

142. Aoki, *supra* note 133, at 447; *see also* Mathews, *supra* note 38, at 53. "Increasingly, NGOs [non-governmental organizations] are able to push around even the largest governments." *Id.* A good example is the United States and Mexico when each set out to engage in a trade agreement. *Id.* Both governments planned on "the usual narrowly defined negotiations behind closed doors." *Id.* However, the NGOs wanted an agreement that extended to "health and safety, trans-boundary pollution, consumer protection, immigration, labor mobility, child labor, sustainable agriculture, social charters, and debt relief." *Id.* at 53-54. These NGOs generated enough opposition that endangered the congressional approval of the fast-track negotiating authority for the United States government. *Id.* at 54. After a few months, the Bush administration agreed to extend the negotiations to environmental and labor concerns. *Id.*

143. Aoki, *supra* note 133, at 447; *see also* Perritt, *supra* note 24, at 440. The Internet is useful in improving national security in two ways. *Id.* First of all, the Internet – with its flow of vast information in cyberspace – assists states and international organizations in accurately monitoring the "state of affairs" in "troubled" nations. *Id.* Second, the Internet can help build support for economic sanction or military intervention on a multilateral scale. *Id.*

These polar viewpoints both recognize that the Internet necessarily affects the sovereignty of governments that is discussed below. Regardless of which sovereignty school of thought is preferred, governments find themselves without control to monitor and manipulate this new source of wealth.<sup>144</sup> In fact, the Internet is considerably under-regulated<sup>145</sup> as compared to other technologies.<sup>146</sup>

### C. CURRENT U.S. POLICIES AND REGULATIONS

In the United States, regulations and policies focused on particular areas, such as banking, but "taming" the Internet is not included in legislative efforts.<sup>147</sup> The use of DVUs fundamentally impacts banks<sup>148</sup> because the advent of the Internet and e-commerce<sup>149</sup> creates an opportunity for nonbanks to get involved in payment systems.<sup>150</sup>

The payment systems in the United States are regulated both on the Federal and State levels.<sup>151</sup> There is no consensus on whether, or to

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144. Wriston, *supra* note 1, at 176.

145. Welling & Rickman, *supra* note 8, at 321. The Internet was originally developed to facilitate communication among military research laboratories. *Id.* If laboratories were destroyed due to nuclear attacks, the Internet's original design included features that allowed communication among the labs despite the destruction of its parts. *Id.* Thus, by its nature, the Internet was not intended to be regulated. *Id.*

146. Perritt, *supra* note 24, at 426.

147. Richard L. Field, *Survey of the Year's Developments in Electronic Cash Law and the Laws Affecting Electronic Banking in the United States*, 46 AM. U.L. REV. 967, 969 (1997).

148. See Brian O'Keefe, *Automated Clearing House Growth in an International Marketplace: The Increased Flexibility of Electronic Funds transfer and its Impact on the Minimum Contact Test*, 15 U. PA. J. INT'L BUS. L. 105 (1994). One of the fastest growing technologies in the cash management industry is the Automated Clearinghouse ("ACH") system – the electronic equivalent to the paper check processing system. *Id.*

149. Thomas P. Vartanian, *Doing Business on the Internet: The Law of Electronic Commerce*, 491 PLI/PAT. 81, 101 (1997). Electronic commerce and the use of DVUs can change "the flow of money and value, alter the collection and settlement process, and render today's costly payments obsolete." *Id.* Mr. Vartanian also argues that "the stakes [of using e-money] are high, and the potential profits from rewiring the flow of money are staggering." *Id.*

150. Field, *supra* note 147, at 970. Banks traditionally have a franchise over payment systems: control over the creation, storage, movement, and settlement of money. *Id.* With regards to nonbanks, "[g]overnments want strong, stable financial markets that consumers trust . . . and they will not tolerate the wholesale proliferation of electronic money and the creation of alternative payment systems revolving around entrepreneurs with little financial standing and credibility." *Id.*

151. See Hiller & Cook, *supra* note 66, at 53. Payments for commercial transaction can be in any form to which the seller and buyer agree. *Id.* Internet payments are a major challenge for the development of electronic commerce. *Id.* "Today we have the 'electronic' portion of electronic commerce, but until we have a cost-effective payment system, we can't have commerce." *Id.* (citing *Weighing up the Options*, MONDEX MAG., Dec. 1996, at 22 (quoting Keith Kendrick, AT&T Universal Card Services)).

what extent, banks<sup>152</sup> and the United States federal government will retain their traditional controls over such systems.<sup>153</sup>

### 1. *State Laws: Uniform Commercial Code*<sup>154</sup>

The first comprehensive legislation addressing the nonrepudiation of electronic transfers is Article 4A of the Uniform Commercial Code ("U.C.C."), which sets forth the rules for wholesale fund transfers.<sup>155</sup> Article 4A establishes two important models for electronic commerce.<sup>156</sup> First, it recognizes that "the task of determining with certainty the actual identity of one's counterparty often is impossible."<sup>157</sup> Second, Article 4A also establishes "the concept that a person may be bound by an unauthorized signature on a payment order, provided that satisfactory, prearranged procedures have been followed to identify him."<sup>158</sup> The statute also allocates liability on the basis of the level of security obtained.<sup>159</sup>

### 2. *Federal Laws and Regulations*

The Federal Reserve promulgated<sup>160</sup> Regulation E ("Reg. E") to protect consumers involved in electronic fund transfers.<sup>161</sup> Reg. E, primarily a consumer protection law, establishes the basic rights, liabilities, and responsibilities of consumers who use e-money transfer services<sup>162</sup> and institutions that offer these services.<sup>163</sup> Reg. E requires that the

152. Vartarian, *supra* note 149, at 101. Banks want to stay competitive by being cost-efficient, but they need to be "operationally and legally capable of developing and acquiring, and joint venturing technology." *Id.*

153. Field, *supra* note 147, at 970.

154. *Id.* The U.C.C. is derived from English commercial law and drafted by the National Conference of Commissioners on Uniform State Laws ("NCCUSL"). *Id.* It has been updated and revised frequently over the past forty years. *Id.* at 970-71. Each state adopted a version of the U.C.C.; however, there is no complete uniformity on the state versions of the U.C.C. *Id.* at 971. Where U.C.C. provisions appear identical, state courts interpreted provisions differently and sometime contradictory. *Id.*

155. U.C.C. art. 4A (1998).

156. Field, *supra* note 147, at 972-3.

157. *Id.* at 973.

158. *Id.*; see also U.C.C. art. 4A § 202(b) (1998).

159. See U.C.C. art. 4A § 201-3.

160. 15 U.S.C. § 1693 (1994). The Electronic Fund Transfer Act of 1978 granted authority to the Federal Reserve Board to promulgate regulations involving electronic fund transfers. *Id.*

161. 12 C.F.R. § 205 (1996). In 1979, the Federal Reserve Board promulgated Reg. E. *Id.*

162. See *id.* § 205.1(b) (outlining purpose and scope of Reg. E regarding consumer rights).

163. See *id.* §§ 205.1-205.2 (illustrating that Reg. E is applicable to financial institutions, those who provide access device and electronic fund transfer services).

issuing institution completely track all transactions, provide a periodic written statement, and give customers a paper receipt when an electronic transfer takes place.<sup>164</sup> Reg. E's application to DVUs is problematic because compliance to the regulation's requirements seems costly.<sup>165</sup>

Another Federal Reserve Board Regulation regulates credit card practices as well as other types of lending, the Truth in Lending Act, or Regulation Z ("Reg. Z").<sup>166</sup> The purpose of Reg. Z is to promote the informed use of consumer credit by requiring disclosures of terms and costs.<sup>167</sup> Reg. Z is intended to protect credit card users by mandating disclosure of material information for customers, essentially fees and interest rates.<sup>168</sup> Greenspan states that "[i]f an e-cash issuer makes funds available for customers to spend on credit, Reg. Z could apply" and in fact already does.<sup>169</sup>

In 1995, the Financial Crimes Enforcement Network ("FinCen") of the Department of the Treasury and the Governors of the Federal Reserve System jointly adopted the Bank Secrecy Act regulations,<sup>170</sup> requiring financial institutions "to collect and retain certain information pertaining to transmittals of funds."<sup>171</sup> This regulation provides enhanced record-keeping by requiring institutions to collect and retain for five years customer and beneficiary information regarding wire transfers in amounts of \$3000 or more.<sup>172</sup> Again, such regulation may not apply to the use of DVUs on the Internet because of the transfer amount necessary to trigger the regulation.<sup>173</sup> Accordingly, Internet payment systems are unaffected.<sup>174</sup>

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164. Greenspan, *supra* note 98; *see also* 12 C.F.R. §§ 205 et seq. (1996).

165. *See supra* notes 229-34 and accompanying text.

166. *See* 12 C.F.R. §§ 226 et seq. (1996).

167. *See id.* §§ 226.1(b) (1996) (allowing consumers to cancel certain transactions).

168. Greenspan, *supra* note 98.

169. *Id.* These transactions already involve the secure use of credit cards over the Internet. *See also* Field, *supra* note 147, at 978.

170. 60 Fed. Reg. 220 (1995) (illustrating that it is codified at 31 C.F.R. §§ 103 et seq. (1995) and became effective on May 28, 1996).

171. Field, *supra* note 147, at 981.

172. 60 Fed. Reg. 229 (1995).

173. *Id.* at 330.

174. Russell B. Stevenson, Jr., *Internet Payment Systems and the Cybercash Approach*, 472 PLI/PAT. 439 (1997). Internet payment systems can be generalized into two types: notational and tokenized. *Id.* New payments systems are expected to evolve and mature over time and with exposure to and the development of electronic commerce and the use of DVUs. *Id.* at 441. The basic needs of any payment system remain constant: security, reliability, universality, convenience and ease of use, and auditability. *Id.* Notational systems—operating on an account-oriented basis—integrate with and rely upon the existing financial and payment systems infrastructure. *Id.* "Notational systems serve as data management functions for accounts based in financial institutions that exist in the present com-

State sales and use tax laws vary from state to state,<sup>175</sup> with some states attempting to tax online service providers even when they have no presence within the state.<sup>176</sup> For a state to assert that a vendor has valid presence within a state and thus impose taxes on an out-of-state vendor, the state's tax policy must comport with constitutional restrictions implicated by the Commerce Clause<sup>177</sup> and the Due Process Clause of the Fourteenth Amendment<sup>178</sup> of the United States Constitution.<sup>179</sup> The courts addressed whether a vendor has valid presence within a state by adopting a nexus requirement for states to tax out-of-state vendors.<sup>180</sup> Because the Supreme Court did not explain "how substantial a vendor's presence must be in the taxing state to satisfy the substantial nexus requirement,"<sup>181</sup> it has provided only limited guidance for Internet activity.<sup>182</sup>

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mercial structure, and provide accounting and management services for movement of value represented in existing financial systems." *Id.* Tokenized systems represent a new approach to the exchange of value, closely tied to the new electronic medium, for which they are designed, creating DVUs which represent value in the same way that a piece of paper currency represents value in existing payment systems. *Id.* at 441-42. One system was developed by CyberCash, Inc., a leading developer of software and service solutions for secure, cost-effective, convenient and rapid payments over the Internet. *Id.* at 442.

175. See Tracy A. Kaye, *Show Me the Money: Congressional Limitations on State Tax Sovereignty*, 35 HARV. J. ON LEGIS. 149 (1998). Congress enacted legislation regulating the state powers of taxation. *Id.* at 165. However, there are "enormous wealth and resource disparities among the fifty states." *Id.* at 183.

176. Prebut, *supra* note 87, at 345. Cyberspace tax policy begins in the judicial branch of government. *Id.* at 351. The courts must apply existing tax laws to the attributes of electronic commerce determining whether "a state may assert nexus over an out-of state vendor engaging in electronic commerce with its residents." *Id.* at 352.

177. U.S. CONST. art. I, § 8, cl. 3; see *Quill Corp. v. North Dakota*, 504 U.S. 298, 312 (1992). Interpretations of the Commerce Clause prohibit a state from placing an undue burden on interstate commerce. *Id.*

178. U.S. CONST. amend. XIV, § 1; see *Quill*, 504 U.S. at 312. The Due Process Clause requires that a vendor have "minimum contacts" with a state such that the vendor's "connections with a State are substantial enough to legitimate the State's exercise of power over him." *Id.* A state may satisfy the Due Process Clause by showing that the vendor purposely availed itself of the benefits of the state's economic market. *Id.* at 307-08.

179. See also *infra* note 182 (citing various cases).

180. *Quill*, 507 U.S. at 312. The seminal case of Constitutional nexus is the Supreme Court case *Quill Corp. v. North Dakota* where the court created a bright line nexus requirement for taxpayers and taxing authorities. *Id.*

181. Prebut, *supra* note 87, at 353-54.

182. *Id.* at 354 (applying *Quill* to cyberspace). The judicial response to cyberspace tax policy is limited by the facts of the cases presented and the existing law of the jurisdiction. Prebut, *supra* note 87, at 353-54. The following cases are the starting point for establishing a nexus for taxing electronic commerce: *CompuServe, Inc. v. Patterson*, 89 F.3d 1257 (6th Cir. 1996) (holding that an online subscription of an online service provided sufficient minimum contacts for a state to assert personal jurisdiction over the subscriber/defendant); *Maritz, Inc. v. CyberGold, Inc.*, 947 F. Supp. 1328 (E.D. Mo. 1996) (concluding that the maintenance of a Web site that is accessible to anyone over the Internet and is apparently

Accordingly, the use of DVU's in electronic commerce presents challenges to existing tax systems, making it more difficult for the governments to tax the transactions on the Internet with more opportunities for tax avoidance,<sup>183</sup> fraud,<sup>184</sup> money laundering,<sup>185</sup> and tax collection.<sup>186</sup>

### III. ANALYSIS

#### A. ECONOMIC EFFECTS AND CONSEQUENT CONTROL OF E-MONEY

##### 1. *The Economical Effects of DVUs*

Because DVUs may or may not be backed-up by reserve accounts of paper money<sup>187</sup> and are akin to bytes stored in the memory of a com-

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maintained for general use rises to the level of solicitation necessary to provide minimum contacts for exercising personal jurisdiction because such Internet activities purposely availed itself of the privileges of doing business in the state of Missouri and could reasonably anticipate a lawsuit); *Bensusan Restaurant Corp. v. King*, 937 F. Supp. 295 (S.D.N.Y. 1996) (holding that a state could not tax a person if his only connection with the State of New York was the establishment of a Web site that could be accessed from anywhere since the defendant did not "reach out" – unlike in the CompuServe case – to establish the necessary contacts to satisfy Due Process).

183. See Harvard Legislative Research Bureau, *Statute: Remote Purchasing and Fundamental Fairness: The Sales and Use Tax Equalization Act*, 35 HARV. J. ON LEGIS. 537 (1998) [hereinafter Leg. Research]; see Harvard Legislative Research Bureau, *infra* note 186 and accompanying text.

184. See R.J. Robertson, Jr., Symposium, *Conducting Business over the Internet -- Electronic Commerce on the Internet and the Statute of Fraud*, 49 SANTA CLARA L. REV. 787 (1998) (asserting that electronic commerce is best fostered by increasing security measures and procedures that provide protection from possibilities of fraud inherent in e-commerce).

185. See Hoffman, *supra* note 13, at 800-07 (using DVUs does not require the regulation of financial institutions, which traditionally served as safeguards from money laundering). Individuals can use cryptography (a means to encode and decode messages with a numeric value) to engage in and defeat criminal activity. *Id.* at 800-02; see also Welling & Rickman, *supra* note 8, at 296. The authors quote Janet Reno, "high tech crime . . . [is] . . . one of the most serious issues that . . . face[s] the [Justice] Department." *Id.* at 296.

186. See Leg. Research, *supra* note 183, at 537. Leg. Research illustrates these tax problems with the following example. *Id.* Buyer A and Buyer B live next door to each other in Spokane, Washington. *Id.* at 538. The total sales and use tax rate in Spokane is 8%. *Id.* Buyer B buys software at a local computer store for \$100 and Seller S1 collects the 8% tax due on the sale, Buyer B paying a total amount of \$108. *Id.* Buyer A sits down at her computer and accesses Seller S2, a virtual computer store and purchases the same software Buyer B purchased, also for \$100. *Id.* Buyer A owes the 8% tax, but effectively obtained the software tax-free. *Id.* Seller S2, who is not a resident of Washington, is not legally obligated to collect the tax from Buyer A and the tax is rarely enforced against consumers. *Id.* In fact, many consumers are unaware that they owe the tax. *Id.* As a result, Buyer A avoids paying the tax although she and Buyer B purchased the same product for use in Washington. *Id.*

187. *Mack v. Nationwide Mutual Fire Insurance Company*, 1999 WL 312255 1 (Ga. App. 1999) (slip copy) (determining that money is not tangible property).

Money is one of the great inventions of civilization without which life, as we know it, could not continue. It exists however, solely within our minds and thus cannot

puter, they are "almost infinitely divisible."<sup>188</sup> In addition, DVUs may be created and issued in the form of e-cash through banks and non-banks.<sup>189</sup> The volume of transactions affected will increase because of the negligible transaction costs of using DVUs in cyberspace.<sup>190</sup> Diminishing costs will contribute to the development of e-commerce as a "perfect market".<sup>191</sup>

With government and non-government institutions disseminating e-money into the global market and the widespread use of "infinitely divisible" DVUs to achieve a utopian market with negligible transaction costs, e-commerce cannot be monitored with exactitude and accuracy.<sup>192</sup> Thus, monitoring and controlling of a government's money supply will prove to be impossible with e-money because it does not fall within the purview of monetary policy.<sup>193</sup>

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be touched, weighted or seen. Therefore, it is not tangible, but is intangible. Most money exists only as a number recorded on a computer, the total of coins and notes in circulation represents but a small fraction of the money owned by governments, individuals, corporations, and others. The coins and notes which represent money are of little intrinsic value compared to the wealth they represent, yet we continue to accept the, because of the confidence we repose in our government and society.

*Id.* at 1.

Money can be confused with tangible property only where there is a matter relating to specific coins or notes. Then we are concerned with a physical object that represents money, but the material object and cognitive concept of money may still be viewed separately. Some confusion arises . . . from the common law ideas in the face of modern electronic commerce. Original common law related actions for trover for conversion only for tangible things so that an action for conversion would lie only for withholding specific bills or coins and does not lie on account of a mere failure to pay money under a contract.

*Id.* at 2.

188. *Id.* at 68.

189. *Id.*

190. Joel P. Trachtman, Symposium, *The Internet and the Sovereign State: The Role and Impact of Cyberspace on the National and Global Governance - Cyberspace, Sovereignty, Jurisdiction, and Modernism*, 5 IND. J. GLOBAL LEGAL STUD. 561, 574 (1998). As enterprises realize the utility of using DVUs in cyberspace, they will substantially decrease the costs of transacting. *Id.* With a decrease in transaction costs, the number of transactions using the DVUs will necessarily increase. *Id.*

191. But see Jeanne L. Schroeder, *The End of the Market: A Psychoanalysis of Law and Economics*, 112 HARV. L. REV. 483 (1998).

The perfect market is the end of all actual markets—in the sense that it is their ideal form. One acts until one achieves one's goal, upon which action stops. [Society's] desire to achieve its ends even as [it] fear[s] the end. Upon attainment of perfection there can be no improvement; one is frozen in crystalline identity.

*Id.* at 492. Yet, societies still try to achieve this perfect market. *Id.* To achieve this perfect market, societies attempt to eliminate transaction costs. *Id.* at 558. But "transaction costs can no more be eliminated than any other costs; they are the limits of our mortality." *Id.* The global market exists in a world of limited resources. *Id.* Thus, the perfect market is impossible to achieve. *Id.*

192. Kobrin, *supra* note 17, at 72.

193. See MANKIW, *supra* note 93 and accompanying text (discussing monetary policy).

Upon the examination of the consequences of e-money to the four variables of GDP,<sup>194</sup> the effects on the sovereignty of governments and their national markets is implicated.<sup>195</sup> First of all, with the Internet, people are consuming and investing in ways (through e-commerce) and amounts (with "infinitely divisible" DVUs) that are difficult to monitor and count.<sup>196</sup> Thus, the consumption and investment variables of GDP will be difficult to monitor and calculate. For these same problems, the GDP variable of net exports is inevitably affected.<sup>197</sup> Net exports are the "value of goods and services exported to other countries minus the value of goods and services that foreigners provide."<sup>198</sup> This variable of GDP is necessarily affected by the use of DVUs both domestically and abroad because of a lack of effective monitoring devices or procedures.<sup>199</sup>

But at the same time, governments fundamentally desire to sustain their traditional role of controlling their respective countries' money supplies.<sup>200</sup> Governments are the issuers of their own currencies and will unlikely use other currencies to make their purchases unless the use of e-currencies and DVUs will substantially reduce the transaction costs of such purchases.<sup>201</sup> Thus, governments will attempt to make all of their necessary purchases with their own issued currencies.<sup>202</sup> Consequently, the government purchase variable of GDP is minimally affected by e-commerce.<sup>203</sup>

Accordingly, with the use of DVUs, GDP is difficult to monitor and calculate. Consequently, the governments will lack control over national markets with the dissemination and widespread use of e-money.<sup>204</sup>

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194. See *supra* notes 99-103 and accompanying text (discussing the four variables of GDP in depth).

195. See MANKIW, *supra* note 93, at 25. The formula for calculating GDP:  $GDP = C + I + G + NX$ . *Id.*

196. See Kobrin, *supra* note 17, at 70.

197. MANKIW, *supra* note 93, at 25.

198. *Id.*

199. *Id.*

200. *Id.* and accompanying text (discussing monetary policy).

201. See Kobrin, *supra* note 17, at 70.

202. *Id.*

203. *Id.*

204. Eugene A. Ludwig, *Remarks by the Comptroller of Currency before the Conference on Digital Commerce 96: Law, Policy, Profit & Pitfalls on the Global Information Network* (visited Feb. 1, 1999) <<http://www.roscoe.law.harvard.edu/courses/techseminar96/course/session/neutral/emoney/html>>. The Comptroller of Currency states that some argue that there is a possibility of an "economic Chernobyl," an e-money meltdown as the result of extraordinary growth rates. *Id.* Yet, Ludwig states that although an "economic Chernobyl" does not appear to be imminent, emerging electronic money technologies do raise a number of important public policy questions that must be answered sooner rather than later e.g., who should issue e-money? *Id.* Should governments issue e-money? *Id.* How is sovereignty effected? *Id.* Should governments take a laissez-faire attitude? *Id.*



Countries attempt to control e-commerce both privately and governmentally.

## 2. Attempts to Control E-money

### a. Privately-Issued Currencies and Potential Lack of Control

Private e-currencies make it difficult for a central bank to control, measure, and define monetary aggregates.<sup>205</sup> On the other hand, the relevance of monetary aggregates as guides for monetary policy-making diminishes with the widespread use of DVUs: with a smaller demand for central bank money by commercial banks, the central banks will have greater difficulty in steering the money market.<sup>206</sup>

### b. Government-Issued E-Currencies and Loss of Revenue

Privately-issued currencies are issued by non-government institutions, but governments themselves can issue e-currency.<sup>207</sup> The widespread use of e-cash provokes a situation where with every dollar of banknotes or coins replaced by DVUs, the central bank of a government is obliged to sell one dollar of government securities.<sup>208</sup> Ultimately, a government will lose the interest income that it would have earned from such securities<sup>209</sup> in the absence of the DVUs.<sup>210</sup> As a result of such a

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205. *Id.* Monetary aggregates, also called money-supply measures, are defined as the measures of a country's money supply. *Id.* M1 consists of funds that are readily available for spending, including cash and checking accounts that pay interest and those that do not, and currency. *Id.*; see *Money*, *supra* note 93. M2 consists of M1 and all savings or short-term deposits. *Id.* It also includes certain short-term assets such as the amounts held in money-market mutual funds. *Id.* M3 is the total of M1 and M2 as well as the assets and liabilities of banks. *Id.* Several forms of money circulate in a government's money supply and the DVUs are beyond the regulatory reach of the central bank. See Ludwig, *supra* note 204. Libertarians argue that private e-currencies will dominate and the central bank's currency will no longer have as much effect. *Id.*

206. Ian Grigg, *Response to Study on Electronic Payment Systems on Behalf of the Committee on Economic and Monetary Affairs and Industrial Policy of the European Parliament* (visited on Jan. 20, 1999) <[http://www.systemic.com/docs/papers/EQ\\_response.html](http://www.systemic.com/docs/papers/EQ_response.html)>.

207. Gary W. Lorenz, *Electronic Stored Value Payment Systems, Market Position, and Regulatory Issues*, 46 Am. U.L. Rev. 1177, 1202 (1997). The production of currency involves only a nominal cost to the federal government because "its production is substantially less than its value when issued." *Id.* "Having received them in trade, no one would think of melting down Susan B. Anthony dollars in order to sell the metal, because the commodity of value of the metal is much less than the value of the coin as currency." *Id.*

208. Bernkopf, *supra* note 97.

209. MANKIW, *supra* note 93, at 465. The revenue raised by the government through the creation of money is called seigniorage. *Id.* The Federal Reserve has indicated a fear of seigniorage losses resulting from the widespread use of electronic currency. *Id.* Konvisser, *supra* note 16, at 343. Since every note in circulation represents a sum of money held on account by the government, the government receives an interest free loan in this amount from the holder of the note: the government holds funds and can invest them, but pays no fee for their use. *Id.* This is called seigniorage. *Id.* The United States Treasury estimated

loss in revenues generated from interest, governments will move slowly when developing an e-currency system and at the same time try to maintain the desirable status quo of current revenues.<sup>211</sup>

*c. Foreign Exchange Transactions in Electronic Commerce?*

Regardless of whether e-currency is issued privately or by a government, the use of DVUs will lower existing barriers to the transfer of funds across borders since transactions, previously restricted to money-center banks, is available to anyone with a computer.<sup>212</sup> The transfer of DVUs across national borders is not "official" foreign exchange transactions because the DVUs are indefinitely used and there is no need for conversion into a particular currency.<sup>213</sup> In effect, the DVUs are "infinitely exchangeable without the expense and inconvenience of conversion between local denominations."<sup>214</sup> The consequences, according to the United States Federal Reserve Board Chairman Allan Greenspan, are possible heightened shifts in capital, increased currency speculation, and an overall destabilization of foreign exchange markets.<sup>215</sup> Therefore, governments will have minimal control in devising monetary policy with regard to foreign exchange.<sup>216</sup> Beyond the effects on governmental

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that tradition seigniorage amounted to \$773 million in 1994. *Id.*; see Kobrin, *supra* note 17, at 73. The Bank for International Settlements reports that the loss of seigniorage for its 11 member states will be more than \$17 billion if bank notes under \$25 are eliminated. *Id.*

210. Bernkopf, *supra* note 97. If electronic money is convertible into legal tender on demand, every unit of e-money would be a unit of cash reserved in the real economy. *Electronic Money*, THE ECONOMIST, Nov. 26, 1994, at 21. In other words, "there would be cash in the real word for which digital proxies were created and made available for electronic commerce." *Id.* Therefore, in an efficient system, if a DVU represents an immobilized unit of real cash, the positive balances of e-cash will earn no interest because the interest that the government could have earned would have been offset by the interest forgone on the real cash backing up the DVUs. *Id.*

211. *Id.* at 21. Federal Chairman Greenspan argues that since seigniorage is the "float" that governments receive from the issue of bills and coins, "the longer . . . people hang on to them before 'redeeming' them with the government, the larger the interest-free 'loan' the government has on the amounts." *Id.*; see also Greenspan, *supra* note 98. In the United States, this amounts to billions of dollars each year. *Id.* "Having private entities 'mint' [DVUs] . . . would erode a portion, albeit not necessarily significant, of this stream of revenue." *Id.*

212. Kobrin, *supra* note 17, at 71. The use of DVUs allows the general public to bypass foreign exchange transaction regulations. *Id.*; Greenspan, *supra* note 98.

213. *Id.*

214. See *Electronic Money*, *supra* note 210, at 21.

215. Greenspan, *supra* note 98. Sudden inflows or outflows of large amounts of money can destabilize the currency of governments. *Id.* For example, "[a] large outflow of cash can lead to a tighter money supply, while a sudden infusion of currency can had inflationary effects on the domestic economy." *Id.*

216. *Id.*

monetary policies, DVUs will profoundly affect national economies.<sup>217</sup>

### 3. *The Breakdown of National Markets' Control in the Digital World*

Current policies and regulations in the United States do not address the lack of control over the dissemination of DVUs and the monitoring of the government's money supply.<sup>218</sup> In fact, regulation on a domestic scale has "the potential to stultify the Internet's growth and diffusion."<sup>219</sup> When different governments attempt to regulate the Internet, many separate and diverse regulatory schemes may be super-imposed to effect a single set of policy ends.<sup>220</sup> Thus, development is hampered and impeded.<sup>221</sup> Current trends in case law also display the problems with the "burgeoning industry of electronic commerce . . . via the Internet and the World Wide Web."<sup>222</sup>

#### a. *Current U.S. Policies and Regulations: Inadequate Application to DVUs*

The laws and regulations governing our banking system are integrally tied to geography.<sup>223</sup> However, many stated that there is the "commonplace observation that new technologies are making geography irrelevant."<sup>224</sup> Yet, "the legal structure that governs our activities as

217. *Id.*

218. See Gladstone, *Designing Litigation*, *supra* note 64, at 13. Ms. Gladstone states in part:

As new information technology is adopted into broad social use, society develops expectations and makes decisions . . . [regarding] . . . the use of newly processed information. These determinations are in turn incorporated into statutes, regulations and judicial decisions which both reflect our expectations and direct our actions. The establishment and refinement of our laws and regulatory framework is a dynamic process. As we approach the turn of the century, commercial law is struggling to keep pace with the changed expectations that have been necessitated by the emergence of electronic commerce.

*Id.*

219. Salbu, *supra* note 9, at 458.

220. *Id.* at 458-59.

221. *Id.* at 458. Local regulation can hinder Internet development by "undue redundancy, complexity, conflict, and compliance expenses associated with fragmented regional rules." *Id.*

222. Home Shopping Network, Inc. v. Coupco, Inc., 1998 WL 85740 1 (S.D.N.Y. 1998) (slip copy not reported in the Federal Supplement) (illustrating a declaratory judgment action seeking an order of non-infringement of a patent pursuant to federal patent laws).

223. Kobrin, *supra* note 17, at 74. "The framework of regulation that governs financial institutions assumes that customers and institutions are linked by geography – that spatial proximity matters." *Id.*

224. *Id.* The use of DVUs in electronic commerce "snaps" the geographical link. *Id.*; see also Ludwig, *supra* note 204. Mr. Ludwig states that "[g]eography determines much of what both national and state banks can and cannot do and drives much of allocation of responsibilities between different regulatory bodies – not only in banking, but also in insurance, securities, and other financial services area." *Id.* In addition, geography determines

regulators and the activities of the institutions we regulate still has geography at its core.”<sup>225</sup> This dichotomy, geography as essential versus the irrelevance of geography in light of DVUs, is the essence of the inadequacies of existing policies and regulations.<sup>226</sup>

The two key issues are whether banks can control the payment system<sup>227</sup> as efficiently as others and how government should react to the entrance of nonbanks into the payments system. Although some argue that Article 4A of the U.C.C.<sup>228</sup> is the most “sophisticated” statute enacted in any area of electronic commerce, almost all transactions involving DVUs on the Internet are not within the statute’s scope.<sup>229</sup> Article 4A does not include most consumer payments such as debit orders and payment instructions transmitted through an intermediary (i.e., merchant).<sup>230</sup> Thus, on the state level, the regulation of DVUs is not just inadequate, but rather non-existent.

Many concerns arise when Federal Reg. E,<sup>231</sup> promulgated to protect consumers involved in electronic fund transfers, is applied to the regulation of DVUs.<sup>232</sup> For example, the regulation mandates printed receipts and notice to customers of unauthorized transactions.<sup>233</sup> However, such requirements, although provided for the protection of consumers, are “unduly costly” for DVU users and limit the growth of the “micropurchase market.”<sup>234</sup> Consumers engage in the “micropurchase market” mainly for convenience purposes, which will be limited with such imposed conditions.<sup>235</sup> The Federal Reserve recognized such burdens on businesses and commented that Reg. E was “not very well suited for [e-cash] products because the cost of compliance may be too high for the benefits reaped.”<sup>236</sup>

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the protections consumers of financial service enjoy and the enforceability of the commercial transactions that constitute the business of financial services. *Id.*

225. *Id.*

226. *Id.* As the Comptroller of Currency, Ludwig suggests that “regulators and policy makers have a lot of work ahead of [them] if [they] are serious about bringing our financial system into step with these emerging realities of the marketplace.” *Id.* Second, he suggests that this task “constitutes the real work of modernizing our financial system.” *Id.*

227. Vartarian, *supra* note 149, at 101.

228. *See supra* notes 155-59 and accompanying text.

229. Field, *supra* note 147, at 973.

230. *See* U.C.C. art. 4A §§ 103, 108 (1998).

231. *See supra* notes 161-65 and accompanying text..

232. Greenspan, *supra* note 98.

233. *Id.*

234. *Id.* The “micropurchase market” includes transactions that are small or de minimis in monetary value. *Id.*

235. *Id.* “If it costs a penny or a fraction of a cent to access . . . an article in the Wall Street Journal, how can a company possibly become profitable if there is a per transaction receipt requirement?” *Id.*

236. *Id.*

Federal Reg. Z<sup>237</sup> applies to credit card users by promoting informed consumer credit use and requiring disclosure of certain material information for customers.<sup>238</sup> Reg. Z applies to e-money only if e-money issuers make funds available to spend on credit.<sup>239</sup> However, DVUs are not necessarily disseminated on credit and thus will not fall within the control of Reg. Z.<sup>240</sup> In fact, Reg. Z does not address the notion that the Internet is an "unsecure network," lacking transactional security.<sup>241</sup> In addition, Reg. Z does not address the control of fraud and error with regards to electronic credit transactions, so it does not even adequately protect credit consumers on the Internet.

The Federal Bank Secrecy Acts<sup>242</sup> also causes concern for the regulation of DVUs. This regulation does not apply unless the fund transfer involved is \$3000 or more.<sup>243</sup> As previously discussed, the use of DVUs is most efficient in the "micropurchase market"<sup>244</sup> since transaction costs are negligible.<sup>245</sup> Therefore, these Acts are also inadequate and impractical in application to DVUs by not reaching a significant number of DVU transactions.

Neither the state laws nor the federal regulations within the United States that try to regulate e-money attempt to address the international implications of the e-commerce.<sup>246</sup> Yet, e-money necessarily implicates sovereign nations and the global market, creating legal and economic challenges on both a national and worldwide scale.<sup>247</sup> In fact, Internet use "ha[s] not only linked the globe into a single transnational network, but ha[s] also engendered a new realm of cyberspace that is both geographically dislocated and nearly impervious to regulation."<sup>248</sup> Therefore, the effects of e-money on sovereignty are to be considered.

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237. See *supra* notes 166-69 and accompanying text.

238. See 12 C.F.R. §§ 226 et seq. (1996)

239. *Id.*

240. See Kobrin, *supra* note 17, at 72.

241. See A. Michael Froomkin, Symposium, *Innovation and the Information Environment—The Essential Role of Trusted Third Parties in Electronic Commerce*, 75 OR. L. REV. 49 (1996) (discussing that cryptography is not enough for secure electronic transactions and at least one trusted third party such as a bank or a "certification authority" is necessary to ward off fraud and error).

242. See *supra* notes 170-74 and accompanying text.

243. 60 Fed. Reg. 229 (1995).

244. Greenspan, *supra* note 98.

245. Trachtman, *supra* note 190, at 574.

246. Salbu, *supra* note 9, at 439.

247. *Id.* at 453.

248. Sean P. Kanuck, *Information Warfare: New Challenges for Public and International Law*, 37 HARV. INT'L L.J. 272 (1996).

B. CURRENT TRENDS IN CASE LAW REGARDING ELECTRONIC COMMERCE  
ON THE INTERNET: JURISDICTIONAL PROBLEMS

While the Internet provides that businesses engage in international communication and commerce, those businesses remain entitled to protection of the Due Process Clause, which mandates that a potential defendant be able "to structure their primary conduct with some minimum assurance as to where the conduct will and will not render them liable to suit."<sup>249</sup> However, applying traditional notions of jurisdiction<sup>250</sup> in the "fast-developing world of the Internet is somewhat like trying to board a moving bus."<sup>251</sup> Guidelines in this novel area of law were developed by the courts and the "development of the law concerning the permissible scope of personal jurisdiction is in its infant stages."<sup>252</sup>

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249. *Millennium Enterprises, Inc. v. Millennium Music, LP*, 33 F. Supp.2d 907, 914 (D. Oregon 1999) (quoting *World-Wide Volkswagen Corp. v. Woodson*, 444 U.S. 286, 297 (1980)). Millennium involved a trademark infringement and unfair competition action dismissed where the defendant was not subject to general or personal jurisdiction based on sales of one compact disk to Oregon resident and purchases from supplier in Oregon. *Id.*

250. See *Telephone Audio Productions, Inc. v. Smith*, 1998 WL 159932 (N.D. Tex. 1998) (slip copy not reported in the Federal Supplement). Personal jurisdiction can be general or specific. See *Polythane Systems, Inc., v. Marina Ventures International, Inc.*, 993 F.2d 1201, 1205 (5th Cir. 1993). General jurisdiction arises when the nonresident defendant maintains systematic and continuous contacts with the forum state. *Id.*; *Helicopteros Nacionales de Colombia, S.A. v. Hall*, 466 U.S. 408, 414 (1984). These contacts justify suit against the nonresident defendant on causes of action independent of those contacts. *Id.*; *International Shoe Co. v. Washington*, 326 U.S. 310, 318 (1945). Specific jurisdiction exists when the nonresident defendant has minimum contacts with the forum such that maintaining suit does not offend "traditional notions of fair play and substantial justice." *Id.* at 316. The contacts are sufficient if "the defendant's conduct and connection with the forum State are such that he should reasonably anticipate being haled into court there." *Id.*; *World Wide Volkswagen Corp. v. Woodson*, 444 U.S. 286 (1979). Minimum contacts exist if the nonresident defendant "purposefully avails itself of the privilege conducting activities within the forum state, thus invoking benefits and protections of its laws." *Id.*; *Burger King Corp. v. Rudzewicz*, 471 U.S. 462, 475 (1985). Purposeful availment requires more than a "random, fortuitous, or attenuated contacts." *Id.* "The forum State does not exceed its powers under the Due Process Clause if it asserts personal jurisdiction over a corporation that delivers its products into the stream of commerce with the expectation that they will be purchased by consumers of the forum State." *Id.* See also *World Wide Volkswagen Corp.*, 444 U.S. at 297-298. "[M]ere foreseeability of awareness [is] a constitutionally sufficient basis for personal jurisdiction if the defendant's product made its way into the forum state while still in the stream of commerce." *Id.*; *Asahi Metal Indus. Co. v. Superior Court*, 480 U.S. 102 (1988).

251. *Millennium Enterprises, Inc.*, 33 F. Supp.2d at 914. (citing *Bensusan Restaurant Corp. v. King*, 126 F.3d 24, 27 (2d Cir. 1997)) (holding that a state could not tax a person if his only connection with the State of New York was the establishment of a Web site that could be accessed from anywhere since the defendant did not "reach out" to establish the necessary contacts to satisfy Due Process).

252. *Zippo Manufacturing Co. v. Zippo Dot Com, Inc.*, 952 F. Supp. 1119, 1123 (W.D. Penn. 1997).

Internet presence, for example in the form of a web site may or may not have enough contacts. *Inset Systems, Inc. v. Instruction Set, Inc.*<sup>253</sup> was one of the first cases to address the question of personal jurisdiction and the Internet. This was a trademark infringement action resulting from the defendant's alleged use of plaintiff's trademark as its Internet domain address.<sup>254</sup> The defendant did not have employees or offices or conduct business regularly within the forum state.<sup>255</sup> The plaintiff instead claimed that the defendant's Internet web site<sup>256</sup> constituted sufficient minimum contacts for purposes of federal due process<sup>257</sup> since through its web site, the defendant purposefully availed itself of the privilege of doing business" within the forum State.<sup>258</sup>

Case law trends shifted from finding jurisdiction solely on the existence of web site advertising.<sup>259</sup> Currently, "something more"<sup>260</sup> is required to show that the defendant purposefully directed its activities at the forum.<sup>261</sup> The court will not determine if maintenance of the web site alone is sufficient to sustain personal jurisdiction. Instead, the court will try to determine whether the web site combined with a defendant's other contacts with the forum State satisfy the jurisdiction prerequisite.

Specifically in the context of electronic commerce via the Internet, the court applied a sliding scale analysis to determine whether conducting electronic commerce constituted purposeful availment.<sup>262</sup> "[T]he likelihood that personal jurisdiction can be constitutionally exercised is directly proportionate to the nature and quality of commercial activity

253. *Inset Systems, Inc. v. Instruction Set, Inc.*, 937 F. Supp. 161 (D.Conn. 1996).

254. *Id.* at 163.

255. *Id.* at 162-63.

256. *Id.* The defendant's web site contained advertising and a toll free telephone number. *Id.* at 163-64.

257. *Id.* The court stated that the defendant "has directed its advertising activities via the Internet and its toll-free number toward not only the state of Connecticut, but to *all states*." *Id.* (emphasis added). "The Internet as well as toll-free numbers are designed to communicate with people and their business in every state." *Id.* at 165.

258. *Id.*

259. See *Gary Scott Int'l, Inc. v. Baroudi*, 981 F. Supp. 714, 717 (D. Mass. 1997) (illustrating that voluntarily creating a national market through website solicitation and other sales constitutes purposeful availment); *Digital Equip. Corp. v. Altavista Tech., Inc.*, 960 F. Supp. 456 (D. Mass. 1997) (illustrating that purposeful availment is satisfied when a web site, arguably in violation of plaintiff's trademark rights and a licensing agreement, plainly attracts the forum's residents).

260. See *Asahi*, 480 U.S. at 102 (endorsing the view that the "placement of a product in the stream of commerce, without more, is not an act the defendant purposefully directed toward the forum State").

261. *Cybersell, Inc. v. Cybersell, Inc.*, 130 F.3d 414, 418 (9th Cir. 1997).

262. *Zippo Manufacturing Co.*, 952 F. Supp at 1126 (illustrating trademark dilution and infringement based on the defendant's web site domain names where conducting electronic commerce constituted purposeful availment).

that an entity conducts over the Internet.”<sup>263</sup> At one end of the scale are circumstances where a defendant “conducts business” over the Internet with residents of the forum, allowing for the assertion of personal jurisdiction in most cases.<sup>264</sup> At the opposite end of the scale are situations where a defendant simply posts information on a web site, which is accessible to users in the forum state as well as others.<sup>265</sup> “A passive Web site that does little more than make information available to those who are interested in it is not grounds for the exercise of personal jurisdiction.”<sup>266</sup> In the middle are situations where a defendant operates an interactive Web site, allowing a user to exchange information with the host computer.<sup>267</sup> In such a case, a court must review the “level of interactivity and commercial nature of the exchange of information” to determine whether jurisdiction should be advertise.”<sup>268</sup>

This sliding scale approach has led to a “hodgepodge of case law [that] is inconsistent, irrational, and irreconcilable.”<sup>269</sup> This trend of inconsistent case law displays the unpreparedness of the United States to face potential issues and problems with regard to personal jurisdiction in courts within the United States. Therefore, the determination of choice of law issues among different national regimes has not yet been adequately addressed.

### C. E-MONEY'S EFFECTS ON SOVEREIGNTY

The Internet gives widespread accessibility to information and affordable technology to societies around the world.<sup>270</sup> As a result, governments necessarily lose their respective monopolies on the collection and management of large amounts of information and “deprived governments of the deference they enjoyed because of it.”<sup>271</sup> Governments are presently not the only “actors” with instantaneous access to information with many other “players” reducing the number commanding great authority.<sup>272</sup> Furthermore, DVUs are not pegged to any particular currency and governments are unlikely to issue them, because governments nec-

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263. *Id.* at 1124.

264. *Id.*

265. *Id.*

266. *Zippo Manufacturing Co.*, 952 F. Supp. at 1124.

267. *Id.*

268. *Id.*

269. See *Millennium Enterprises, Inc. v. Millennium Music, LP*, 33 F. Supp.2d 907, 916 (D. Or. 1999) (citing Howard v. Stravitz, *Personal Jurisdiction in Cyberspace: Something More is Required on the Electronic Stream of Commerce*, 49 S.C. L. Rev. 925, 939 (1998)).

270. Mathews, *supra* note 38, at 51.

271. *Id.*

272. *Id.* Governments used to be the “loudest voice” but now non-state actors are gaining a louder voice in the Information Age. *Id.*



essarily lack control over foreign nonbank issuers of DVUs.<sup>273</sup> Also, governments are not equipped to accurately count and calculate the amount of DVUs used in national markets.<sup>274</sup>

Using the Realist school of thought<sup>275</sup> illustrates that DVUs necessarily diminish governments' sovereignty over their national markets, essentially by eroding sovereign power over economic activity.<sup>276</sup> As stated by the Liberalist school of thought,<sup>277</sup> sovereignty is shared among the government, NGOs, and people, thus promoting economic interdependence among nations by empowering NGOs.<sup>278</sup> The Liberalists contend that all three of these players must still conform to the same economic rules and regulations.<sup>279</sup> Therefore, the use of DVUs in electronic commerce will still diminish the governments' sovereignty over national markets by preventing governments from adequately monitoring its national markets both locally and globally.

Accordingly, both schools of thought realize the implications that the Internet will have on sovereignty. Regardless of their view of whether sovereignty is diminished or conferred to the hands of private citizens, using DVUs in electronic commerce will have dramatic consequences on national markets<sup>280</sup> like economic, social and political consequences, which are virtually ignored.<sup>281</sup>

#### D. PROPOSAL FOR CHANGE: GOVERNMENTS WILL REMAIN SOVEREIGN

Sovereignty diminishes as the result of the government's inability to

273. *Id.*

274. See *supra* notes 191-203 and accompanying text.

275. See *supra* notes 130-36 and accompanying text.

276. Aoki, *supra* note 133, at 446; see also Perritt, *supra* note 24, at 439.

277. See *supra* notes 137-43 and accompanying text.

278. See Rappaport, *supra* note 134, at 814 n.13 (citing John Perry Barlow, *A Declaration of the Independence of Cyberspace* (visited on Feb. 9, 1996) <[http://www.eff.org/pub/Censorship/Internet\\_censorship\\_bills/barlow\\_0296.declaration](http://www.eff.org/pub/Censorship/Internet_censorship_bills/barlow_0296.declaration)>). This shared sovereignty can, at times, go beyond boundaries accepted by governments. *Id.* Mr. Barlow made the following statement the day after Clinton signed the bill containing the CDA, writing in part:

Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather.

We have no elected government, nor are we likely to have one, so I address you with no greater authority than that with which liberty itself always speaks. I declare the global social space we are building to be naturally independent of the tyrannies you seek to impose on us. You have no moral rights to rule us nor do you possess any method of enforcement we have true reason to fear.

*Id.*

279. *Id.*

280. See Kobrin, *supra* note 17. See also Wriston, *supra* note 1.

281. Mathews, *supra* note 38, at 51.

resolve a problem due to outside interference.<sup>282</sup> DVU's are classified as outside forces or interferences.<sup>283</sup> The global market is formed by "the interactions of self-regarding units."<sup>284</sup> These units are sovereign states that necessarily interact with each other.<sup>285</sup> To become productive, countries should relinquish some autonomy to obtain some benefits.<sup>286</sup>

Because the Internet "spans the globe and enables worldwide transactions, cyberspace monitoring arguably needs to be addressed within the framework of international law."<sup>287</sup> Regulations that concentrate only on domestic issues detract from a country's ability to engage in competition within the global market.<sup>288</sup> Technically, if governments accept the changes brought by DVUs on their national markets and develop mechanisms to properly deal with e-money generally, then no sovereignty is lost. Therefore, "[w]hat is needed today is a refutation of new protectionism."<sup>289</sup>

Increased globalization of commerce causes traditional territorial-based notions of governance to lose their relevance.<sup>290</sup> Thus, the world order urges states to adopt more creative and flexible approaches to policy-making that move away from territoriality as a guiding principle.<sup>291</sup>

Transgovernmentalism offers a new mechanism for a government's "enlargement policy."<sup>292</sup> This middle ground allows branches of different

282. See Taylor, *supra* note 91, at 745.

[I]n traditional theory, sovereign attributes are typically thought to include the ability to exercise exclusive jurisdiction over citizens of the State, equality with other States, and the power to structure policies constrained only by the impact of those policies on other States or by agreements entered into with other States.

*Id.* at 752.

283. *Id.*

284. Dunoff & Trachtman, *supra* note 92, at 13.

285. Mathews, *supra* note 38, at 51. "[U]tilitarian states interact to overcome deficiencies that make them unable to consummate . . . mutually beneficial agreements." *Id.* at 59 n.43 (citing ROBERT O. KEOHANE, *AFTER HEGEMONY: COOPERATION AND DISCORD IN THE WORLD POLITICAL ECONOMY* 83 (1984)).

286. *Id.*

287. Salbu, *supra* note 9, at 439.

288. See David Ward, Note, *Sysyphean Circles: The Communications Assistance for Law Enforcement Act*, 22 RUTGERS COMPUTER & TECH. L.J. 267, 267 (1996) (asserting that United States federal legislation impairs technological competitiveness of United States companies).

289. Edward L. Hugeness, *Freedom to Trade: Refuting the New Protectionism—The Fundamental Freedom to Trade* (visited site on Feb. 26, 1999) <<http://www.freetrade.org/pubs/freetotrade/chap1.html>>.

290. David P. Fidler, *The Future of the World Health Organization: What Role for International Law?*, 31 VAND. J. TRANSNAT'L L. 1079, 1118 (1998).

291. *Id.*

292. Slaughter, *supra* note 36, at 185. Enlargement policy is the Clinton administration's policy aiming to expand the community of liberal democracies. *Id.*

governments to cooperate.<sup>293</sup> Thus, transnational regulatory cooperation should be adopted.<sup>294</sup> This is accomplished by regulatory agencies, which are essentially "networks of national government institutions" working with counterparts across borders.<sup>295</sup>

Transgovernmentalism views a sovereign state as "a constellation of distinct government institutions."<sup>296</sup> Regulatory agencies among different governments are not the only institutions that may participate in this system.<sup>297</sup> Transgovernmental cooperation should occur among courts, government executives, and among legislators of various governments around the world.<sup>298</sup>

Transgovernmentalism has proven to be a helpful model in other industries.<sup>299</sup> Because technology now allows financial institutions to operate across borders, leaders in the banking industry are realizing the necessity of international cooperation among different supervisory bank authorities in different countries.<sup>300</sup> Bank supervisors in different countries found themselves without essential information and lacked power to monitor and supervise certain transactions.<sup>301</sup> Therefore, in the United States, Federal Reserve representatives meet regularly with supervisors and regulators in the home country of various banks.<sup>302</sup> The Federal Reserve also works with a group of banking authorities and regulators working under the auspices of the Bank of International Settlements in Switzerland, called the Basel Supervisors Committee.<sup>303</sup> This Committee has conglomerated with other international groups of other

293. Dunoff & Trachtman, *supra* note 92, at 16.

294. Andre R. Fiebig, *Regulatory Cooperation For Effectiveness And Compliance: Strategies For Joint Action Among Securities, Banking, and Antitrust Regulators*, 91 AM. SOC'Y INT'L L. PROC. 223 (1997).

295. *Id.* Such regulatory institutions "operate in conjunction with one another much more informally and much more flexibly than formal international institutions." *Id.*

296. *Id.* at 232.

297. *Id.* Transnational regulatory cooperation is itself part of the larger phenomenon of transgovernmentalism. *Id.* at 231.

298. *Id.*

299. *Id.* at 223-31 (stating other transnational regulatory cooperation in banking, securities, and antitrust).

300. Fiebig, *supra* note 294, at 223-31.

301. *Id.* at 223-24. National institutions had diverse procedures no means of communications in place where local laws restrict supervisors to share information. *Id.* at 225.

302. *Id.* at 225. Financial regulators, including regulators from the United States Treasury Department, also collaborate in the President's Working Group, established after the 1987 stock market crash. *Id.* Such domestic framework in the United States provides a framework for dealing with emergencies. *Id.*

303. *Id.* The Basel Supervisor's Committee has established the following three principles to govern international banks:

- the responsibility for supervision of internationally active banks rests jointly in the home and host country supervisors;

industries, like securities and insurance supervisors.<sup>304</sup> Such efforts have greatly helped with the access of information by providing imperatives to minimize local restrictions of sharing information.<sup>305</sup>

Through interaction and cooperation, efficiencies may be gained through coordinated rule-making, surveillance, and enforcement activities of DVUs.<sup>306</sup> The Internet facilitates the broad exchange of information among such branches and thus allows for both interaction and cooperation. Such cooperation is essential; in fact, the United States "Department of Commerce has noted that much of the development and technical management of the Internet has been by the consensus of Internet users."<sup>307</sup> Such "interdisciplinary collaboration"<sup>308</sup> amplifies

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- home country authorities should inform the host country authorities of problems in the bank that are likely to affect the bank's operations in that particular market; and
  - host authorities especially have a strong obligation to inform home country authorities of serious problems that arise in their markets . . . .

*Id.*

This is the first time that supervisors in offshore markets signed on to a document that has been renegotiated and agreed to internationally. *Id.*

304. *Id.* The United States Federal Reserve also has informal agreements with authorities in other countries concerning the United States banks abroad. *Id.* The Federal Reserve also has formal arrangements with the Bank of England, countries in Europe and in Latin America with guidelines to share information. *Id.*

305. Fiebig, *supra* note 294, at 225. International public health and the development of global health jurisprudence can also benefit from transgovernmentalism. Fidler, *supra* note 290, at 1119. Global health jurisprudence incorporates these ideas and specifically applies them in the context of global public health. *Id.* Developing global health jurisprudence will require relationships between international organizations, governments, and non-state actors. *Id.* Also, transgovernmental networks on public health law can contribute to the development of global health jurisprudence. *Id.* Anne-Marie Slaughter's "conception of transgovernmentalism offers promising opportunities for developed countries because they possess sophisticated governmental and regulatory units capable of entering into functional transgovernmental dialogue." *Id.* Given that the greatest global public health problems, infectious diseases and the global tobacco pandemic, primarily threaten people in developing countries, transgovernmentalism between developed states is necessary. *Id.* at 1120. A system is suggested for international infectious disease control system where: "(1) developed states occupy the top tier and enjoy higher public health standards through bilateral and regional cooperation, and (2) developing countries occupy the lower tier, have lower standards of public health, and remain dependent on [World Health Organization] and traditional notions of internationalism." *Id.* As a result, "transgovernmentalism can help guide ad hoc, national harmonization of public health law as a response to globalization." *Id.*

306. Dunoff & Trachtman, *supra* note 92, at 13. Economies of scale are enjoyed with the regulation of transitional actors. *Id.* Without such regulation, countries face heightened risks of "evasion, detrimental regulatory competition . . . , and unjustified regulatory disharmony, all resulting in inefficiencies." *Id.*

307. PGMedia, Inc. v. Network Solutions, Inc., 1999 WL 144494 1, 8 (S.D.N.Y. 1999) (slip copy) (citing *Request for Public Comment*, 62 Fed. Reg. 35896 (1997)). In the context of domain name systems ("DNS"), federal agencies and private entities have worked together

"political and social fragmentation by enabling more and more identities and interests scattered around the globe to coalesce and thrive."<sup>309</sup>

Transgovernmentalism also allows the control of government institutions to be left in the hands of national citizens who "must hold their governments as accountable for their transnational activities and for their domestic duties."<sup>310</sup> This function is best performed through judicial foreign policy by which judges build a global community of law,<sup>311</sup> which shares values on their belief in the "law as distinct, but not divorced from politics and their views of themselves as professionals who must be insulated from direct political influence."<sup>312</sup> The path to be taken is transgovernmentalism to integration, "where integration denotes the pooling of authority."<sup>313</sup>

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to study domain name problems. *Id.* at 8. Domain names are similar to mail addresses but cyberspace, unlike real space, does not allow for the "logical connection between one's address and one's physical location on a defined map." *Id.* at 1. "[I]n cyberspace, one can choose virtually any domain name, with certain limitations." *Id.* Registration of domain names is controlled by Network Solutions, Inc. ("NSI") pursuant to a 1993 cooperative agreement with the United States federal government agency: National Science Foundation ("NSF"). *Id.* at 3. The cooperative agreement between NSI (a private entity that charges a monetary amount to register and keep domain names) and NSF (a federal agency that supported technical studies of the Internet) provided in part that:

[NSI] has primary responsibility for ensuring the quality, timeliness and effective management of registration services provided under this agreement. To the extent NSF does not reserve specific responsibility for accomplishing the purposes of [the agreement], by either special condition . . . all such responsibilities remain with [NSI]. NSF has responsibility for registration services support, support planning, oversight, monitoring, and evaluation. NSF will make approvals required under [the agreement] and, where necessary and appropriate, NSF will contact and negotiate with Federal agencies and other national and International members of the Internet community to further the efforts of this project.

*Id.* at 4 (citing *Cooperative Agreement No. NCR-9218742* between NSI and NSF that went into effect on January 1, 1993).

308. See Philip M. Nichols, Symposium, *Linkages as Phenomenon: An Interdisciplinary Approach, Forgotten Linkages – Historical Institutionalism and Sociological Institutionalism and Analysis of the World Trade Organization*, 19 U. PA. J. INT'L ECON. L. 461, 466 (1998).

309. Mathews, *supra* note 38, at 52. "[N]ew technologies change people's perceptions of community" and such globalizing force can arguably have the opposite of separating people across borders "from natural and historical associations within nations." *Id.* at 51-52.

310. Slaughter, *supra* note 36, at 186.

311. Fidler, *supra* note 290, at 1119. Transgovernmentalism operates between judges and courts of different nations. *Id.*

312. *Id.* For example, there is evidence of this harmonious behavior. *Id.* "The Israeli Supreme Court and the German and Canadian constitutional courts have long researched U.S. Supreme Court precedents in reaching their own conclusions on questions like freedom of speech, privacy rights, and due process." *Id.*

313. Dunoff & Trachtman, *supra* note 92, at 16.

## IV. CONCLUSION

"That government is best which govern the least, because its people discipline themselves."

—Thomas Jefferson<sup>314</sup>

"The debate over a new global financial architecture is, at heart, a debate over the role of government in a free society."<sup>315</sup> Since assets in the global market are necessarily "components of power"<sup>316</sup> and countries necessarily interact by "trad[ing] in power," countries should cooperate on particular issues in order to maximize benefits.<sup>317</sup> DVUs as interferences necessarily implicate government control.<sup>318</sup> But government control should not be lost and sovereignty of nations should not be diminished. Governments must multilaterally cooperate so that international law and the Internet can become partners in modeling new forms of sovereignty.

Communism fell through human experience and the world is in a period where democracy has won the initial battle against command economies.<sup>319</sup> The Internet is a great tool for compromise between people and their governments.<sup>320</sup> The realist theory of sovereignty and the liberalist theory of sovereignty are not the only ways that societies are bound to view sovereignty: transgovernmentalism is the promising middle ground.<sup>321</sup>

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314. *The Sovereignty Foundation* (visited Feb. 26, 1999) <<http://www.sovereignty.org/>> (quoting Thomas Jefferson).

315. James A. Dorn, *A New Global Financial Architecture*, (visited Feb. 26, 1999) <<http://www.freetrade.org/pubs/articles/jd-11-04-98.html>>.

316. Dunoff and Trachtman, *supra* note 92, at 13.

317. *Id.* at 13-14. "The unique feature of the states is their possession of governmental regulatory authority in the broad sense. International law is concerned with the definition, exchange, and pooling of this authority." *Id.*

318. Perritt, *supra* note 77, at 165.

319. *Id.*

320. *Id.*

321. Slaughter, *supra* note 36, at 183. Today, transgovernmentalism is rapidly becoming the most widespread and effective mode of international governance. *Id.* at 184-85. Transgovernmentalism compared to liberalist or realist theories is "mundane, lacking the drama of high politics." *Id.* at 185. Transgovernmentalism has many virtues. *Id.* It is a key element of a bipartisan foreign policy, simultaneously assuaging conservative fears of a loss of sovereignty to international institutions and liberal fears of a loss of regulatory power in a globalized economy. *Id.*

